Praise for regret: People value regret above other negative emotions

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Abstract

What do people think about the emotion of regret? Recent demonstrations of the psychological benefits of regret have been framed against an assumption that most people find regret to be aversive, both when experienced but also when recalled later. Two studies explored lay evaluations of regret experiences, revealing them to be largely favorable rather than unfavorable. Study 1 demonstrated that regret, but not other negative emotions, was dominated by positive more than negative evaluations. In both studies 1 and 2, although participants saw a great deal of benefit from their negative emotions, regret stood out as particularly beneficial. Indeed, in study 2, regret was seen to be the most beneficial of 12 negative emotions on all five functions of: making sense of past experiences, facilitating approach behaviors, facilitating avoidance behaviors, gaining insights into the self, and in preserving social harmony. Moreover, in study 2, individuals made self-serving ascriptions of regret, reporting greater regret experiences for themselves than for others. In short, people value their regrets substantially more than they do other negative emotions.

Keywords

Regret; Counterfactual; Affect; Emotion

At first glance, it would seem uncontroversial to make the claim "regret is bad." After all, regret is a negative emotion hinging on the recognition that a personal action could have made the past better (Landman 1993; Zeelenberg 1999). Regret typically implies self-blame for unfortunate events (Connolly and Zeelenberg 2002). Individuals who ruminate on their regrets are more likely to report reduced life satisfaction and to experience difficulty coping with negative life events (e.g., Lecci et al. 1994; Schwartz et al. 2002). Regret is additionally problematic because of its biasing effect on decision-making, an idea central to regret theories in economics (e.g., Bell 1982; Connolly and Butler 2006). At a more basic level, regret (like any negative emotion) is intrinsically aversive, hence individuals are motivated to avoid it, even if this means sacrificing an objectively superior reward (Zeelenberg et al. 1996).

Although early depictions of regret emphasized various dysfunctional aspects, newer conceptions additionally have emphasized its functional basis, particularly in terms of triggering behavior change aimed at remediation (Landman 1993; Roese and Summerville

2005; Zeelenberg 1999). In other words, information gleaned from regrets can guide future behavior aimed at achieving desired outcomes (Zeelenberg et al. 2001). Regret has been defined as a counterfactual emotion (Kahneman and Miller 1986), meaning that its basis rests on a counterfactual inference (i.e., that the past might have unfolded differently, particularly if a different decision had been made). Counterfactual thinking itself has been shown to bring benefits in terms of subsequent problem-solving and performance enhancement (Epstude and Roese in press; Markman et al. 2008; Roese 1994, 1997). Counterfactual inference, by identifying a cause of a problem, helps make sense of negative experience. For example, a student thinking "If only I had studied harder" may on subsequent exams study harder and hence perform better. Counterfactual thinking may be useful both for approach behaviors (e.g., studying harder) as well as avoidance behaviors (e.g., staying away from parties the night before an exam). Further, in seeing causal connections between past actions and outcomes, counterfactual thinking and hence regret may help people to place events into context, thereby making "sense" out of the past. Current theory therefore frames regret as a trade-off involving behavioral benefits balanced against affective costs (Epstude and Roese in press; Zeelenberg and Pieters 2007). A key reason why this functional perspective (highlighting the value of regret) has been theoretically impactful has been its contrast with the status quo assumption that regret is valueless. That most research participants believe regret to be aversive and pointless—that is, a "bad" emotion—has rarely been discussed or studied, yet it seems clear that this assumption has tacitly guided much past research.

This point becomes especially relevant when we consider research approaches based on self-reports in which the word "regret" is directly posed to participants (e.g., "How much regret did you feel?"), as opposed to self-reports in which regret is defined without using the word directly, or in which more implicit measures are used. If participants are asked simply to report on their degree of regret, what prior assumptions about regret do they bring to the table (cf. Sabini and Silver 2005)? Do participants believe their regret experiences to be all bad, or a mix of cost and benefit? Some past research has explored lay conceptions of regret, but the emphasis has been on how these conceptions of regret differ from those of other negative emotions such as disappointment (van Dijk and Zeelenberg 2002; Zeelenberg et al. 1998). To our knowledge, no research has examined the more basic question of whether people believe regret (or for that matter other kinds of negative emotions) is beneficial versus costly, or some mix of both.

As such, the present research is the first to add an examination of regret to the growing literature on "emotion concepts," or lay understandings of emotional experience (Shaver et al. 1987; Wierzbicka 1992). These beliefs about emotion are distinct from the experience of emotion (and in fact may be processed by a different system, according to the cognitive-experiential self-theory, e.g., Epstein et al. 1992). However, lay beliefs about an emotion represent an important facet of emotional experience. Given that prototypes of emotional experience and emotional metacognition guide the experience of emotion (Russell 2003), the contents of lay beliefs about emotion may thus influence the actual experience of emotion, in addition to being meaningful in their own right.

In the present research, two studies tested whether lay attitudes toward regret are mainly favorable versus unfavorable, whether individuals are self-serving in their ascription of regret experiences, and which beneficial functions people ascribe to regret versus other negative emotions. Although previous research has offered comparative profiles of various specific emotions (e.g., happy, sad, guilty, etc.) in terms of frequency, intensity, or duration (e.g., Schimmack 2003; Shimanoff 1984), the present research is the first to benchmark regret against other common emotions in terms of these basic evaluations.

Study 1

Study 1 investigated two key questions about evaluations of regret: first, whether individuals do in fact value the experience of regret (i.e., hold predominately favorable attitudes toward their own regret experiences), and second, whether this favorable appraisal is specific to regret or is common to appraisals of all negative emotions. On the one hand, regret might hold a special status in the mental landscape, in that people might see the bright side of regret more easily than for other negative emotions, like jealousy or sadness or guilt. On the other hand, a more general mechanism may involve the reflexive re-construal of most undesirable experiences and their emotional consequences into less-threatening, or more positive, forms (Roese and Olson 2007; Taylor and Brown 1988; Wilson and Gilbert 2003). That is, motivated defensive judgments might result in essentially the same pattern of post hoc favorability aimed at nearly all negative emotions, regret included. Study 1 tested these competing interpretations by assessing participants' attitudes toward regret plus 12 other emotions (eight negative, four positive). This research strategy resulted in a comparative profile of commonly experienced emotions, enabling direct comparison of perceived favorability, frequency, and intensity.

Method

A community sample of 45 participants (23 women, 22 men; age $M = 35.6$) completed a survey presented by MediaLab software on a Sony notebook PC. Testing occurred at public venues in exchange for a bottle of water. Participants saw a target emotion at the top of the screen, accompanied in sequence by eight items, six of which tested attitudes (three favorable and three unfavorable items), one testing perceived frequency, and one testing perceived intensity of emotional experience (see Appendix). All items were assessed using 7-point agree–disagree scales. The eight negative emotions (in addition to regret) were: anger, anxiety, boredom, disappointment, fear, guilt, jealousy, and sadness; the four positive emotions were: joy, love, pride, and relaxed. The emotions were chosen to be common, to extend across various dimensions specified by different theories of emotion typology (e.g., Ortony et al. 1988; Russell 1980; Smith and Ellsworth 1985; Tellegen et al. 1999), and also to coincide with other comparative examinations of regret (e.g., guilt—Niedenthal et al. 1994; disappointment—Zeelenberg et al. 1998). Item order was randomized within emotion blocks; emotion block order was also randomized.

Results and discussion

We began by pooling attitude items into favorable versus unfavorable belief subscales. For each emotion, the favorable (three items) and unfavorable (three items) beliefs were averaged. Favorable items showed strong reliabilities: αs ranged from .63 to .83, with the exceptions of weaker but adequate reliabilities for boredom ($\alpha = .55$) and joy ($\alpha = .52$). Unfavorable items had somewhat weaker αs, ranging from .55 to .77, with lower reliabilities for disappointment ($\alpha = .31$), fear ($\alpha = .46$), love ($\alpha = .31$), and regret ($\alpha = .43$). Favorable aspects of regret were endorsed more strongly ($M = 4.62$) than unfavorable aspects ($M = 3.51$), $t(44) = 3.57, p = .001$, $d = 1.06$. For other negative emotions (averaged together here, but presented separately in Fig. 1), the mean favorable ($\alpha = .80$) and unfavorable ($\alpha = .77$) ratings were equivalent (Ms = 3.96 vs. 3.85), $t(44) = .57, p = .57, d = .17$. This pattern for negative emotions (averaged) differed significantly from regret, as indicated by the interaction term within a 2 (belief valence: favorable versus unfavorable) $\times$ 2 (emotion type: regret versus negative emotions) ANOVA, $F(1, 44) = 12.1, p < .001, d = 1.03$.

For positive emotions, favorable beliefs ($\alpha = .58$) on average exceeded unfavorable beliefs ($\alpha = .52$) by a considerable margin (Ms = 4.71 vs. 2.55), $t(44) = 11.0, p < .001, d = 3.29$. This effect size also differed from the regret effect size, as tested using an analogous 2 $\times$ 2 ANOVA, $F(1, 44) = 14.3, p < .001, d = 1.09$. Two patterns thus emerged at a general level. First, there

was an overall positivity bias toward emotional experiences: rather than the expected pattern of negative emotions being seen as mostly unfavorable, they were viewed as an even mix of favorable and unfavorable aspects. Second, and more important, beliefs about regret tended on average to be more favorable than those regarding other negative emotions.

Beliefs about specific emotions are unpacked in Table 1 and Fig. 1, and illustrate the envelope in which regret is situated, as framed by the "gap" between favorable versus unfavorable views. Regret is a negative emotion in which favorable views outweigh unfavorable views; other negative emotions sharing this profile include fear, sadness, and disappointment (i.e., none of these emotions differed significantly from regret in size of gap). By contrast, anger, guilt, anxiety, and boredom might be labeled ambivalent emotions, in that favorable and unfavorable views toward them balanced out. Jealousy was the only emotion in this study to be viewed in an unambiguously unfavorable light. The four positive emotions were all held in an unambiguously favorable light.

Study 2

The attitude items in study 1 centered on two main benefits: a sense-making function (i.e., the extent to which an emotion helps the individual to understand, or place into context, a particular life event) and a preparatory function (the extent to which the emotion signals the importance of a problem, and spurs new action toward its remediation). These functions derived in part from previous research that measured the consequences of engaging in regret (e.g., Landman 1993; Zeelenberg 1999). However, the finding that regret was evaluated more favorably than other negative emotions might have resulted from the fact that our scale items emphasized only these two functions, to the relative exclusion of other functions that might perhaps be well served by other emotions. That is, other negative emotions may be assumed to serve different, but no less favorable, psychological functions. Study 1 might have inadvertently "stacked the deck," so to speak, against the other emotions by neglecting to measure those other functions. Accordingly, in study 2, we broadened our assessment to get a more balanced assessment of the perceived worth of regret relative to other negative emotions.

Study 2 examined five psychological functions. We again assessed a sense-making function. The preparatory function was unpacked into two components: approach (i.e., pursuit of desired outcomes) and avoidance (i.e., maintenance of the status quo, so as to forestall the appearance of negative outcomes). Additionally, we assessed two functions in which we believed other negative emotions might excel. An insight function was assessed, which reflected the degree to which an emotion might push the individual toward self-examination, self-insight, and personal growth (e.g., "the sadder but wiser girl"; cf. King and Hicks 2007). Finally, a social harmony function was examined, which centered on the extent to which expressing an emotion might help bring the individual closer to others, as when expression of sorrow over a transgression helps to facilitate forgiveness or an angry outburst brings problems in a relationship to light. It is important to emphasize that we did not test whether emotions *actually* served these functions, but whether individuals *believed* that they do. Study 2 assessed judgments of negative emotions only, and the emotion set was expanded to 12 items. These 12 items were selected to better cover the dimensions identified in previous theoretical models of emotion (e.g., Ortony et al. 1988; Russell 1980; Smith and Ellsworth 1985; Tellegen et al. 1999), to increase the generalizability of our findings.

A second goal of this study was to examine the extent to which individuals exhibit a self-serving bias in regret ascriptions. Given the positive evaluations of regret in study 1, we hypothesized that regret might be similar to other positive trait self-ascriptions. That is, for most people the self-concept is based mainly on positive attributes (Baumeister 1998) and people tend to see themselves as possessing more positive traits than others and fewer negative traits than others

(Brown 1986). Might individuals therefore see themselves as experiencing more regret than others? This prediction is counterintuitive if we assume that experiencing negative emotions is akin to possessing negative traits (e.g., people would be unlikely to see themselves as sadder or angrier than others). Such a pattern would be entirely consistent with the literature on self-enhancing bias, however, to the extent that people see their regret experiences in a largely favorable light. Therefore, participants completed the regret scale from Schwartz et al. (2002) both for themselves and as they imagined a close other might complete it for himself or herself.

Method

Fifty-four undergraduates (32 women, 22 men; age $M = 18.6$) enrolled in an introductory psychology course participated in exchange for course credit. Participants first completed a paper-and-pencil measure of beliefs about negative emotions. Each page asked them to focus on one of 12 negative emotions: regret, anger, anxiety, boredom, disappointment, disgust, fear, frustration, guilt, jealousy, sadness, and shame. Participants were asked to rate on a 7-point scale their agreement with ten statements (two for each of five positive functions: sense-making, approach, avoidance, insight, and social harmony). These items appear in the Appendix.

Multiple forms of the packet were created with page order randomized so as to minimize order effects. Participants then completed an unrelated filler task. Finally, participants responded via computer (running MediaLab software) to the regret scale developed by Schwartz et al. (2002; see Appendix). Participants completed the measure twice: once from their own perspective and once from the perspective of a close friend. When responding about themselves, participants were given the instructions: "For the following items, please think about YOURSELF and respond as these questions apply to YOU." When responding about their friend, they were given the instructions: "For the following items, please think about A FRIEND and respond as these questions apply to YOUR FRIEND. Please write the initials of your friend in the space below." Both blocks were followed by the same scale items. The order of these two blocks was randomized, as was the order of the items within each block.

Results and discussion

The two items for each of the five emotion functions were averaged for each of the 12 negative emotions (see Table 2). Inter-item correlations for the two items for each function for each emotion (i.e., reliabilities) were consistently strong for sense-making (all rs between .48 and .77). For approach, eight emotions showed good inter-item correlations (rs between .32 and .51); guilt, regret, and shame had rs = .14, .19, and .18, respectively, while sadness had $r = -.04$ (for these four emotions, $p > .05$). For avoidance, rs were between .44 and .71, with the exception of $r = .25$ (p > .05) for fear. Insight showed strong inter-item correlations (all rs between .39 and .79). For social harmony, rs were between .34 and .56, with the exception of $r = .17$ ($p > .05$) for anxiety. Some degree of caution should be used in interpreting the results for approach motivation in particular.

Turning first to regret, a one-way ANOVA indicated significant variation in the endorsement of the five functions, $F(4, 52) = 26.2$, $p < .001$, $\eta^2 = .34$. Specifically, participants endorsed the avoidance ($M = 5.94$) and insight ($M = 5.62$) functions more strongly than they did the sense-making function ($M = 4.94$), ts(52) = 3.96, 2.64, ps < .01, ds = .79, .53, respectively. The sense-making function ($M = 4.94$), in turn, was endorsed more strongly than the social harmony function ($M = 3.96$), $t(52) = 4.40$, $p < .001$, $d = .70$, but did not differ from the approach function ($M = 5.02$), $t(52) = .32$, $p = .75$, $d = .05$.

We next compared regret to the other 11 emotions in terms of the five functions. Looking across the graphs in Fig. 2, it is immediately evident that regret scores highest *on all 5 functions*. Pairwise contrasts between regret and the other emotions are given in Table 2. Sense-making was endorsed significantly more strongly for regret than for the other emotions ($ps < .01$), with the exceptions of disappointment, guilt, and sadness. Regret was believed to serve approach motives to a greater extent than the other emotions ($ps < .01$), except for fear and guilt. In terms of avoidance motives, regret scored higher than all other emotions ($ps < .001$), except for fear, guilt, and shame. Insight was endorsed more strongly for regret than for the other emotions ($ps < .05$), with the single exception of guilt. Finally, with regard to the social harmony function, regret scored higher than all other emotions ($ps < .05$), except for guilt and sadness. Importantly, there was not a single instance in which another emotion scored higher than regret on any function.

We emphasize that these effects are unlikely to be the product of an order effect, as more than a dozen permutations of the emotions were used. Overall, then, regret appears to be an emotion that people perceive to have a wide range of positive benefits. Even when we expanded our coverage to include five functions (as opposed to the two functions assessed in study 1), participants continued to find regret more beneficial than other negative emotions.

Finally, we found evidence of self-serving bias in regret ascriptions. The Schwartz et al. (2002) regret scale showed acceptable reliability for the self ($\alpha = .67$) and for the other ($\alpha = .77$) Participants reported experiencing more regret than would a friend ($Ms = 5.07$ vs. 4.31), $t(53) = 3.77$, $p < .001$, $d = .69$.

General discussion

People value their regret experience. They value it in both an absolute sense (the favorable aspects outweigh the unfavorable aspects) and in a relative sense (as compared to other commonly experienced negative emotions). This is a surprising finding given the assumption of the aversiveness of regret, both tacit and implicit, that underlies much prior research, particularly work centering on biased decision-making (e.g., Bell 1982; Connolly and Butler 2006; Zeelenberg et al. 1996). Indeed, recent depictions of the functional value of regret (e.g., Zeelenberg 1999; Zeelenberg and Pieters 2007) and the willingness of individuals to risk the experience of regret (van Dijk and Zeelenberg 2007) have been theoretically striking precisely because regret was previously assumed to be undesirable, both in terms of its biasing effect on rational decision-making and also its link to depression (Lecci et al. 1994; Markman and Weary 1998; Monroe et al. 2005). In the present research, however, self-reports completed by both a college student sample and community sample revealed that lay opinion of regret is largely positive. People appear to value their regret experience, insofar as they retrospectively evaluate it in predominately positive terms.

Study 2 was designed to assess people's beliefs of how well various negative emotions serve five psychological functions. Remarkably, regret was believed to be the best emotion to accomplish *all five functions*. That is, regret was believed to be beneficial for placing past events in context, preparing to engage in approach and in avoidance behaviors, gaining insight into one's own past behavior and current disposition, and also in facilitating smoother social relations. Notably, participants' endorsement of this social harmony function of regret in study 2 presents an opportunity for lay beliefs to inform future theoretical work, as few researchers have examined this function of regret. Although not framed in terms of the regret literature, new research does suggest that expressions of regret to others regarding one's own transgressions has a significant impact on impressions and on forgiveness (Eaton and Struthers 2006; Eaton et al. 2006). Similarly, the endorsement of regret as valuable for self-insight and

sense-making has echoes in recent findings that the complexity of narratives about regrettable events promotes psychological growth (King and Hicks 2006, 2007).

It is important to note that other emotions besides regret were significantly, and at times equally, endorsed on the functions examined in study 2. Only guilt equaled regret across all five of these functions, however, and in study 1, participants' positive evaluations of guilt were generally equaled by their negative evaluations (whereas positive evaluations exceeded negative evaluations for regret). Although guilt thus shares some of the positive evaluations of regret, it is nonetheless more ambivalent in nature than regret, according to the present data. Certainly, the fact that we used lay perceptions of these emotions suggests the potential for overlap in evaluations, since the definitions held by lay people may be more overlapping in nature than those used by researchers. (For instance, guilt, shame, and regret could all be described as "what you feel when you do something wrong"; see Sabini and Silver 2005). The degree to which regret emerges as a uniquely valued emotion is all the more notable given the degree to which it most likely overlaps the definitions of other negative emotions in lay conceptualizations.

Regret is pervasive in daily life: Shimanoff (1984) reported that regret was the second most frequently mentioned emotion (love was first). Our results in study 1 were consistent with this earlier report, in that regret was the most frequently experienced of the nine negative emotions examined (all four positive emotions, however, were reported to be more common than regret).

Beliefs in the overall favorability of the regret experience may seem surprising when placed beside past research showing a link between self-reported regret and poor adjustment. Lecci et al. (1994), for example, found that the more individuals ruminated on their regrets, the lower their life satisfaction. In addition, Saffrey and Ehrenberg (2007) found that across both general and romantic relationship contexts, individuals who reported experiencing more regret also reported more negative adjustment. Thus, even as intense regrets are predictive of impaired psychological functioning, the present research reveals that people's explicit beliefs place regret in a favorable, even self-enhancing, light.

These beliefs may be further examples of active coping, such that past threatening experiences are reconstrued so as to become less threatening (Wilson and Gilbert 2003; Wilson et al. 2003). For example, people predict regret experiences to be stronger than they actually are, in part because they fail to take into account the effectiveness with which their coping skills will mitigate the regret experience (Gilbert et al. 2004). However, our participants did show at least a bit of awareness of their own tendency to see silver linings in dark clouds. Most striking of all is that regret stands out in the mental landscape as one negative emotion that is particularly appreciated, even after the fact, for its functional benefits.

In study 2 (and also in unpublished data replicating this effect with the Global Regret Scale, a measure developed in our lab) we found that people see themselves as experiencing more regret than a close other. This might be a further demonstration of a self-enhancement bias, as in other research that has shown that people tend to see themselves as possessing more desirable traits, skills, and abilities than others (e.g., Dunning et al. 2004; Kruger 1999; Roese and Olson 2007). Although it is tempting to interpret the self-other difference in regret ascription as an instance of motivated self-enhancement, a more cautious interpretation is also possible. Because of the covert nature of emotional experience, emotions (be they positive or negative) are more perceptually salient when they belong to oneself than to another (McFarland and Miller 1990). Future research might follow up on this self-serving aspect more directly by examining people's emotions (and the beliefs about those emotions) at the time they experience them using, for example, methods of experience sampling (Scollon et al. 2003) or day reconstruction (Kahneman et al. 2004). Such methods may shed light on whether emotion

appraisals are immediately skewed to the positive or become progressively more positive with the passage of time (Mitchell et al. 1997; Van Boven and Ashworth 2007).

To summarize, recent research indicates that the emotion of regret is associated with a number of beneficial consequences (e.g., Roese and Summerville 2005; Zeelenberg 1999; Zeelenberg and Pieters 2007). The present research shows that lay observers seem to agree. Indeed, they appreciate aspects of regret that have yet to be explored by empirical research, such as a social harmony function. People value their regrets substantially more than they value other negative emotions.

Appendix

Scale Items

Emotion appraisals (study 1)

Frequency:

In general, I tend to feel this emotion often

Intensity:

When I feel this emotion, I feel it very deeply

Positive beliefs:

This emotion helps me to know how to act in the future

This emotion keeps me from making the same mistakes again

Overall, this emotion is useful to me

Negative beliefs:

This emotion gets in the way of understanding past events

This emotion is pointless and unproductive

Overall, this emotion is bad for me

Regret Scale(Schwartz et al. 2002) (study 2)

1. Whenever I make a choice, I'm curious about what would have happened if I had chosen differently

2. Whenever I make a choice, I try to get information about how the other alternatives turned out

3. If I make a choice and it turns out well, I still feel like something of a failure it I find out that another choice would have turned out better

4. When I think about how I'm doing in life, I often assess opportunities I have passed up

5. Once I make a decision, I don't look back

Functions of Negative Emotions(study 2)

Sense-making:

Helps me make sense of past events

Helps me come to terms with undesirable outcomes

Approach Motivation:

Prepares me for action

Helps me know how to act in the future

Avoidance Motivation:

Stops me from making the same mistakes again

Stops me from doing dangerous or harmful things

Insight:

Helps me gain insight to my own attributes

Helps me better understand the impact of my actions

Social Harmony:

Improves my relationships with others

Helps me better understand what others are thinking and feeling

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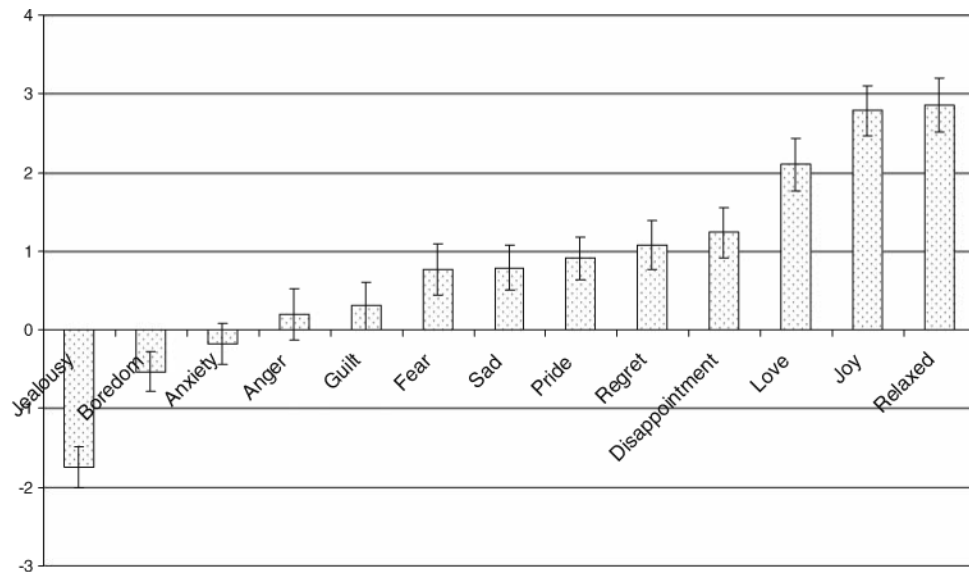
Fig. 1.
Thirteen emotions ranked by evaluation (study 1). *Note*. The scale on the vertical axis represents the difference score between mean favorable versus unfavorable attitude agreement. More positive values indicate more favorable attitudes, more negative values indicate less favorable attitudes, and the zero point indicates ambivalence. The pattern here represents an overall tendency toward favorable evaluation, even though most of the emotions tested were of negative valence
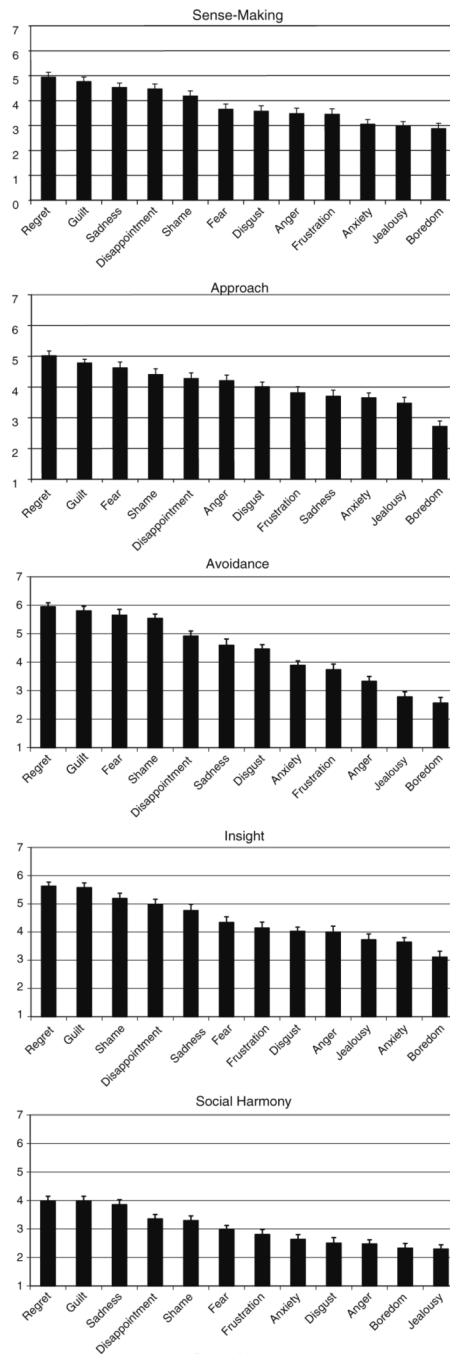
Fig. 2.
Twelve negative emotions ranked by endorsement of five psychological functions (study 2)

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Table 1

Favorability profiles of 13 emotions (study 1)

Regret:	Favorable 4.62	Unfavorable 3.54	Difference 1.08**	Contrast to regret	Frequency 3.82	Intensity 4.98
Love	4.73	2.63	2.10***	1.01**	5.00	5.69
Pride	4.20	3.30	.91**	−.54	4.16	4.76
Joy	5.06	2.27	2.79***	1.70***	5.16	5.36
Relaxed	4.87	2.01	2.86***	1.78***	4.44	4.91
Mean	*4.72*	*2.55*	*2.35*		*4.69*	*5.18*
Anger	4.15	3.95	.20	−.88*	3.02	4.38
Fear	4.47	3.70	.77*	−.31	3.31	4.62
Sad	4.21	3.41	.79**	−.29	3.44	4.84
Disappoint	4.66	3.42	1.24***	.16	3.31	4.58
Guilt	4.26	3.95	.31	−.77*	3.47	4.73
Anxiety	3.67	3.84	−.18	−1.26**	4.04	4.33
Jealousy	3.00	4.73	−1.74***	−2.82***	3.22	3.87
Boredom	3.30	3.83	−.53	1.61***	3.11	3.62
Mean	*3.97*	*3.83*	*.72*		*3.37*	*4.37*

Note: Mean favorable and unfavorable ratings (on 7-point scales) appear first, followed by the difference score between them. This difference score (i.e., mean favorability) is then contrasted to the regret difference score to indicate how regret compares in its mean favorability to other emotions. Frequency and intensity (on 7-point scales) appear next, followed by the correlations between these ratings and mean favorability

*
$p < .05$

**
$p < .01$

***
$p < .001$

Table 2

Functions of 12 negative emotions (study 2)

Regret	Sense-making 4.94 (1.45)	Approach 5.02 (1.13)	Avoidance 5.94 (1.06)	Insight 5.62 (1.08)	Social harmony 3.96 (1.35)
Anger	3.48 (1.57)***	4.21 (1.47)**	3.33 (1.64)***	4.00 (1.62)***	2.47 (1.30)***
Anxiety	3.06 (1.39)***	3.65 (1.31)***	3.89 (1.26)***	3.64 (1.53)***	2.63 (1.05)***
Boredom	2.88 (1.56)***	2.72 (1.36)***	2.57 (1.34)***	3.11 (1.41)***	2.32 (1.17)***
Disappointment	4.47 (1.43)	4.27 (1.30)**	4.92 (1.46)***	4.97 (1.52)**	3.35 (1.26)*
Disgust	3.58 (1.61)***	4.01 (1.40)***	4.46 (1.49)***	4.03 (1.48)***	2.50 (1.18)***
Fear	3.66 (1.47)***	4.62 (1.36)	5.65 (1.12)	4.34 (1.37)***	2.96 (1.22)***
Frustration	3.45 (1.60)***	3.81 (1.43)***	3.74 (1.45)***	4.14 (1.54)***	2.80 (1.31)***
Guilt	4.76 (1.35)***	4.78 (1.11)	5.80 (1.12)	5.58 (1.07)	3.96 (1.44)
Jealousy	2.98 (1.31)***	3.47 (1.41)***	2.78 (1.33)***	3.73 (1.52)***	2.29 (1.09)***
Sadness	4.53 (1.30)	3.70 (0.90)***	4.59 (1.19)***	4.76 (1.20)***	3.85 (1.35)
Shame	4.19 (1.48)**	4.41 (1.14)**	5.54 (1.16)	5.19 (1.17)*	3.29 (1.22)**

Note: Ratings were made on a 7-point scale, with greater values indicating stronger endorsement of the particular function. Standard deviations are given in parentheses

Asterisks indicate the significance level of a pairwise contrast with regret, within that same function:

*
$p < .05$

**
$p < .01$

***
$p < .001$