How Positive and Negative Feedback Motivate Goal Pursuit

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Abstract

This article explores the feedback individuals give, seek, and respond to in the course of pursuing their goals. We propose that positive feedback motivates goal pursuit when it signals an increase in goal commitment, whereas negative feedback motivates goal pursuit when it signals insufficient goal progress. We review research suggesting that whether individuals are drawn to evaluate their level of commitment versus rate of progress determines the type of feedback (positive or negative) that best motivates them to pursue their goals. We then review research suggesting that these effects of feedback operate by inducing positive and negative general moods as well as specific emotions.

Feedback is essential for goal pursuit. Information on successful and failed actions allows individuals to adjust and direct their efforts to match the challenge they are facing (Bandura, 1991; Dweck & Leggett, 1988; Festinger, 1954; Locke & Latham, 1990). Consequently, there are specific social roles associated with providing feedback on goal pursuit. For example, educators, coaches, and bosses all provide feedback that helps individuals monitor the level and direction of their actions to ensure they meet their goals. In addition, people seek feedback, including praise and criticism, from those surrounding them: friends, family members, colleagues, and neighbors. The feedback people seek can refer to their mastery goals, such as how well they perform a new skill, to their self-improvement goals, such as exercising or dieting, and to their relationship goals, such as how well they maintain their social connections. Across these various feedback agents and goals, we explore the circumstances under which positive feedback on accomplishments, strengths, and correct responses versus negative feedback on lack of accomplishments, weaknesses, and incorrect responses is more effective in motivating goal pursuit and hence is more frequently sought and given.

A number of theories offer a universal answer to our question, attesting that either positive or negative feedback is generally more effective. Several motivation theories attest that positive feedback is more effective for motivating goal pursuit than negative feedback because it increases outcome expectancy of the goal and perceived self-efficacy of the pursuer (Atkinson, 1964; Bandura & Cervone, 1983; Lewin, 1935; Weiner, 1974; Zajonc & Brickman, 1969). According to this theoretical approach, positive feedback increases people's confidence that they are able to pursue their goals, leading people to expect successful goal attainment. Negative feedback, in contrast, undermines people's confidence in their ability to pursue their goals and their expectations of success. Because positive feedback is effective, various social agents use positive feedback to encourage individuals to internalize or integrate new goals to their self-concept, with the expectation that these individuals will then be more committed to pursue the goal on subsequent occasions (Ryan & Deci, 2000).

Other motivation theories make quite the opposite prediction, suggesting that negative feedback increases motivation more than positive feedback. For example, cybernetic models of self-regulation propose that positive feedback on successes provides a sense of partial goal attainment, signaling that less effort is needed to accomplish the goal. In contrast, negative feedback on lack of successes signals that more effort is needed and encourages goal pursuit (Carver & Scheier, 1998; Higgins, 1987; Kluger & DeNisi, 1996; Locke & Latham, 1990; Miller, Galanter, & Pribram, 1960; Powers, 1973). According to cybernetic models, then, social agents would be more effective if they emphasize negative feedback.

In this article, we argue against a universal answer to the relative impact of positive and negative feedback. Instead, we suggest that the motivational advantage of positive and negative feedback comes into play under different sets of circumstances. We accordingly explore when each type of feedback is more effective in motivating goal pursuit.

Dynamics of Self-Regulation: A Framework for Exploring the Impact of Feedback

We base our analysis in research on the dynamics of self-regulation, which explores the course of goal pursuit when individuals consider a sequence of several (at least two) actions toward a goal (Fishbach & Dhar, 2005; Fishbach, Dhar, & Zhang, 2006; Fishbach & Zhang, 2008; Koo & Fishbach, 2008; Zhang, Fishbach, & Dhar, 2007). For example, people often choose whether to eat healthily for lunch and dinner or whether to recycle paper and also save water. When people choose their actions with respect to other, completed or upcoming actions toward their goal, they can choose actions that reinforce the previous ones by pursuing the same goal in a dynamic of *highlighting* (e.g., recycle paper and save water) or they can choose actions that compensate for previous ones by pursuing a different goal in a dynamic of *balancing* (e.g., recycle paper but waste water). When people highlight, they are more likely attend to a goal if they have previously attended to it. When they balance, people are more likely attend to a goal if they have not previously attended to it.

Our research on the dynamics of self-regulation identifies when people highlight versus balance, for example, when a person that has been working vigorously during the day will also stay late at the office (highlight) and when will she go home early (balance). We find that how people represent pursuing a goal determines the dynamic they follow. We specifically distinguish between two representations: *expressing commitment* toward a desirable state and *making progress* toward this state. For example, a dieter who chooses to eat healthy foods can view this choice as expressing goal commitment, including positive evaluation of the dieting goal and high expectancy of success. Alternatively, the dieter can see the healthy choice as indicating progress and partial attainment of the dieting goal. In a commitment representation, people highlight because each action increases their sense of personal commitment to the goal, including the perception that the goal is important and expectancy of attainment is high (Fishbein & Ajzen, 1974; Lewin, Dembo, Festinger, & Sears, 1944; Liberman & Förster, 2008; Vroom, 1964). In contrast, in a progress representation, people balance because each action appears to partially attain the goal. Therefore, when actions signal a boost in commitment, attending to a goal encourages goal-congruent actions more than failing to attend to the goal. However, when actions signal progress was made, not attending to a goal encourages goal-congruent actions more than attending to it.

This analysis has implications for how people respond to positive and negative feedback. First, positive feedback on successful actions can encourage the pursuit of goal-congruent

actions when it signals an increase in commitment to the goal but decrease motivation when it signals sufficient progress was made. For example, a math student who receives a high test score and infers that she likes math will work harder as a result, whereas a classmate who receives similar positive feedback and infers sufficient progress will relax his efforts and focus on spending time with her friends. Second, negative feedback on unsuccessful actions can encourage the pursuit of goal congruent actions if it signals insufficient progress has been made but decrease motivation when it signals a decrease in commitment to the goal. For example, a math student who receives a bad test score and infers lack of commitment will subsequently reduce her efforts, whereas her classmate, who infers insufficient progress from the negative feedback, will subsequently work harder.

Indeed, social organizations that promote certain behaviors provide positive feedback when they wish to increase their members' commitment, and they provide negative feedback when they wish to imbue their members with a sense of insufficient progress. For example, Alcoholics Anonymous encourages recovered alcoholics to focus on positive feedback from their past successes. The recovered alcoholics refer to each day of sobriety as a signal for their commitment to stay sober today. In contrast, weight watchers encourage dieters to increase their exercise when they eat excessively. In this model, there are points gained for exercising and deducted for eating, and negative feedback on one's food consumption should increase one's motivation to exercise.

We conducted a series of studies to demonstrate that positive feedback is effective only when it signals a boost in commitment, whereas negative feedback is effective only when it signals a lack of goal progress (Fishbach et al., 2006). Our research identifies several variables that determine the degree to which individuals interpret goal actions in terms of expressing commitment or making progress (Fishbach, Zhang, & Koo, 2009). One of these variables is attention to a superordinate goal as opposed to a specific action or subgoal (e.g., attending to one's health goal versus attending to a specific workout). When the superordinate goal is salient, it appears far from reach. Consequently, actions signal commitment to a goal more than they can provide a sense of significant progress. However, if a person focuses on the action itself, the action signals goal progress and even fulfillment. Accordingly, we predicted that positive feedback would increase a person's motivation to pursue another, congruent action when the superordinate goal is salient but decrease that person's motivation otherwise.

In one study, we (Fishbach et al., 2006) provided gym users feedback on their workout before testing whether they would choose to follow their workout with another health-promoting activity, healthy eating. In order to increase the accessibility of the superordinate health goals, we asked participants to complete an experimental survey attached to either a 'health and fitness' hardcover book or a phone directory (control condition). Both books served as clipboards but were clearly visible. To manipulate the feedback on workouts, we had participants evaluate their own workouts while presumably unintentionally seeing a fictitious participant's response to this question. The fictitious participant listed either a small (1 hr) or a large (10 hr) amount of exercising time per week, which made participants believe their own workout (of about 5 hr per week) was sufficient or insufficient by comparison. We found that when the superordinate health goal was salient (the 'health and fitness' clipboard), those who received positive feedback that they exercised more than our fictitious participant expressed greater interest to eat healthily than those who learned they exercised insufficiently. This is because the feedback on the exercise influenced commitment to the health goal. However, in the absence of the superordinate goal prime, those who received positive feedback on their exercise program expressed lower interest to eat healthily than those who learned they exercised
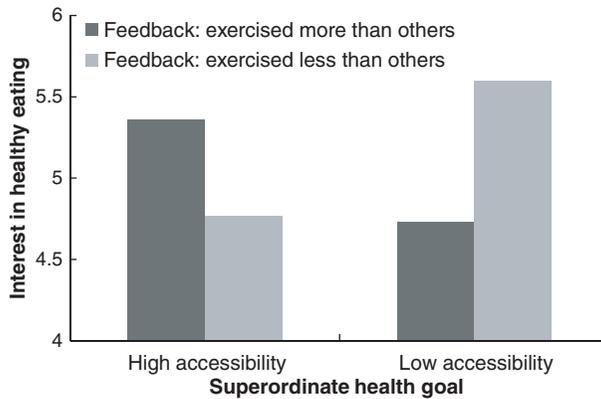
Figure 1   Interest in eating healthily as a function of superordinate health-goal accessibility and feedback type.

insufficiently, because the feedback signaled the level of goal progress (see Figure 1). On the basis of this and similar studies, we can conclude that when actions signal commitment, positive feedback increases motivation more than negative feedback. However, negative feedback increases motivation more than positive feedback when actions signal progress.

Shifting from Positive to Negative Feedback

We propose that whether people wish to evaluate their commitment or pace of pursuing a goal influences whether positive or negative feedback is more effective. Our theory further predicts that the question people ask themselves ('am I committed?' versus 'am I making sufficient progress?') shifts over the course of pursuing a goal. People often start by evaluating commitment and then shift to monitoring progress as they gain experience or expertise in a goal domain. They make this shift because novices feel uncertain about their level of commitment, whereas experts are already committed and wish to monitor their rate of progress. One consequence of this shift is that novices should increase their efforts in response to positive feedback on their successes, and experts should increase their efforts in response to negative feedback on their lack of successes.

An initial demonstration of the shift from positive to negative feedback comes from research by Louro, Pieters, and Zeelenberg (2007). These researchers followed people over the course of pursuing a goal (e.g., weight loss). They found that beginners increased their efforts in response to success (versus failure) feedback, but as they advanced toward their goal, they tended to increase their efforts in response to failure (versus success) feedback. In our research, we documented similar shifts from positive to negative feedback when individuals work together toward a group goal and receive feedback on the performance of their group as one unit. In one study, we (Koo & Fishbach, 2008) looked at contributions individuals made to a charitable organization ('Compassion Korea'). We compared those of individuals who contributed regularly to the organization ('hot list' – experienced) with those of individuals who expressed interest in the organization but had not donated yet ('cold list' – novices). We manipulated feedback on the success of the campaign by sending a solicitation letter that either emphasized that half of the money had already been raised through various channels (successful fundraising) or that half of the money was still missing to meet the campaign goal (unsuccessful fund-

raising). Although the objective accomplishment level was identical across conditions (half of the money was donated), depending on the experience of the donors (experienced donors versus novices), the differential emphasis on successful versus unsuccessful fundraising influenced contributions. Specifically, novices who received information on existing contributions donated in greater proportions than novices who received information on missing contributions. The opposite pattern emerged among regular (experienced) donors, who donated in greater proportions if they received information on missing, compared with existing, contributions.

Other studies tested whether a similar shift toward negative feedback characterizes feedback seeking, such that as people gain expertise, they seek more negative feedback and less positive feedback on their performance in order to motivate themselves (Finkelstein & Fishbach, 2009). In one study, we compared feedback seeking among American students enrolled in advanced and beginner French classes. Students in both classes indicated their interest in taking class with an instructor that emphasizes what they do well (positive feedback) and one that emphasizes how they can improve (negative feedback). We found that students enrolled in the beginner class were more interested than advanced students in taking the class from an instructor who emphasizes positive feedback. The advanced students, in contrast, were more interested than beginner students in taking the class from an instructor that emphasizes negative feedback.

In a follow-up study (Finkelstein & Fishbach, 2009), participants (all American) learned a new task: typing in German. They completed six typing trials, comprised of a medium-length paragraph, and could choose between receiving feedback either on their mistakes or on their correct responses after each typing session. Consistent with our previous findings, a larger proportion of participants sought negative (versus positive) feedback as they advanced through the trials and thus, gained expertise (see Figure 2).

In addition to receiving feedback, individuals often give feedback to others. In another study, we (Finkelstein & Fishbach, 2009) examined the feedback individuals give to a team member as a function of his assumed expertise. Participants watched a recorded practice presentation of an assumed team member. Their task was to help that person prepare for an important presentation by providing positive and negative feedback on his practice presentation. We manipulated the perceived expertise of the presenter by informing evaluators that this team member was either new to the team (2 months in) or not (2 years in). We found that evaluators provided more negative feedback (but not less positive feedback) when they believed their team member was experienced (versus a novice). Importantly, evaluators who thought the presenter was experienced (versus a novice) did not rate the quality of the presentation as lower, yet they were harsher in their feedback.

Feedback Shifting within Relationship Goals

People often seek and receive feedback in close relationships. For example, friends, family members, and romantic partners often criticize and praise each other. Their feedback can refer to the receivers' performance on achievement goals as well as to their performance as relationship partners, that is, how much they invest resources in pursuing the relationship goal. Our previous analysis suggests the status of the relationship as new versus long standing may influence the valence of the feedback being exchanged. Specifically, we assume that new relationship partners wish to evaluate the strength of their commitment. It follows that negative feedback will undermine commitment for new relationship partners, thereby reducing their motivation to pursue the relationship. However, as the
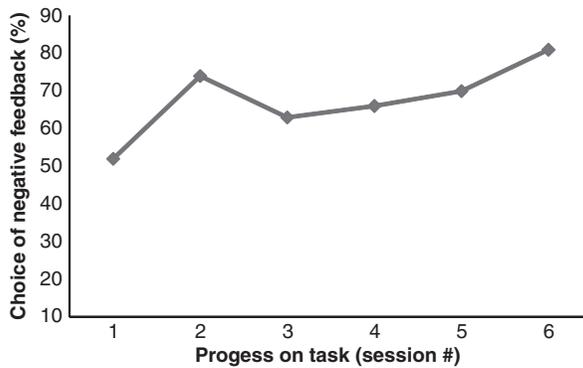
Figure 2 Percent of participants seeking negative feedback on their mistakes on the German typing task as a function of session number.

relationship deepens, relationship partners could become more secure in their level of commitment to the relationship and less concerned with the potential detrimental impact of exchanging negative feedback (i.e., their relationship depth acts as a buffer; Linville, 1987; Showers & Kling, 1996; Trope & Neter, 1994). We further assume that in addition to a lower concern with relationship commitment, partners in a long-standing relationship wish to monitor the progress of their relationship. They should therefore be responsive to negative feedback not only because they can tolerate it but also because they find it more motivating than positive feedback. Specifically, we predict that relationship partners give each other more negative feedback, seek more negative feedback, and respond more to negative feedback by increasing their efforts, the deeper they perceive their relationship to be.

In a study that tested for a shift in feedback among relationship partners, we examined how individuals respond to positive and negative feedback from a friend (Fishbach & Finkelstein, 2009). We first manipulated participants' perceived depth of their relationship with a nonromantic friend (new versus long standing) by having them answer questions on their relationship on one out of two sets of scales. For example, participants in the perceived new-relationship condition listed how long they had been friends with the person on a wide scale (1 = less than 20 years; 2 = 20–25 years; 3 = more than 25 years), whereas those in the perceived long-standing-relationship condition answered how long they had been friends with the person on a narrow scale (1 = less than 2 years; 2 = 2–5 years; 3 = more than 5 years). We found that those who felt their relationship was long standing were more interested in connecting with a friend who gave them negative feedback than those who felt their relationship was new.

A follow-up study (Fishbach & Finkelstein, 2009) revealed that those who thought their relationship was new inferred their level of interpersonal commitment from the feedback they received, whereas those who thought their relationship was long standing inferred their level of resource investment (i.e., progress) from the feedback they received. We can thus conclude that regulation of relationship goals follows a pattern similar to other goals: those in new relationships wish to evaluate their level of commitment and respond to positive feedback while those in long-standing relationships who know the relationship is well established monitor their resource investment and respond more to negative feedback.

Another study documented a similar shift in the feedback friends give each other. In this study, we (Fishbach & Finkelstein, 2009) again had participants list a nonromantic

relationship partner and then answer a set of questions that made them feel either the relationship was new or long standing. To assess feedback giving, participants then wrote a toast for their friend for an upcoming event, such as a birthday party, in which they could express both their appreciation and criticism of their friend. For example, one person wrote 'her honesty and integrity is beyond compare and her wisdom is sought by many' (positive feedback), whereas another person wrote 'we've been through thick (HA HA look at our dress size) and thin' (negative feedback). Supporting our analysis, those who perceived their relationship as long standing were more likely to include negative feedback compared with those who perceived their relationship as new.

Using a similar manipulation, we (Fishbach & Finkelstein, 2009) further tested for feedback seeking among friends. In this study, participants chose between receiving positive feedback about what they do well (their strengths) or negative feedback regarding how they could improve (their weaknesses). We found that those who perceived their relationship was long standing were more likely to seek negative feedback from their friend compared with those who perceived their relationship was new.

Taken together, these studies support our assumption that self-regulation relies more heavily on negative feedback (and balancing) as people gain experience in a goal domain. We attribute this pattern to the shift in individuals' concern as they progress on a goal – from evaluating their level of commitment to assessing their level of progress. Interestingly, in pursuing relationship goals, the increase in frequency of negative feedback can potentially have an ironic effect of shortening those long-standing relationships or at least making them less pleasant over time. This downside of long-standing relationships might happen despite the fact that the perception of relationship depth, rather than actual depth, often promotes negative feedback seeking, giving, and responding to negative feedback.

Mood Underlies the Impact of Feedback

The feedback individuals receive has affective consequences: It makes people feel good or bad. We propose that these affective consequences are a critical outcome of feedback, which enables behavioral change in response to feedback. Thus, the affective response is not a side effect or an epiphenomenon of the feedback, but rather the underlying mechanism by which feedback influences behavior (Baumeister, Vohs, DeWall, & Zhang, 2007). Eliminating the feelings feedback evokes or altering the meaning of those feelings would modify the impact of feedback. For example, we assume receiving a good grade encourages a student to study further only if she feels good and infers that she is therefore more committed to studying. Similarly, teasing a dieter about his failed weight-loss attempts would only encourage him to try harder if he feels bad and attributes the feelings to his insufficient progress. Absence of feelings or their interpretation, feedback should not increase academic or dieting efforts.

Specifically, when a person's mood appears to be the outcome of progress feedback, we predict that positive mood signals sufficient progress and negative mood signals insufficient progress (as discrepancy models attest, e.g., Carver & Scheier, 1998; Higgins, 1987). Then, experiencing positive mood would impede goal pursuit and experiencing negative mood would motivate it. However, mood can also signal one's level of commitment, for example, when a person infers high ability after receiving positive feedback. Moreover, mood that appears unrelated to feedback can impact commitment by signaling to a person whether to adopt an accessible goal. In general, positive mood increases the tendency to adopt an accessible goal and negative mood decreases adoption of accessible goals (Clore et al., 2001; Fishbach & Labroo, 2007; Trope, Igou, & Burke, 2006). When

mood signals that one should commit to or adopt a goal, we predict that positive mood will motivate goal pursuit and negative mood will impede goal pursuit.

To demonstrate that mood underlies the impact of feedback, we relied on mood attribution research. People often do not recognize the true source of their mood, as mood attribution is an inferential process (Aronson, Wilson, & Akert, 2005; Schwarz & Clore, 1983). Our analysis predicts that after receiving performance feedback, falsely attributing one's mood to another source will alter the behavioral consequences of the feedback that elicited the mood. Specifically, if people attribute their mood to a source unrelated to the performance feedback, experiencing positive mood would signal them to adopt the goal state more than a negative mood would, and thus increase goal commitment rather than signal sufficient progress. This way, a positive mood that results from progress feedback can end up increasing goal pursuit but misattributed to a source unrelated to performance. Similarly, a positive mood that results from a source unrelated to one's progress can decrease goal adherence if a person misattributes the mood to the progress on the goal.

To demonstrate these effects, we (Eyal, Fishbach, & Labroo, 2009) conducted a series of studies in which we manipulated participants' positive versus negative moods and the mood attribution to progress on a goal versus an unrelated source, before assessing participants' motivation to pursue the relevant goal. In some of the studies, the original source of the mood was performance feedback on the goal (progress related), whereas in other studies, it was unrelated to performance. We wanted to demonstrate that regardless of the true source of one's mood, the attribution of mood determines its motivational consequences. Using this procedure of manipulating the signal in mood, we could demonstrate experimentally that mood underlies the impact of feedback.

In one study (Eyal et al., 2009), participants received high- or low-success feedback about their performance on a verbal ability task that induced corresponding positive or negative mood. We informed participants in the misattribution condition that background music ('Well-Tempered Clavier' by Bach) played during the task might have influenced their mood, whereas the rest of the participants learned that the music had no impact on their performance. All participants then completed a second typing task that presumably measured a similar verbal ability. We found that in itself, success (versus failure) feedback induced participants to lower their efforts (i.e., type more slowly) on the second test – a pattern consistent with progress inferences. However, among participants who believed their mood resulted from the music, those who received success feedback typed faster than those who received failure feedback – a pattern consistent with greater commitment to improve one's verbal ability (see Figure 3).

By misattributing feedback-related mood to an unrelated source, we were able to reverse the impact of feedback on subsequent performance. In another study (Eyal et al., 2009), we manipulated the attribution of mood that originated from a source unrelated to the task to feedback versus not. Participants in the study completed a word association task that was presented as a creativity task. This task induced a positive versus negative mood outside of conscious awareness. Specifically, participants listed associations for a list of positively valence words (e.g., 'beautiful') versus negatively valence words (e.g., 'ugly;' see Isen, Johnson, Mertz, & Robinson, 1985). Those in the misattribution condition next learned that how people feel after completing the word association task is usually indicative of their level of performance, whereas the rest of the participants did not receive this information. As a result, among those in the misattribution condition, those who felt good assumed they performed better (i.e., were more creative) than those who felt bad. We then measured participants' performance on another anagram task that presumably measured a similar ability. We found that among those unaware of the source of their
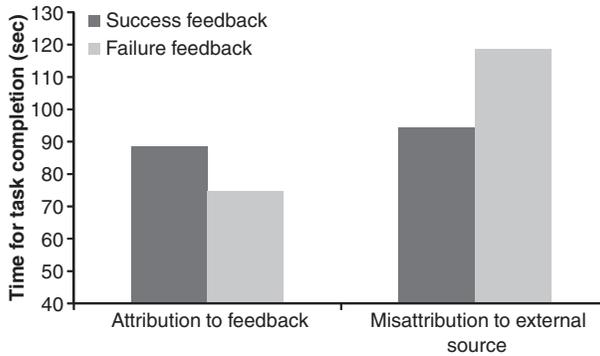
Figure 3   Overall time of completing a typing task as a function of whether participants received success or failure feedback on a previous task and whether they attributed their resulting mood to the feedback (correct attribution) or to the background music (misattribution to external source).Note: Lower numbers indicate better performance.

feelings, positive mood improved performance on the anagram task (as indicated by number of solutions) compared with negative mood – a pattern consistent with commitment inference. In contrast, participants who misattributed their mood to performance performed better in a negative than a positive mood – a pattern consistent with inferences of insufficient progress (see Figure 4).

Our findings that feedback effects depend on people's interpretations of their affective experiences have implications for existing theory on mood attribution. Consistent with our findings, research on stop-rules finds that positive mood reduces goal adherence when people wish to evaluate whether they have done enough ('stop when you have done enough'). In addition, research on stop rules finds that positive mood increases goal adherence when people wish to evaluate their level of task enjoyment ('stop when you no longer enjoy the task'), because for ambiguously enjoyable tasks, positive mood is a signal for enjoyment and thus increases commitment (Hirt, Melton, McDonald, & Harackiewicz, 1996; Martin, Ward, Achee, & Wyer, 1993). But whereas research on stop rules addresses pursuit of goals that are ambiguously enjoyable and intrinsically motivating (Ryan & Deci, 2000), we find that even for unpleasant tasks, mood can improve performance. In the latter case, when people attribute their mood to a task unrelated source (e.g., background music), experiencing positive mood will increase their tendency to commit to an unpleasant task that pursues an important goal. In addition, our research has implications for modifying theory on mood–as–information (Schwarz & Clore, 1983): We suggest that mood that is attributed to a goal–unrelated source nonetheless influences self-regulation to the extent that it increases the tendency to adopt – and therefore commit to – accessible goals.

The Feedback in Specific Emotions

Similar to general positive and negative moods, specific emotions underlie the impact of feedback on self-regulation. These specific emotions provide feedback on a person's performance on distinct goal contents (Dweck & Leggett, 1988; Higgins, 1987; Neumann, Förster, & Strack, 2003; Nicholls, 1984; Van Yperen, 2003). For example, goals vary by their focus on promotion versus prevention needs (Higgins, 1987), and different emotions mark the attainment of promotion goals (e.g., joy and satisfaction) and prevention goals (e.g., relief and quiescence; Higgins, Shah, & Friedman, 1997). In another domain,
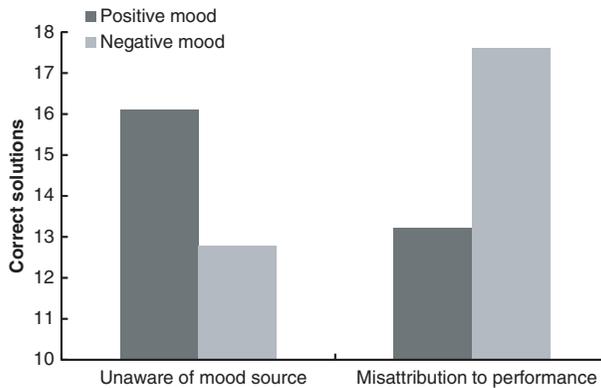
Figure 4 Performance on an anagram task (number of correct solutions) as a function of whether participants were in a positive or negative mood and whether they remained unaware of the mood source or misattributed their mood to performance on a previous task.

achievement goals vary by their focus on mastery versus performance: success on mastery goals results in increased enjoyment and decreased boredom and anger, whereas success on performance goals results in increased hope and pride and decreased shame and anxiety (Pekrun, Elliot, & Maier, 2006). Importantly, whereas general moods signal either the level of commitment to or progress on a goal, because specific emotions arise in response to performance on specific goal contents, emotions provide feedback on the level of goal progress individuals achieved(Lazarus, 1991; Smith & Ellsworth, 1985). For example, pride signals to the individual that an important goal was achieved and anger signals that an obstacle is blocking goal pursuit.

In our research, we (Eyal & Fishbach, 2009) draw a distinction between abstract and concrete emotions. We suggest that abstract emotions provide feedback on pursuit of long-term goals, whereas concrete emotions provide feedback on pursuit of short-term goals (see also Liberman, Trope, & Stephan, 2007). We define abstract emotions as those that entail a comparison of one's current situation with a remote alternative that is socially and physically distant, hypothetical, or temporally distant (e.g., hope, pride, guilt, and regret). For example, pride involves comparing the self with distant social expectations and norms, and regret involves comparing hypothetical alternatives with reality (Frijda, Kuipers, & ter Schure, 1989; Johnson–Laird & Oatley, 1989). We further define concrete emotions as those that involve a comparison of one's current situations with temporally near, socially near, spatially near, or relatively certain alternatives (e.g., happiness, joy, sadness, and fear). For example, fear is a response to an immediately threatening situation, sadness involves evaluating an immediate loss, and happiness involves evaluating an immediate gain (Lazarus, 1991). This distinction partially overlaps with the distinction between self-conscious or complex emotions and basic or hedonic emotions (Beer & Keltner, 2004; Giner-Sorolla, 2001; Johnson–Laird & Oatley, 1989; Ortony & Turner, 1990; Tangney & Fischer, 1995; Tracy & Robins, 2004), although we define emotions by their degree of abstraction, whereas similar conceptualizations defined emotions by the goals they monitor.

We predict that abstract emotions provide feedback on pursuit of long-term goals that offer delayed benefits and concrete emotions provide feedback on pursuit of short-term goals that provide immediate benefits. For example, athletes may feel pride after winning a medal and happiness when getting a rest break from their exercise regime. In studies

that explored the feedback emotions convey, we accordingly found that abstract emotions (e.g., pride) signaled progress on goals such as career achievement, and concrete emotions (e.g., happiness) signaled progress on goals such as leisure. Similarly, negative abstract emotions (e.g., guilt) signaled a lack of progress on a long-term goal and negative concrete emotions (e.g., sadness) signaled a lack of progress on a short-term goal.

We further found that abstract versus concrete emotions vary by their duration, such that concrete emotions are experienced for a shorter period of time than abstract emotions. In a study to test this prediction (Eyal & Fishbach, 2009), health-conscious participants chose to consume either one of several unhealthy snacks or one of several healthy snacks (chocolates versus apples). They reported the intensity of their feelings immediately after eating the snack and after a delay (20 min). We found that participants reported feeling more intense happiness immediately after eating the chocolate (versus apple) and more intense pride immediately after eating an apple (versus chocolate). However, whereas feelings of happiness quickly decayed, the feelings of pride persisted for some time.

In addition to the feedback that emotional experiences provide, even before there is an actual emotional experience, accessible emotion-related terms can signal that one should pursue goals that will result in that experience. For example, we found that presenting words related to *happiness* versus *pride* in an unrelated lexical task increased consumption of unhealthy chocolate among health-conscious individuals and decreased persistence on a difficult academic task among undergraduate students (Eyal & Fishbach, 2009).

Overall, both general moods and specific emotions are the underlying mechanism by which feedback impacts motivation. Moods signal the level of goal progress or provide information on the level of goal commitment. In contrast, emotions provide feedback about one's progress on specific goal contents. Thus, emotional terms promote pursuit of the goals that will result in experiencing positive emotions or not experiencing negative emotions.

Summary and Conclusions

We reviewed research attesting that the impact of positive and negative feedback depends on the signal the feedback conveys: whether it informs individuals of their level of commitment to or progress on a goal. We demonstrate that the signal in feedback is a function of individuals' level of expertise with a goal. Novices are concerned with evaluating their commitment and they are more likely to adhere to a goal after receiving positive (versus negative) feedback, in a dynamic of highlighting. In contrast, experts are concerned with monitoring their progress toward the goal and they are more likely to adhere to a goal after receiving negative (versus positive) feedback, in a dynamic of balancing. As we documented, similar shifts from positive to negative feedback characterize the feedback individuals seek from and give to others on their goal pursuits.

We further argued that feedback operates through the affective experience it produces, including general moods and specific emotions. When people attribute their mood to the feedback they received, the mood provides progress information and people are more likely to adhere to their goals when they are in a bad mood. However, when people attribute their mood to a goal-unrelated source, the mood signals to them whether to commit to a goal. In addition to general moods, distinct emotions signal the level of attainment on specific goals, such that people infer from their emotional experience (e.g., pride versus happiness) which of their simultaneous goals (e.g., long– versus short–term) they neglected or toward which they made sufficient progress.

We assume that feedback's main function is motivating goal pursuit and a remaining question is whether people seek feedback strategically to motivate themselves. For example, novices could seek positive feedback and experts could seek negative feedback in order to overcome upcoming obstacles in pursuing their goals. Thus, for example, when anticipating a problem in a timely meeting of a deadline at work, the novice will likely seek positive feedback that affirms her perception that she can meet the deadline, whereas the expert will likely seek negative feedback that will help him stay on track and overcome further distractions. In addition, individuals can possibly motivate themselves to adhere to their goals through mood regulation. In particular, they can strategically make themselves feel bad about their level of progress on a goal or, to elicit a general positive mood, they can focus on the positive things in their life. Self-regulators can also alter their attributions in a strategic way; for example, a person in a negative mood can attribute the mood to a lack of goal progress, whereas the person in a positive mood can attribute it to a source unrelated to the goal. Furthermore, people can focus their attention on emotions that promote pursuit of long-term goals (e.g., anticipated pride, experienced shame) rather than on emotions that promote short-term pursuits (e.g., anticipated happiness, experienced sadness) to promote self-control success. All these processes would motivate individuals to adhere to their goals.

Finally, social agents such as educators or managers can give feedback strategically to increase recipients' motivation to adhere to their goals. For example, they can encourage goal pursuit by offering positive feedback to novices and increasing the negative feedback they provide as their recipients gain expertise. In addition, feedback providers can encourage attributions of mood that increase motivation and avoid attributions that undermine motivation. For example, social agents can encourage individuals to attribute negative moods to the lack of goal progress (e.g., incomplete coursework) and to attribute positive moods to a source unrelated to goal performance (e.g., the weather). Naturally, such strategic use of feedback is only possible if people's intuition partially correspond to the trends we identified in our research, for example, if they can intuit that experts benefit more from negative feedback than novices. Exploring situations in which people can intuit the impact of feedback and make strategic use of it is an important focus for future goal research.

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