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I am so glad that we parted! Am I? On attitude representation, counterfactual thinking, and experienced regret

Abstract: Two studies examined how different linguistic forms affect the way in which people access memories of former close relationships that are irrevocably over. Remembering former relationships can activate either positive or negative attitudes. Whether people feel sorrow that bygones are in fact bygones depends on attitudinal valence, but also on the linguistic form in which people express their attitudes. More abstract linguistic forms prevent people from retrieving specific and detailed memories, and thus prompt them to generating more counterfactual thoughts and to experience stronger regret. In contrast, more concrete linguistic forms lead people to remember their personal past more vividly and accurately, and this subjective impression can forestall counterfactual thinking. Study 2 further shows that people are more prone to generate counterfactual thoughts when they focus on the final stage of their relationships rather than the beginning even when the valence of recalled attitudes and objective time are controlled.

Key words: counterfactual thinking, construal level, memory, regret, close relationships

Introduction

Counterfactual thinking and regret

Counterfactual thoughts focus on alternatives to the past that did not actually happen but that could have happened (“what might have been”). To the extent that counterfactual thoughts conjure up a better possibility to what actually has happened, people typically experience negative affect (e.g., Markman, Gavanski, Sherman, & McMullen, 1993; Miller, Turnbull, & McFarland, 1990; Roesse, 1994; Roesse & Olson, 1995). Also, the more difficult it appears to recall factual events or outcomes, the easier it is to bring to mind possible alternatives to what has happened (Miller et al., 1990; Schwarz & Vaughn, 2002; Seelau, Seelau, Wells, & Windschitl, 1995). If alternatives can easily be imagined, it is more likely to mentally mutate or undo the event.

Counterfactual thinking can have profound effects on how one’s reality is perceived and reacted to: It may, for instance, help one understand why something happened or did not happen (e.g., a romantic breakup). Understanding events and their antecedents may facilitate avoiding similar events in the future (e.g., Wells, Taylor, & Turtle, 1987). In consequence, one feels more regret and blames oneself more for undesirable outcomes that could (probably) have

been prevented. Thinking about how one personally might have controlled an outcome or event is particularly likely to amplify negative emotions such as regret, self-blame, or dissatisfaction (e.g., Gleicher, Kost, Baker, Strathman, Richman, & Sherman, 1990; Mandel, 2003; Niedenthal, Tangney, Gavanski, 1994; Roesse & Olson, 1995; van Dijk & Zeelenberg, 2005). Such emotions, in turn, prompt thinking about alternatives, particularly if the past event appears to have been mutable or changeable (Kahneman & Miller, 1986; Kahneman & Tversky, 1982).

Counterfactual thinking, regret, and attitude representation

In the present research, we focus on feelings of regret in reaction to self-focused counterfactual thoughts about the ‘first love’. We refer to this metaphorical concept as a terminated close relationship which is typically recalled as an emotionally impactful yet distant lifetime period. The more remote experiences and events are, the more likely it is that they are represented in an abstract or schematic form. Such abstract memories or attitudes about former lifetime periods can later be retrieved without accessing in detail more specific or concrete episodic events (e.g., Conway & Pleydell-Pearce, 2000; Skowronski, Walker, & Betz, 2004). In other words, reminiscing should automatically activate

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abstract attitudes about former lifetime periods, but need not automatically activate concrete memory details. Studies on self-memories have shown that self-judgments (e.g., life satisfaction) are assimilated to recalled experiences or events if these memories still bear on the current self. People are likely to experience an increased sense of well-being if a favourable past subjectively feels near (e.g., Barclay, 1996; McMullen, 1997; Strack, Schwarz, & Gscheidinger, 1985). If remembering heats the present self, it seems implausible that people imagine alternatives to what they factually have recalled. However, past experiences or events that seem distant are likely to be used as a comparison standard for the current self and to produce contrast effects on current self-perceptions. Recalling a positive former self (e.g. “What a fearless young man I once was!”) that appears far away can thus dampen the current self. One factor that determines whether memories feel near or far away is the way in which such memories are expressed.

Linguistic forms and the subjective distance from the past, attitude construction, and counterfactual thinking

Abstract linguistic forms lead people to recall more remote memories and to overstate the temporal distance (e.g., Semin & Smith, 1999). Similarly, temporal distance leads people to focus on more abstract, higher-order concepts in future predictions than on more concrete, lower-order concepts (e.g., Fujita, Trope, Liberman, & Levin-Sagi, 2006; Nussbaum, Liberman, & Trope, 2006; Trope & Liberman, 2003). Walton and Banaji (2004) have further shown that abstract linguistic forms invoke characterological or essential features, whereas more concrete linguistic forms invoke features that are likely to fluctuate over time and across situations (cf. Levy & Dweck, 1998; McIntyre, Paulson, & Lord, 2004; Semin & Fiedler, 1988; Smith, 1996; Trope & Liberman, 2003; Vallacher & Wegner, 1985).

Does it really make a difference then whether one expresses one’s memories of former relationships in an abstract or concrete linguistic form if the valence of one’s attitude is controlled? And if so, why should this be the case? We hypothesise that the linguistic form used to recall a former relationship influences the way in which one accesses one’s memories. Like other self focused attitudes, memories of former relationships should invoke a rich and elaborate network of thoughts, feelings, and memories. However, it seems unlikely that one accesses the basis of one’s attitudes thoroughly and comprehensively if one describes one’s attitudes with an abstract linguistic form. If an attitude is expressed with an abstract rather than a concrete linguistic form, the attitude is less likely to be constructed in a bottom-up fashion. In other words, using abstract linguistic forms to express one’s attitude should lead one to retrieve global evaluations of former events or lifetime periods, whereas concrete forms should prompt one to retrieve more specific information from the basis of one’s attitude (e.g., particular feelings, episodes, etc.). Thus, although attitudes that are expressed in an abstract manner may suggest greater strength and stability (cf. Semin & Fiedler, 1988; Walton & Banaji, 2004) and may even be

held with greater confidence, they may prevent one from retrieving detailed information. In consequence, as global evaluations (instead of specific memories) are accessed, counterfactual simulations of what has actually happened should be relatively easy. On the other hand, concrete linguistic forms should lead to the activation of more fine-grained or specific memories. To the extent that such details become accessible in mind, counterfactual mutations should become more difficult (cf. Kahneman & Miller, 1986).

Hypotheses

Hypothesis 1: One should experience more regret if one accesses one’s personal past through abstract linguistic lenses, because experienced regret is amplified by the subjective ease with which alternatives can be imagined.

Hypothesis 2: The influence of linguistic forms, however, should be context-dependent. Focusing on the beginning of a romantic relationship should reduce the likelihood that people spontaneously engage in counterfactual thinking. Recalling the final stage of a relationship should prompt wondering whether the breakup was really inevitable, even if attitudinal valence and objective time are controlled. Outcomes different from the breakup should come to mind easily, particularly if positive attitudes towards former relationships were still held.

Studies on counterfactual thinking have shown that exceptional, controllable, or emotionally impactful events are particularly likely to trigger counterfactual thoughts. For instance, people experience stronger regret and try more intensively to mutate an event if they closely missed a desirable outcomes, compared to events that appeared inevitable (Kahneman & Miller, 1986; Medvec & Savitsky, 1997). Thus, the inclination to generate counterfactual thoughts may depend on which stage of the close relationship people focus. As the mere passage of time should render recalled experiences more abstract, people may find it more difficult to retrieve detailed memories the more time has passed (e.g., Conway, 1996; Conway & Pleydell-Pearce, 2000). For this reason, it seems necessary to control for the objective time that has passed since the breakup.

Study 1

Participants and Design

Ninety-two university students (37 women, 55 men, *M* age = 21.5 years) were randomly assigned to one of the two experimental conditions (linguistic form: abstract, concrete), with approximately equal proportions of men and women across conditions.

Procedure and Measures

Participants individually completed a questionnaire on the accuracy of autobiographical memory. All participants indicated that their ‘first love’ was actually terminated and that they no longer had any contact with their former partners. On average, relationships were terminated 5 years ago (Median = 60 months). The cover story informed them that the aim of this study is to examine “... subjective

experiences that accompany mental processes, such as the retrieval of former lifetime periods". Participants were asked to think for one or two minutes about the person they had first been in love with. In the abstract form condition, they were further instructed to "... remember as detailed as possible the nature of your relationship, what kind of relationship you and your partner had". In the concrete form condition, participants were asked to "... remember as detailed as possible your relationship, what you and your partner frequently did or experienced". Several lines were plotted below this instruction and participants were requested to jot down all thoughts that came to their mind. Next, participants completed several dependent measures. They first indicated (1, *does not apply at all*; 7, *applies completely*) their global evaluations of their close relationships regarding two items ("At that time, my feelings towards my partner were very positive", "At that time, my overall opinion towards the relationship was very positive"). The answers to these items were averaged ($r = .78$, $p < .001$). Thus, participants were asked to express their former attitudes, how they recall their former attitudes, and not the attitude they hold today. This seems important because current attitudes might differ substantially from recalled attitudes. To the extent that attitudes have actually changed, the kind of attitude that is accessed should have different implications for counterfactual thinking and experienced regret. Participants then indicated how confident they were that their recalled attitudes really reflected that lifetime period accurately ("I am very confident that I can remember this relationship accurately"), also indicating how vividly and detailed they could remember that lifetime period (1, *not at all vividly/detailed*; 7, *very vividly/detailed*). The answers to these two items were averaged ($r = .58$, $p < .001$). Next, participants were asked to consider whether they could imagine that their relationships might have turned out completely different and whether they could imagine that they themselves or their partners would have behaved differently. This instruction was to prompt participants to engage in counterfactual thinking. Although it seems plausible that attitudinal valence should determine the direction of counterfactual thinking (i.e. whether people imagine a better or worse alternative to what has actually happened), the fact that they no longer have any contact with their former partners should direct their attention at the possibility that the relationships continue. Thereafter, participants indicated (1, *does not apply at all*; 7, *applies completely*) how easily they could imagine that their relationship could have turned out differently, that they and their partners could have behaved differently, and whether they, in retrospect, would expect or predict the way their relationship really evolved. This latter item ("In retrospect, I would expect or predict that the relationship evolved the way it did"; cf., Semin & Smith, 1999) indicates a hindsight bias. As the answers to these items were highly consistent (Cronbach's alpha = .81), they were compiled into a measure of subjective ease regarding counterfactual mutation (the last item on inevitability/hindsight was reverse coded). Finally, participants indicated on two items ($r = .73$, $p < .001$) their experienced regret in view of the fact that

their relationship was terminated ("How much do you regret that you and your partner have parted?", "Do you think that it is a pity that this relationship is over?").

Results and Discussion

Manipulation Check

If abstract linguistic forms invoke more essential features and thus elicit fewer specific or unique details from memory than concrete linguistic forms, people should report having retrieved more vivid and detailed memories when they expressed their attitudes in a concrete rather than in an abstract manner. In fact, a 2 (linguistic form: abstract, concrete) by 2 (participants' gender) ANOVA on vividness of recall showed a main effect of linguistic form. Memories were experienced as more vivid and detailed (and also as more accurate) in the concrete than in the abstract condition, $M = 5.60$ vs. $M = 4.85$, $F(1, 88) = 4.65$, $p < .05$. Furthermore, participants found it easier to imagine alternatives in the abstract than in the concrete condition, $M = 4.32$ vs. $M = 3.45$, $F(1, 88) = 4.65$, $p < .05$. Thus, using an abstract form to recall a former relationship caused participants to retrieve less vivid and detailed information from memory and to experience it as easier to mutate their memories. As could be expected, these two judgments were negatively related to each other ($r = -.33$, $p < .05$). The more vivid and detailed factual memories appeared, the more difficult it was to imagine alternatives. Controlling for memory age (i.e., objective time in months, between the breakup and today) did not change the results.

Recalled Attitudes and Regret

A 2 x 2 ANOVA on recalled attitudes only showed a marginal effect for participants' gender. Female participants recalled more positive attitudes than male participants, $M = 3.91$ vs. $M = 3.39$, $F(1, 87) = 2.86$, $p < .10$. Linguistic form did not affect attitudinal valence ($F < 1$). Memory age was controlled in this analysis. We also computed attitude extremity by subtracting attitude scores from their overall mean. This measure of absolute differences was also not affected by the manipulation ($F < 1$). Thus, the manipulation of linguistic form neither affected the valence of attitudes nor their extremity (but see Liberman, Sagristano, & Trope, 2002). Another 2 x 2 ANOVA on experienced regret only showed a main effect for linguistic form. As predicted, participants who used an abstract linguistic form to recall their relationships reported stronger regret than participants who used a concrete form, $M = 4.22$ vs. $M = 3.49$, $F(1, 87) = 3.91$, $p < .06$. Furthermore, subjective ease of counterfactual mutation was significantly correlated with experienced regret, $r = .42$, $p < .001$. Vividness of recall, however, was not significantly correlated with experienced regret ($r = .05$, ns). We therefore tested whether ease of counterfactual mutation mediates the influence of linguistic form on experienced regret. Linguistic form (concrete: -1; abstract: +1) predicted ease of mutation ($\beta = .25$, $p < .05$) and experienced regret ($\beta = .28$, $p < .05$). Ease of mutation, the presumed mediator, predicted experienced regret even when controlling for linguistic form ($\beta = .38$, $p < .01$).

Adding the mediator markedly reduced the direct influence of linguistic form on experienced regret (.28/.12, ns; Sobel's $Z = 1.68$, $p < .05$, one-tailed), $F(4, 87) = 5.86$, $p < .01$. In these regression analyses, memory age and participants' gender were always entered in a first step. Taken together, this analysis lends support to the notion that the ease with which people can activate counterfactual thoughts about their former relationships determines how much regret they experience about the fact that the relationship has been terminated. Admittedly, this study does not provide convincing evidence for the notion that linguistic forms influence the likelihood of counterfactual thoughts via the subjective ease with which people can access the basis of their memories. Ease of recall was assessed by asking participants how vividly and detailed they could recall their relationships and also how confident they were that they could recall their relationships accurately. Although ease of recall and suspected accuracy can be assumed to be strongly interrelated, this measure nevertheless mixes up several distinct judgments. The composite score was neither significantly correlated with ease of counterfactual mutation nor with experienced regret. However, the one item assessing how detailed participants memories were was negatively correlated with ease of counterfactual mutation, $r = -.34$, $p < .05$. This study thus provides at least some evidence that recalling former relationships bottom-up rather than top-down affected the subjective ease with which participants could imagine alternatives. The more accessible these alternatives were in mind, the more regret participants experienced. As mentioned in the introduction, the more positive one's recalled attitudes are, the more strongly one should experience regret. In fact, global attitudes and experienced regret were significantly correlated with each other, $r = .60$, $p < .001$. As could be expected, participants who retrieved a positive attitude from memory experienced stronger regret than participants who retrieved a negative attitude. Note, however, that the manipulation of linguistic form did not influence attitudinal valence. To rule out the possibility that the obtained effect could be explained alternatively by differences in global attitudes, recalled attitudes were controlled as covariate in a 2×2 ANOVA on experienced regret. Controlling for attitudes amplified rather than mitigated the effect of linguistic form on regret, $F(1, 86) = 11.12$, $p < .01$. Thus, it seems evident that people who recall former relationships positively wish to undo the fact that the relationship has ended.

Study 2

In general, focusing on the final rather than on the initial stage of a close relationship should prompt more counterfactual thoughts about past relationships. Favourable attitudes may further intensify this inclination, as 'near misses' loom larger than 'clear misses' (Kahneman & Miller, 1986; Medvec & Savitsky, 1997). As we are more concerned about the conditions that elicit counterfactual thinking, Study 2 manipulated whether participants focused on the beginning or the final stage of their relationships.

Individuals who recall their former relationships positively should experience stronger regret if they reflect on the final stage than on the beginning of the relationship, because thinking about the final stage and the breakup should render possible alternatives more accessible and should make it easier to mutate or undo factual events or experiences.

Participants and Design

Eighty-four university students (51 women, 33 men, M age = 22.9 years) were randomly assigned to one of the conditions of the 2 (linguistic form: abstract, concrete) by 2 (relationship stage: beginning, final stage) between-subjects design, with approximately equal proportions of men and women across conditions. On average, relationships were terminated 7.6 years before the study (Median = 72 months).

Procedure and Measures

The procedure was identical with the one adopted in the previous study, with the exception that participants were instructed to remember either the beginning of their close relationships ("the first week") or the final stage ("the last week"). The time frame was rather short because we could not know how long these relationships had really lasted. Nevertheless, this instruction should direct participants' attention more at the earlier or more at the late stages of their relationships. The same items as in Study 1 were used to assess vividness/accuracy of recall ($\alpha = .77$), ease of counterfactual mutation ($r = .55$, $p < .001$), attitudes ($r = .70$, $p < .001$), and experienced regret ($r = .61$, $p < .001$).

Results and Discussion

A 2 (linguistic form) by 2 (stage) by 2 (sex of participants) ANOVA revealed main effects for vividness/accuracy and ease of counterfactual mutation. There were no other significant effects. Similar to the previous study, participants in the concrete condition recalled their former relationships more vividly, $M = 5.67$ vs. $M = 5.13$, $F(1, 75) = 4.30$, $p < .05$. In addition, participants in the abstract condition found it easier to imagine alternatives, $M = 5.53$ vs. $M = 4.68$, $F(1, 75) = 5.20$, $p < .05$. Memory age was controlled in these analyses. Regarding the valence of recalled attitudes, a $2 \times 2 \times 2$ ANOVA showed no significant effects, except a marginal effect for linguistic form. Attitudes were more positive in the concrete than in the abstract condition, $M = 4.44$ vs. $M = 3.71$, $F(1, 76) = 2.80$, $p < .10$. Another $2 \times 2 \times 2$ ANOVA on experienced regret only showed an interaction between linguistic form and stage, $F(1, 76) = 6.48$, $p < .05$ ($d = .33$). The means are shown in Table 1. As recalled attitudes were significantly correlated with experienced regret ($r = .45$, $p < .001$), attitudes were controlled as a covariate in a $2 \times 2 \times 2$ ANOVA. Controlling for attitudinal valence did not change the results with respect to statistical significance, $F(1, 76) = 6.27$, $p < .05$.

Table 1. Experienced regret in reaction to counterfactual simulation, Study 2

	Memory Focus			
	Final Stage		Beginning	
Linguistic Form (Attitude)	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Concrete	3.38 _a	(1.90)	4.59 _b	(1.89)
Abstract	5.33 _c	(1.81)	3.85 _{a,b}	(2.23)

Note. Responses were on 7-point scales (1 to 7); means with different subscripts differ at $p < .05$, $N = 84$.

As Table 1 shows, participants who focused on the final stage of their former relationships reported stronger regret when they expressed their attitudes in an abstract rather than in a concrete form. Participants who adopted an abstract form to access their memories also reported stronger regret when they focused on the final stage than on the beginning of their former relationships. A simple contrast analysis further showed that participants using a concrete form to access their memories experienced less regret when they focused on the final stage than on the beginning of their relationships. Although this latter difference was not predicted, it seems to point to the fact that people are less prone to mutate their factual memories in contexts where they feel confident that what they recall has in fact happened. In other words, vividness of recall seems to pave the way for memory accuracy, and subjective accuracy may lead people to accept factual outcomes as irrevocable facts. In consequence, they should experience less regret. Unlike in the previous study, attitudinal valence was marginally affected by the manipulation of linguistic form. Attitudes were more positive in the concrete form. If it is true that positive attitudes more likely evoke regret than negative attitudes, the obtained effect on regret should be reduced when attitudes are controlled. In fact, controlling for attitudes amplified the influence of the linguistic manipulation on experienced regret in the first but not in the present study. As people should experience less regret in the concrete condition, such differences in attitudinal valence work against our hypothesis. Future studies might nevertheless examine more thoroughly how attitudinal valence influences the generation of counterfactual thoughts, ideally by temporally intermitting attitude assessment and counterfactual thinking.

General Discussion

This research examined whether counterfactual thinking about terminated relationships influences experienced regret - a negative emotion that is likely to be elicited by imagining better alternatives to reality - particularly if people believe that outcomes are exceptional or controllable (e.g., Kahneman & Miller, 1986; Markman et al., 1993; McMullen, 1997; Roese & Olson, 1995).

The aim of this research was not to deeply explore the antecedents of regret, but to examine whether subtle contextual factors influence remembering. Studies on meta-cognitive experiences associated with judgement and retrieval have shown that abstract cues prompt people to overestimate the temporal distance of past events and experiences and to perceive characterological features as more essential and stable (Semin & Fiedler, 1988; Semin & Smith, 1999; Walton & Banaji, 2004). The present research provides preliminary support for the hypothesis that abstract linguistic templates can prompt people to mutate their memories of former events and experiences. More precisely, using abstract forms to express attitudes can prevent people from retrieving detailed and specific information and thus to construe their attitudes in a bottom-up fashion. In consequence, people are less confident about the veracity of their memories and find it easier to imagine alternative outcomes, despite the fact that abstract linguistic forms typically elicit stable internal representations and thus render attitudes stronger and more resilient. We think that this seemingly paradoxical effect of linguistic framing deserves further research, last but not least because regret is an aversive emotional state that is likely to influence future-oriented expectations and decisions.

Autobiographical memory has a directive or self-regulatory function as it involves using the past to guide present and future thought and behaviour (e.g., Barclay, 1996; Conway & Pleydell-Pearce, 2000; Lerner & Gonzalez, 2005; Neisser, 1988; Skowronski, Walker, & Betz, 2004). In this spirit, regret can have a preparative function ("lessons to be learned"). As people move through their memories, experienced regret, like other intense emotional states, seems to hinge on the subjective ease with which people can visualise and re-live their recalled experiences. Ironically, facing up to the facts can mitigate negative emotions if it prevents people from generating counterfactual thoughts about desirable alternatives to (recalled) reality. As most people are interested to see their present and future life positively, they are prone to wilfully distort their personal past (e.g. Frye & Karney, 2002, 2004; Wilson & Ross, 2001). Future studies might thus examine how current relationship status and relationship satisfaction affect people's memories of former relationships and the elicited regret or relief. Moreover, the subjective temporal distance between the present and the past should determine whether memories of the past are used as a comparison standard or as an interpretation frame (Schwarz & Strack, 1991; Strack et al., 1985). Perceiving greater distance between the present and the past may alleviate regret, and it thus seems worth knowing which contextual features influence experienced regret as well as perceived temporal distance. Different linguistic forms to express attitudes are just one factor among others that should govern these judgements.

The present research focused on contextual features that give rise to counterfactual thinking and experienced regret. Regret is only one aversive self-related emotion among others (e.g., shame, guilt), and future studies may thus more thoroughly differentiate between negative emotions that may interfere with people's desire to let the by-gones

be bygone and to await a favourable future. Future studies may also include individual difference measures such as romantic attachment style, implicit relationship theories, or self-esteem. Attachment styles involve working models of the self in relation to others (Bowlby, 1973; Griffin & Bartholomew, 1994) and determine how people experience and react to attachment breakups (e.g. Donovan, & Jackson, 1990; Noppe, 2000). Implicit theories of close relationships have been shown to moderate appraisals of partners and satisfaction with close relationships (e.g., Franiuk, Pomerantz, & Cohen, 2004; Ruvolo & Rotondo, 1998). Counterfactual thinking has also been shown to depend on dispositional self-esteem (e.g., Roese & Olson, 1993). Following negative experiences, low self-esteem people are more likely to mutate their own actions and to imagine better alternatives. This inclination can amplify experienced regret in situations that are likely to prompt counterfactual thinking (e.g., reminiscing breakups). Regret, in turn, can serve a preparative function for the future.

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