Ψ Psychology Press
Taylor & Francis Group

The dynamics of self-regulation

Ayelet Fishbach
University of Chicago, IL, USA

Ying Zhang
University of Texas, Austin, TX, USA

Minjung Koo
Sungkyunkwan University, Seoul, Korea

Research on the dynamics of self-regulation addresses situations in which people select goal-directed actions with respect to other existing or still missing actions towards accomplishing that goal. In such situations people can follow two possible patterns: they can highlight a goal by attending to it more if they have attended to it, or they can balance their goals by attending to a goal more if they have not attended to it. The choice of which pattern to follow depends on the representation of goal actions: when actions signal commitment, people highlight, and when actions signal progress, people balance. We identify several variables that determine whether people follow a dynamic of commitment-induced highlighting or progress-induced balancing. We then discuss the implications of this model for seeking, giving, and responding to feedback.

Keywords: Self-regulation; Goals; Motivation; Feedback.

Choice of actions follows the multiple goals that people hold. For example, people may simultaneously wish to stay fit, advance their careers, spend time with family, and develop new hobbies, and these goals, in turn, influence their decisions to exercise, go back to school, take a family vacation, and enrol in a tennis class. Retrieving a course of actions that will satisfy each of these goals separately is a relatively simple self-regulatory task. However, the challenge of self-regulation is to monitor the simultaneous pursuit of goals that compete for resources such as time (e.g., career and family) or that directly undermine each other's attainment (e.g., getting in shape and

---

enjoying food). In this typical, multi-goal context, successful self-regulation requires prioritising goals and deciding at any moment which goal to attend to while compromising or postponing other goals.

Classic goal research addresses the criteria for adopting a goal (Atkinson, 1974; Lewin, Dembo, Festinger, & Sears, 1944; Tolman, 1932; Vroom, 1964), and an underlying assumption is that similar criteria influence the decision to adopt the goal and the subsequent decision to pursue it. For example, if a person prioritises staying healthy over enjoying tasty (yet high-calorie) food, the motivational priority of health should always be higher, such that the person chooses to eat healthily while compromising food enjoyment at each opportunity. In contrast with this view, research over the past decade has documented several variables that influence the motivational priority a goal receives, such as contextual cues or opportunities that activate the goal and trigger its pursuit (Aarts & Dijksterhuis, 2000; Chartrand & Bargh, 1996; Ferguson & Bargh, 2004; Kruglanski et al., 2002; Moskowitz, 2002; Shah & Kruglanski, 2003). For example, health-conscious individuals will at times eat fatty food because they encounter cues for this (otherwise less valuable) goal in an advertisement or perceive an opportunity to eat unhealthy foods. In addition, certain goal properties influence the motivational priority a goal receives. For example, people prefer to pursue goals that have a clear end state over those that are abstract and ongoing (e.g., meeting a particular performance standard vs. doing well more generally; Heath, Larrick, & Wu, 1999; Locke & Latham, 1990), and for those goals with a clear end state, the likelihood of attending the goal increases as individuals approach that end state (Förster, Higgins, & Idson, 1998; Hull, 1934; Kivetz, Urminsky, & Zheng, 2006; Losco & Epstein, 1977).

Attending to one goal in a multi-goal context inevitably implies the neglect of other, background goals. These background goals can subsequently receive greater priority and rebound; alternatively, their motivational priority declines further. To understand self-regulation, therefore, considering a sequence of actions that either balances between pursuing a focal and background goals or highlights the pursuit of the focal goal over a sequence of actions is useful (Dhar & Simonson, 1999). Accordingly our research explores patterns of self-regulation when a person considers completed as well as upcoming goal actions. For example, we consider the choices of a diner who wishes to eat fatty food as well as stay in shape and who selects both an entrée and a dessert. The diner can either balance between these goals (e.g., by selecting a tasty dessert after having a healthy entrée) or highlight one goal across these selections (e.g., selecting a healthy dessert after a healthy entrée). When the diner balances, the likelihood of selecting a healthy dessert decreases if a healthy entrée was previously selected. In contrast, when the diner highlights, the likelihood of selecting a healthy dessert increases if a healthy entrée was previously selected.

In this chapter we review our research programme on the dynamics of self-regulation (Fishbach & Dhar, 2005; Fishbach, Dhar, & Zhang, 2006; Fishbach & Zhang, 2008; Koo & Fishbach, 2008; Zhang, Fishbach, & Dhar, 2007). This research attests that the pattern of self-regulation individuals follow (highlighting vs. balancing) depends on how they represent their goal pursuits. We distinguish between two representations: expressing commitment towards a desirable state and making progress towards this state. We argue that, in a commitment representation, people wish to highlight the pursuit of a single, most important goal across a sequence of actions, whereas in a progress representation they wish to balance between pursuing this goal and attending to others. As a result, in a commitment frame, attending to a goal increases its motivational priority more than a failure to attend the goal. In a progress frame, not attending to a goal increases its motivational priority more than attending to it.

We organise this chapter into several parts. First, we describe the self-regulatory process in each of the two dynamics: *commitment-induced highlighting* versus *progress-induced balancing*. Second, we identify several variables that influence the representation of goal pursuits and the corresponding dynamics that people follow. Some of these variables concern the individuals' state—whether they wish to assess their goal commitment or the progress they made on a goal. Other variables concern the context of self-regulation (e.g., the arrangement of choice alternatives) and whether it signals commitment versus progress representation of goal pursuits. The third section explores the role of feedback in self-regulation. We use our framework to examine when positive feedback is more effective than negative feedback in motivating action and vice versa, and how people's response to feedback corresponds to whether they seek it for themselves and give another person positive versus negative feedback. We summarise the main predictions our model makes in Table 1.

PART I: THE DYNAMICS OF SELF-REGULATION

Actions consistent with goal pursuit may either express commitment to this goal or signal that progress was made. For example, after opting for the healthy meal option, individuals may conclude either that leading a healthy lifestyle is important for them or that they have made progress on their health goals. These inferences reflect people's self-observations and their desire to imbue meaning into actions. We define *commitment* as a sense that the goal is valuable and expectancy of attainment is high (Fishbein & Ajzen, 1974; Lewin et al., 1944; Liberman & Förster, 2008; Vroom, 1964). We further define *progress* as a sense of moving forward on a goal and reducing discrepancy to a desired state (Carver & Scheier, 1998). In this section we address the pattern of self-regulation under each of these goal frames.

TABLE 1
The dynamics of self-regulation: Predictions

Commitment-induced highlighting	Progress-induced balancing
Determining variables	
Questions on commitment	Questions on progress
Uncertain and low commitment	Certain and high commitment
Salient superordinate goal	Non-salient superordinate goal
Items presented apart	Items presented together
Feedback	
Seek more positive feedback	Seek more negative feedback
Give more positive feedback	Give more negative feedback
Positive feedback increases goal adherence	Negative feedback increases goal adherence

When people represent goal actions in terms of expressing commitment to a desirable end state, they observe their own behaviour in order to infer whether the underlying goal is valuable to them and whether they expect to successfully pursue it. They then follow an inferential process similar to how one learns about one's attitudes (Atkinson, 1964; Atkinson & Raynor, 1978; Bem, 1972; Cialdini, Trost, & Newsom, 1995; Feather, 1990). That is, congruent goal actions serve as a signal for personal commitment more than incongruent actions, and they increase the subsequent motivational priority of a goal. For example, individuals would experience greater commitment to their job if they look back and consider completed tasks at work, at which point they might even decide to stay in the office after hours to complete some additional tasks. If however, individuals focus on what they have not completed, they would infer lower commitment to the job and be more likely to leave early that day.

In contrast, when people represent goals in terms of making progress, they focus on the discrepancy between an existing state and a desirable one, and their self-regulation is oriented towards moving forward and reducing the discrepancy. In line with cybernetic models of self-regulation, progress towards the end state provides a sense of partial goal attainment, signalling that less effort is needed to accomplish the goal, whereas failure to progress signals that more effort is needed (Carver & Scheier, 1998; Higgins, 1987; Locke & Latham, 1990; Miller, Galanter, & Pribram, 1960; Powers, 1973). For example, focusing on completed tasks at work might lead to relaxing and leaving early, whereas considering uncompleted tasks might signal greater discrepancy and increase the motivation to stay after hours. As this example demonstrates, monitoring progress and reducing a discrepancy does not require the goal to have a concrete end state. The two goal frames (commitment and progress) are similarly applicable to goals that do not have a particular end state (e.g., study a new language, develop one's career) as well as those that do (complete a course, finish some tasks at work).

Commitment-induced highlighting versus progress-induced balancing

We argue that when goal actions express commitment they increase the motivation to choose congruent actions subsequently in a pattern of highlighting. Conversely, when goal actions express progress they decrease the motivation to choose congruent actions in a pattern of balancing. It follows that, after a person pursues a goal, inferences of commitment would increase interest in similar, complementary actions, whereas inferences of progress would decrease interest in such actions. Similarly, after an initial failure to pursue a goal, inferences of low commitment would undermine a person's motivation to choose congruent actions, but inferences of lack of progress would increase the motivation to take such actions because the person feels a need to compensate by increasing effort.

Two factors therefore increase individuals' motivation to work on a goal: (a) the presence of goal commitment, which they infer from pursuing a goal, and (b) the lack of goal progress, which they infer from not pursuing a goal. Conversely, low commitment, which individuals infer from not pursuing a goal, and sufficient progress, which they infer from pursuing a goal, both undermine the motivation to choose actions that further a goal. We assume goal commitment and progress are competing representations of goal pursuits, with opposite motivational consequences. That is, an action that signals commitment to a goal is less likely to signal progress towards the goal and vice versa (see also Kelley, 1972, for a similar assumption in attribution theory).

PART II: WHEN ACTIONS EXPRESS COMMITMENT VERSUS MAKING PROGRESS

Social organisations that promote self-regulation differ in the extent to which they advocate highlighting or balancing as their prevailing principle. For example, Alcoholics Anonymous recommends complete sobriety and, in this model, each day of sobriety signals an increase in commitment. In contrast, Weight Watchers advocates balancing by proposing a "point system" in which dieters can trade off eating and exercising. In this model, exercising signals progress towards the weight-loss goal and can justify consumption of high-calorie food.

Similar to social organisations that prescribe different dynamics of self-regulation, individual differences exist in the extent to which people construe their goal actions as a signal for commitment or progress, and such differences influence the pattern of self-regulation they follow. For example, people exercise in order to get in shape, and many also eat healthy as a means to achieve this same goal. In a study conducted with gym users

(Zhang et al., 2007) we found that some of them perceived their workouts as a signal of commitment to getting in shape, whereas others perceived their workouts as a signal that they were making progress towards getting in shape. In addition, these gym users varied by the extent to which they were optimistic that they would adhere to and even improve their exercising regime. These individual differences predicted their choice of healthy food, such that those who viewed exercising as commitment were more interested in healthy eating if they were optimistic that they would exercise in the future; hence, they were highlighting. Those who viewed exercising as progress, however, were more interested in healthy eating if they were not so optimistic that they would exercise much; hence, they were balancing.

Beyond these individual differences, in this section we identify several variables that influence whether people infer commitment or progress from their actions. Some of these variables influence the questions people ask when pursuing a goal ("Am I committed?" vs. "Have I made progress?"), whereas others refer to the presentation of the action alternatives and whether it activates a commitment versus a progress frame.

Asking about commitment versus progress

When people evaluate their level of commitment ("Do my actions indicate I am committed to this goal?") they follow a dynamic of highlighting, and when they evaluate their level of progress ("Do my actions indicate I am making sufficient progress?") they follow a dynamic of balancing. Then when do they ask about commitment versus progress? The questions people ask themselves often follow the questions they get from others. For example, when teachers encourage their students to consider whether academic success reflects commitment to academic goals, the students are more likely to infer their level of commitment than if the teachers ask them to consider whether they have made progress by succeeding. In addition, people's pre-existing commitment certainty may determine whether they ask themselves about goal commitment versus progress. If their commitment is low or uncertain, they are more likely to ask about commitment and represent their goal actions as expressing commitment than if they are certain their commitment is high. We next elaborate on these possibilities.

Responding to framing questions

A hard-working lawyer can explain the decision to stay late in the office as an expression of devotion (commitment) or as a reflection of the desire to complete some assignments at work (progress). Asking the lawyer to consider the validity of each of these inferences—commitment versus progress—can in turn influence how she views her actions. Asking framing

questions thus influences the representation of goal pursuits because people ask themselves whether a particular inference should be made, and in order to address the question they need to at least temporarily adopt the representation that underlies the question.

To demonstrate the effect of framing questions, we (Fishbach & Dhar, 2005, Study 3) asked participants to recall pursuing academic, financial, or health goals. For each goal they listed, we asked half of the participants whether their action expressed their level of commitment to the goal while the other half were asked whether the action made progress towards the goal. Next participants indicated their interest in pursuing competing goals, which would balance for the initial action. We found that regardless of participants' agreement with the framing (commitment vs. progress) questions, those who answered questions on commitment expressed lower interest in pursuing competing goals than those answering questions on progress; hence, they were less likely to seek a balance between the focal goal and competing ones. For example, we asked participants who considered academic goals to indicate whether, whenever they study, they feel more committed to academics or feel they are making progress on their academic tasks. These participants then rated their interest in socialising with friends the night after studying. We found that those who answered questions on commitment were less interested in socialising after studying than those who answered questions on progress. Subtle cues in the form of framing questions appear to influence the framing of actions and what goals individuals subsequently attend to, even when they feel at liberty to reject the conclusions the questions imply (e.g., that they feel more committed).

Framing questions do more than alter the meaning of complete actions in the past; they also change the meaning of actions people plan to pursue in the future, and these effects on the meaning of future plans influence what a person chooses to do in the present. To demonstrate the effect of planned, future goal actions, we (Zhang et al., 2007) compared present actions among participants whom we asked to consider the meaning of future, planned actions towards their goal commitment versus progress. We found that when planned, future actions signalled commitment and competence (Bandura, 1997; Taylor & Brown, 1988; Weiner, 1979), they promoted similar goal-congruent actions in the present—a pattern of highlighting. When, however, future plans signalled progress towards a goal, they substituted for such actions in the present—a pattern of balancing (Oettingen & Mayer, 2002).

Moreover, the degree to which past and planned goal actions influence present ones is proportional to how much the past or planned actions achieve. If they achieve a lot, these actions will have greater impact on either engagement or disengagement in the present. Therefore, when people are optimistic and believe they will achieve more in the future than they did in

the past (Buehler, Griffin, & Ross, 1994; Weinstein, 1989; Zauberman & Lynch, 2005), future plans may ironically exert a greater impact on immediate goal pursuit than retrospection of past actions in spite of the hypothetical nature of future plans. Specifically, thinking optimistically about future actions motivates similar present actions more than considering completed actions in the past when optimism signals goal commitment, and it would undermine this motivation when optimism signals goal progress.

In a study that examines these effects of optimism, we (Zhang et al., 2007, Study 1) approached gym members at the beginning of the year, when people tend to make New Year's resolutions, and asked them to think about their workout frequency in the coming year or the frequency of their actual workouts in the previous year. Not surprisingly, gym members planned to exercise more frequently in the upcoming year than they did in the past year; thus, they were optimistic. Half of these gym members further indicated whether workouts signal commitment to the health goal. For example, they rated their agreement with a statement such as "*having worked out* (or "*planning to work out*") *that much means I must really care about my health*". The rest of them indicated whether workouts signal progress towards the health goal. For example, they rated their agreement with "*having worked out* (or "*planning to work out*") *that much, I am* (or "*will be*") *closer to my workout objectives*". Next we measured whether gym members would complement exercising with healthy drinking. We offered them a choice of a beverage for immediate consumption, either healthy spring water or unhealthy sugared soda. As Figure 1 shows, under a commitment frame the share of healthy choice was higher among participants who envisioned a future (vs. past) workout regime, because they considered a greater amount of exercise and highlighted this expected goal pursuit by choosing a healthy drink. However, under a progress frame the share of unhealthy choice was higher for participants who envisioned a future (vs. past) workout regime, because they balanced for the greater amount of exercise by choosing an unhealthy drink. Future plans appear to have a greater impact on present choices than past actions when people believe they will do more in the future than in the past. The direction of the influence depends on the representation of actions in terms of commitment or progress.

Pre-existing commitment certainty

Pre-existing levels of commitment to a goal influence whether people interpret their actions as a signal of commitment or progress. People ask themselves about their goal commitment when they are still unsure about pursuing the goal and their commitment is uncertain or relatively low. When people are ambiguous about their level of goal commitment, they wish to
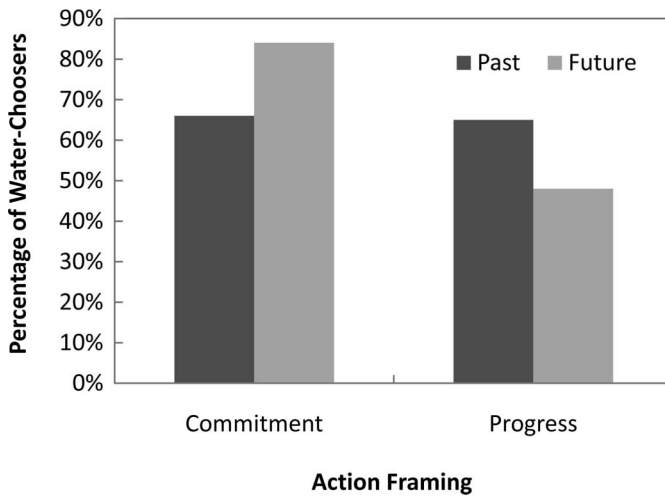
Figure 1. Choice of drinks (healthy spring water vs. unhealthy sugar soda) as a function of time focus and action framing.

determine whether a goal is important to them and worth pursuing further. However, once people are certain about their commitment to a goal, they ask about progress and represent goal actions as making progress. As a result, before commitment is certain, completed goal actions increase goal adherence more than lack of actions since completed actions signal higher commitment and promote self-regulation through highlighting. In contrast, once commitment is certain, a lack of goal actions increases goal adherence more than completed actions because missing actions signal greater discrepancy and need for progress, which promote self-regulation through balancing (see also Brunstein & Gollwitzer, 1996; Wicklund & Gollwitzer, 1982).

To investigate the effect of commitment certainty on the pattern self-regulation individuals follow, we (Koo & Fishbach, 2008) used goals with a clear end state to which we manipulated initial commitment (certain and high vs. uncertain and low) and participants' attention to what they had accomplished (to date) versus what remained for them to accomplish (to go). When goals have a clear end state, any accomplishment (e.g., 50% to date) can also be framed as a lack of accomplishment (e.g., 50% to go) without altering the objective information on the level of goal attainment. The question we addressed was which emphasis is more motivating: accomplished actions (to date) or unaccomplished actions (to go). We assume that if people highlight, accomplished actions should increase their motivation to adhere to a goal more than unaccomplished actions. However, if they balance, unaccomplished actions should have greater

impact on their motivation than completed ones. We predicted that when commitment is uncertain, an emphasis on accomplished actions would increase goal adherence because accomplished actions signal greater commitment than missing ones. An emphasis on unaccomplished actions would, in contrast, increase the goal adherence when commitment is certain, because it signals a higher need for progress than completed actions.

In a study that supports these predictions (Koo & Fishbach, 2008, Study 1), student participants rated their motivation to study for either an elective-course exam, which had a pass/fail grade and for which the commitment to study was therefore uncertain and relatively low, or to a core-course exam, which had a letter grade and for which the commitment to study was therefore certain and relatively high. Before they rated the amount of time and effort they would devote to studying for one of the exams, the participants considered either the exam materials they had already covered or those they had yet to cover. We found that, for the elective-course exam (uncertain commitment), the focus on completed coursework increased students' motivation to study more than the focus on remaining coursework. However, for the core-course exam, the focus on remaining (vs. completed) coursework increased the motivation to study more (see Figure 2). This pattern reflects participants' distinct representations of goal pursuits. When commitment was uncertain they chose to study because they had completed some coursework before—they were highlighting the study goal. When commitment was certain they chose to study because they had remaining, uncompleted coursework—they were balancing between past and present efforts. Indeed, we found that the focus on completed (vs. remaining) work for the elective-course exam increased the value of studying, which in turn increased the motivation to study. We found no evidence for inferring value of studying for a core-course exam, which suggests that participants only inferred commitment from studying for an elective exam.

Research on self-regulation has traditionally focused on pursuit of personal goals, such as academic and health goals. However, many of the goals people strive to attain qualify as group goals. These are goals a collection of individuals works together to achieve (Weldon, Jehn, & Pradhan, 1991; Zander, 1980). Examples include goals such as engaging in social movements, pledging to charity, volunteering for community outreach programmes, generating ideas in team meetings, and accomplishing chores with housemates. When working on a group goal, others' accumulated contributions or lack of contributions are likely to influence an individual's motivation to invest resources in the goal. Specifically, if people ask about their level of commitment to the group goal, they are more likely to invest resources if they consider others' contributions versus lack of contributions, because existing contributions indicate the goal is important. That is,
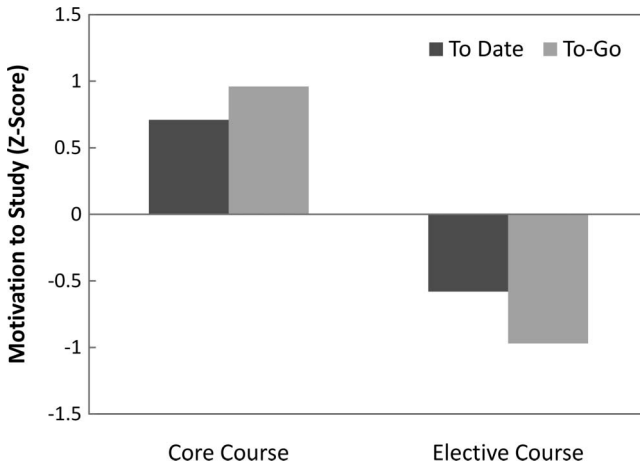
Figure 2. Motivation to study (z-score) as a function of commitment (certain: core course; uncertain: elective course) and focus on accomplished actions (to date) versus remaining actions (to go).

people's actions follow (or highlight) other group members' actions. In contrast, if people are already committed and therefore ask about the progress towards the group goal, they are more likely to invest their resources if they consider the lack of (vs. existing) contributions, because lack of contributions indicates more progress is required to achieve the goal. That is, people's actions compensate (or balance) for other group members' lack of actions.

In order to examine contributions to a group goal, we (Koo & Fishbach, 2008, Study 4) conducted a large-scale field study in collaboration with Compassion Korea, a charity organisation dedicated to helping children in developing countries. As part of the study we initiated a campaign to help AIDS orphans in Africa. The solicited population included regular donors who were making monthly donations to this charity ("hot list") and new donors who indicated their interest but had not yet made any contributions ("cold list"). The two groups varied by their commitment level, which was higher for those on the hot list than the cold list. The solicitation letter indicated that Compassion set a goal to raise 10 million won, and that approximately half of the money had already been raised through various channels. Depending on the experimental condition, the letter further emphasised either accumulated or remaining contributions to complete the campaign goal. We then measured the effectiveness of the charity appeal by the amount of donations we raised. As Figure 3 shows, among the cold-list donors an emphasis on accumulated contributions (50% to date) increased the average contribution more than an emphasis on remaining contributions
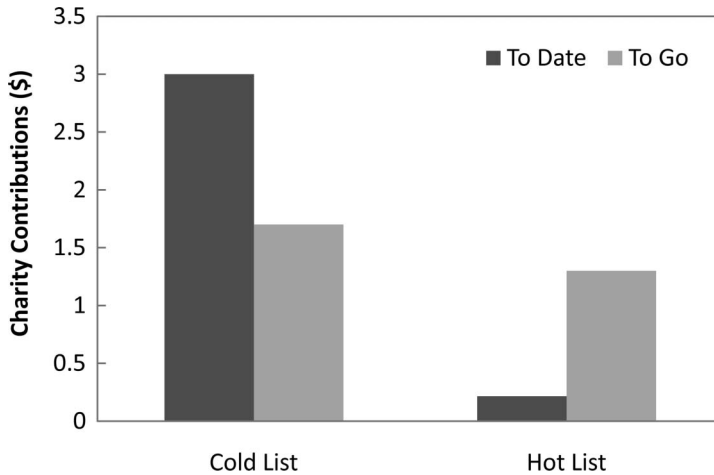
Figure 3. Charity contributions as a function of commitment certainty (low: cold list; high: hot list) and focus on accumulated contributions (to date) versus remaining contributions (to go). (Hot-list participants' regular monthly donations were not included in the analysis.)

(50% to go). This pattern reflects highlighting other group members' contributions by contributing more if others already have. In contrast, among the hot-list donors, an emphasis on remaining contributions (50% to go) increased the average contribution more than an emphasis on accumulated contributions (50% to date). This pattern reflects a dynamic of balancing by using one's own contributions to make up for others' lack of contributions.

The sources of motivation to contribute to group goals—expressing commitment versus making progress—appear similar to those characterising the pursuit of personal goals. However, rather than highlighting versus balancing one's own actions, group members either follow or compensate for others' contributions to the group goals.
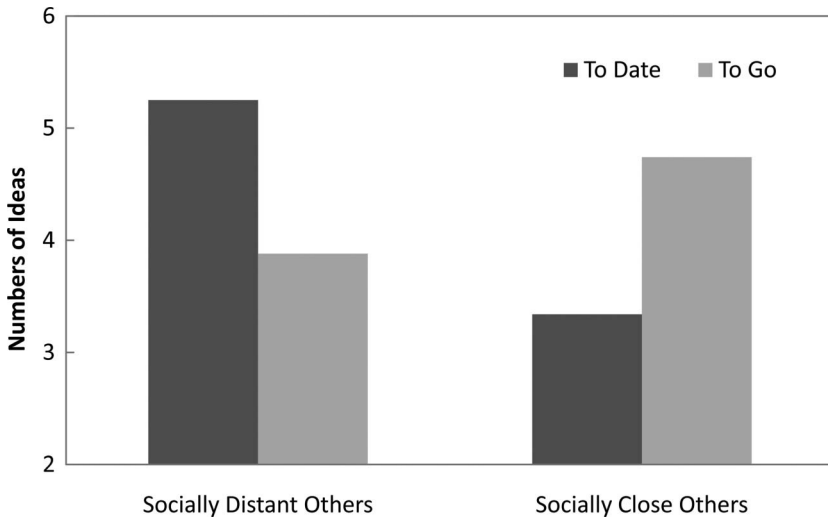
Group identification

Despite the benefits group goals produce, individuals do not always work efficiently or effectively in collective settings. Although incongruence in values and demographic difference among members can explain much inefficiency of groups (Jehn, Chadwick, & Thatcher, 1997), group productivity or performance also tend to suffer because of motivational deficits that occur when people share a goal (e.g., social loafing, Kidwell & Bennett, 1993; Ringelmann, 1913; and free riding, Kerr & Bruun, 1983). For example, only 11.8% of the sample in the Koo and Fishbach study (2008, Study 4) contributed to our charity campaign. In the previous section we addressed one

factor that influences the source of motivation when contributing to group goal striving: commitment to the group goal. In this section we explore a related construct—whether individuals identify with the group. We assume that, similar to commitment certainty, differences in the degree of identification will influence when and why people contribute to a group goal.

We define group identification as the degree to which individuals categorise other group members as part of themselves (Ashmore, Deaux, & McLaughlin-Volpe, 2004; Leonardelli & Brewer, 2001; Tajfel & Turner, 1986; Turner, 1987). The more individuals identify with a group, the more committed they feel and the more likely they are to experience the positive and negative outcomes of the group as their own (Ellemers, Spears, & Doosje, 1997; McCauley, 2001). We attest that group identification determines whether one's source of motivation is based on an evaluation of the merits of the group goal or the need for progress on that goal. Low group identifiers are posited to ask whether a group goal is worth pursuing. Therefore, an emphasis on other group members' prior effort expenditures should increase their own contribution. High group identifiers, on the other hand, are already committed to their group goal, and, consequently are posited to focus on the need for progress. Therefore, emphasising others' lack of effort expenditures should increase their own contribution.

We explored the impact of group identification on contribution to a group goal in a series of studies that manipulated group identification and the focus on accumulated versus remaining contributions by other group members. In one study (Fishbach, Henderson, & Koo, 2009, Study 1) we assessed contributions of ideas to a focus group. To measure each individual's contribution we used nominal groups in which participants work individually but assume their input will be collapsed with other group members (Jackson & Williams, 1985). The group goal was to generate 10 promotion ideas for a new cellular phone, and other group members had allegedly already generated 5 ideas before the participants joined the group. We manipulated identification by having participants purportedly work in conjunction with socially distant or close others. Specifically, they learned that other team members were either students affiliated with the participants' own university (high identification) or they were students at other (possibly rival) universities (low identification). We manipulated the framing of contributions by other group members (allegedly, 50%) by informing participants that other group members had contributed about half of the ideas to date or by informing them that half of the ideas were missing to meet the goal. Figure 4 displays the number of promotion ideas participants contributed to their group. As shown, the focus on accumulated contributions to date (vs. remaining contributions to go) increased idea generation for those affiliated with distant others (low identification) but decreased idea generation for those affiliated with close others

Figure 4. Idea generation as a function of identification (low: socially distant others; high: socially close others) and focus on accumulated contributions (to date) versus remaining contributions (to go).

(high identification). Interestingly, group identification did not increase overall contributions. Rather it influenced the source of the motivation to invest in the goal: either to participate if the cause appeared valuable (for low identifiers) or to promote progress if the valuable cause was not progressing at a sufficient pace (for high identifiers).

Another study (Fishbach et al., 2009, Study 3) explored how identification with a victimised group influences whether individuals contribute to a charity campaign more if they consider the fact that others have already contributed or if they consider the fact that others have not contributed. This study manipulated group identification by referring to the victimised group as part of the self (i.e., "we") versus separate from the self (i.e., "they"; Cialdini et al., 1976; Dovidio, Piliavin, Gaertner, Schroeder, & Clark, 1991). Specifically, shortly after the Kenyan riots in December 2007 we sent solicitation letters to potential charity donors. These letters either referred to "our Compassion children" suffering from the violence "in our world" (high identification) or to the children "in Africa" suffering from the violence "there" (low identification). Similar to our previous study (Koo & Fishbach, 2008, Study 4), the letter further emphasised that we had already raised approximately half of the money through various channels or that we still needed about half of the money to complete the campaign goal.

As Figure 5 shows, among low identifiers ("they"), an emphasis on accumulated contributions increased the average amount of donations more
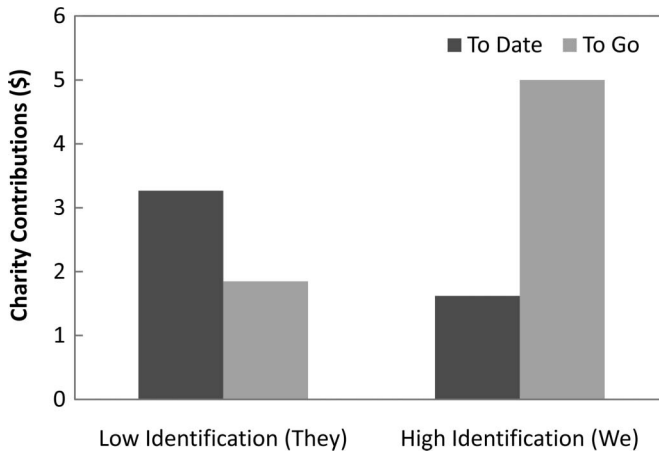
Figure 5. Charity contributions as a function of group identification and focus on accumulated contributions (to date) versus remaining contributions (to go).

than an emphasis on remaining contributions. This pattern reflects a dynamic of highlighting or following other group members' contributions. In contrast, among high identifiers (''we''), an emphasis on remaining contributions increased the average amount of donations more than an emphasis on accumulated contributions. This pattern reflects a dynamic of balancing or compensating for other group members' lack of contributions. Another study (Fishbach et al., 2009, Study 4) confirms that only low identifiers infer that a charity campaign is more valuable when they consider accumulated contributions to date (vs. contributions still to go). In addition, only high identifiers infer a higher need for progress when they consider remaining contributions to go (vs. to date).

In summary, the questions people ask influence their pattern of self-regulation. When they are unsure about their commitment they invest more in a goal if they focus on existing contributions (highlighting). But when they are sure about their commitment, and ask about their progress, they invest more in a goal if they focus on the absence of contributions (balancing). The questions people ask may depend on the questions someone asks them, as well as on their level of commitment to a goal, including their degree of identification with group members with whom they share a goal.

Contexts activate goal frames

The context in which a person contemplates pursuit of a goal can influence the frame of this goal—commitment or progress—and whether the person then follows a dynamic of highlighting or balancing. Specifically, we find

that people are more likely to highlight (vs. balance) goals when a superordinate goal becomes salient in the course of self-regulation. In addition, people are more likely to highlight when choice alternatives that pertain to different goals are presented separately and appear to be in competition (e.g., healthy and unhealthy food in different bowls), and they are more likely to balance when choice alternatives are presented together and appear complementary (e.g., healthy and unhealthy food in a single bowl).

Salient superordinate goal

The degree to which individuals interpret goal actions in terms of expressing commitment or making progress partially depends on their attention to the specific action (or subgoal, e.g., a workout) as opposed to its superordinate goal (e.g., a health goal). If the superordinate goal is salient, successful attainment of an action can signal commitment to this goal more than it can provide a sense of progress, since the overall goal is far from reach. Therefore completing a single activity would increase a person's motivation to highlight the goal by pursuing consistent actions. If, however, the superordinate goal is not salient and a person focuses on the activity itself, successful attainment of an action signals goal progress and even fulfilment, and it motivates balancing by moving away from the goal.

In a study that tested the effect of superordinate goal accessibility, we (Fishbach et al., 2006, Study 2) explored whether gym users would choose to accompany their workout with another health-promoting activity—healthy eating. In order to increase the accessibility of the superordinate health goals, participants completed an experimental survey attached to either a "health and fitness" hardcover book or a phone directory (the control). Both books served as clipboards. To manipulate participants' perceived successful workouts, we had them evaluate their own workouts while (presumably unintentionally) seeing a fictitious participant's responses. That fictitious participant listed either a smaller or a larger amount of exercising time, which made participants believe their own workout was relatively successful or insufficient. We found that when the superordinate health goal was salient (the "health and fitness" clipboard), those who learned they exercised a lot expressed greater interest to eat healthy than those who learned they exercised a little—a pattern of highlighting. However, in the absence of the superordinate goal prime, those who learned they exercised a lot were less interested to eat healthy than those who learned they exercised a little—a pattern of balancing (see Figure 6).

Another study (Fishbach et al., 2006, Study 4) found that proximal actions signal goal progress whereas distant actions signal goal commitment, because individuals evaluate their distant actions by the superordinate goals
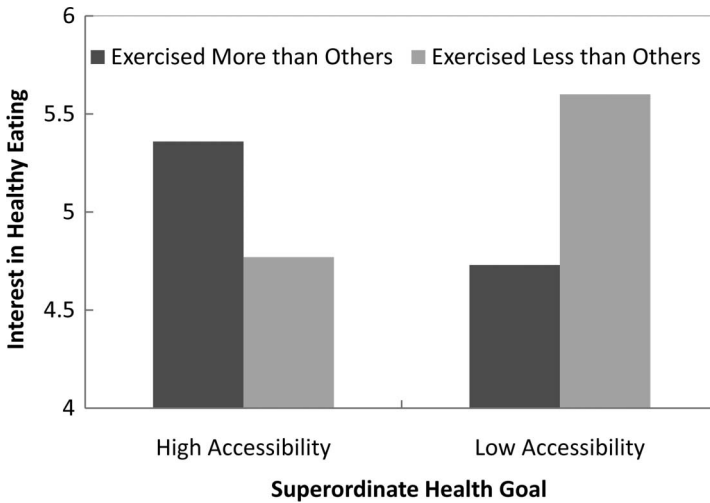
Figure 6. Interest in healthy eating as a function of superordinate health goal accessibility and the amount of exercising (high: participants believed they exercised more than others; low: they believed they exercised less than others).

they serve (Liberman & Trope, 1998; Trope & Liberman, 2003; Vallacher & Wegner, 1987). For example, exercising in the near future would likely mean ''sweating'', but in the distant future exercising more likely would mean ''improving health''. Similar to priming a superordinate goal, the focus on the distant future therefore makes people construe their actions more as a signal of commitment and less as an indication of progress. We further found that inferences of progress (vs. commitment) mediate the effect of goal pursuit in the proximal versus distant future on interest in pursuing complementary actions. We can therefore conclude that initial success increases goal adherence when individuals focus on the superordinate goal, because the action seems to signal commitment more than progress. Initial failure, however, increases motivation when individuals focus on the action itself, because the failure signals a lack of goal progress rather than a lack of commitment.

Presentation format

The arrangement of alternatives also influences the dynamic of self-regulation that individuals follow. Individuals often make selections from sets that include items serving multiple goals. For example, they browse through a television guide that includes educational shows and light sitcoms. They go through highbrow news magazines and lowbrow fashion magazines on a newsstand or select from menu courses that are either healthy or tasty.

In such situations, the presence of the different alternatives activates the corresponding goals (Shah & Kruglanski, 2003) and the arrangement of the alternatives influences people's perceptions of them as competing against versus complementing each other, which in turn influences the dynamics of self-regulation. For example, the presence of healthy fruits and unhealthy candies activates the health goal versus satisfying one's craving for sweets motives, and their arrangement in one versus two bowls influences the perception of these alternatives as competing versus complementary, which determines people's choice between them.

In a series of studies that tested for these possibilities, we (Fishbach & Zhang, 2008) found that separating items into two sets (e.g., two bowls), versus presenting them together in one set (e.g., one bowl), determines whether individuals perceive the items as conflicting versus complementary. When the items are presented apart they seem conflicting and promote a highlighting dynamic of choice; when the items are together they seem complementary and promote a balancing dynamic of choice.

These dynamics have unique consequences for situations in which the items in a set pose a self-control conflict; for example, when people contemplate between low- and high-calorie foods (Baumeister, Heatherton, & Tice, 1994; Kuhl & Beckmann, 1985; Loewenstein, 1996; Metcalfe & Mischel, 1999; Rachlin, 1997; Stroebe, Papies, & Aarts, 2008; Trope & Fishbach, 2000). When goal and temptation alternatives (e.g., healthy and unhealthy foods) are presented apart from each other, they seem to be in competition. As a result, people are more likely to resolve the conflict in favour of the goal alternatives in a dynamic of highlighting: they assign a greater value to goal alternatives (e.g., educational shows, news magazines) than to tempting alternatives, and consistently choose goal alternatives for both immediate and future consumption. In contrast, when choice alternatives appear together and seem to complement each other, thus promoting balancing, people tend to resolve the self-control conflict in favour of the immediately gratifying temptation option. As a result, they value the tempting alternatives (e.g., watching sitcoms, reading lowbrow fashion magazines) more than the goal alternatives and prefer these tempting alternatives for immediate consumption, thereby postponing the consumption of goal alternatives to a future occasion. The reason tempting alternatives are selected first in this presentation format is that their value is immediate, whereas the value of the goal alternatives, although larger, is delayed. Thus, in a self-control conflict, a balancing dynamic would most often take the form of "first temptation then goal" rather than "first goal then temptation".

To demonstrate these effects, we (Fishbach & Zhang, 2008, Study 1) presented healthy and unhealthy food items in one of three presentation formats: (a) together in one image to induce a sense of complementarity and

a dynamic of balancing; (b) in two separate images next to each other to induce a sense of competition and a dynamic of highlighting; or (c) in two separate experimental trials as a control condition (see Figure 7). We purposely selected healthy and unhealthy food items that were similarly positive when evaluated independently (e.g., fresh tomatoes vs. cheeseburger). As Figure 8 shows, presenting these items together in one image increased liking for unhealthy foods, whereas presenting them apart in separate images increased liking for healthy foods. A follow-up study (Fishbach & Zhang, 2008, Study 4) found that when goal and temptation alternatives were presented together (vs. apart), they appeared to complement each other but did not appear more similar to each other: thus we can rule out the possibility that the presentation formats simply influence people's ability to mentally separate goal from tempting alternatives.

In another study (Fishbach & Zhang, 2008, Study 6), participants faced a choice between a healthy bag of carrots and an unhealthy chocolate bar. Presenting these items in sorted piles, one for each food type, increased the share of participants who chose carrots over chocolates, compared to presenting the options together in one pile. Importantly, we can conclude that a presentation format helps individuals to identify a self-control problem if it causes their actions to be more closely associated with the strength of their high-order goal (e.g., whether they would like to lose weight). Indeed, only when we presented the healthy and unhealthy options apart, thereby prompting highlighting, were participants' concerns with weight watching positively associated with the healthy choice of carrots over chocolates. Concern with weight watching did not predict choice when we presented the options together. When options are presented apart, people appear to more easily identify a self-control problem and make choices congruent with the motivational strength of the goal to watch their weight. Presenting options together eliminates the self-control conflict because those concerned with their weight feel they can eat unhealthily now and balance for their unhealthy choice later (Myrseth & Fishbach, 2009).

Together   **Apart**

Figure 7. Examples for presenting food images together or apart. [To view this figure in colour, please visit the online version of this paper.]
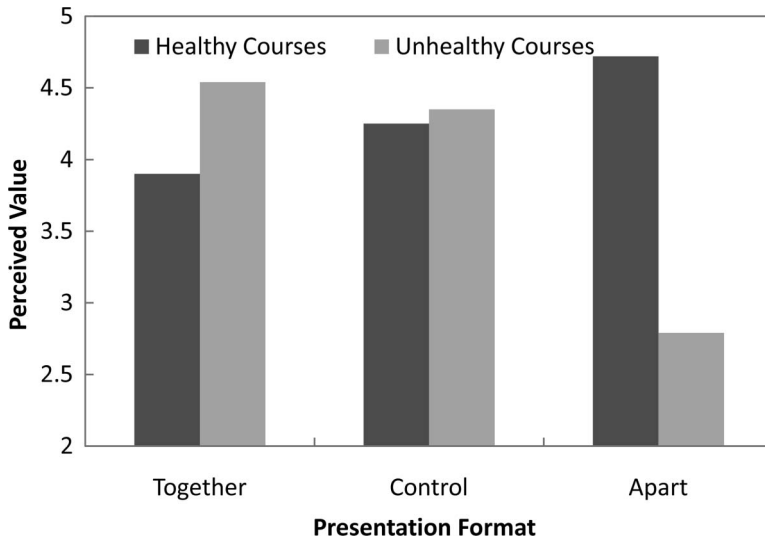
Figure 8. Perceived value of healthy and unhealthy menu courses as a function of presentation format.

Other studies assessed a sequence of actions that balances or highlights goals or temptations. We (Fishbach & Zhang, 2008, Study 5) found that presenting options together in one unified choice set induces the sequence of balancing, whereas presenting the same options apart in two separate choice sets induces the sequence of highlighting. Specifically, participants in this study selected courses from a menu that depicted healthy and unhealthy options either together on one menu or apart in two clearly separated menu sections. When the courses appeared together on a single menu, the majority of the participants (over 50%) preferred to order an unhealthy entrée and a healthy dessert. This choice sequence represents balancing: first temptation then goal. However, when the same food options appeared on two menus— one exclusively for healthy courses and the other exclusively for unhealthy courses—the majority of the participants preferred to order both a healthy entrée and a healthy dessert, thus choosing to highlight the more important health goal.

On the basis of these and similar findings, we propose that in a self-control dilemma, balancing may often result in giving in to temptation in the present. Then, to the extent that a person's choices for the future are not binding, the person may repeatedly choose tempting alternatives while postponing pursuit of a more important goal; for example, the dieter may keep promising himself to start the diet tomorrow. We conclude that when facing goals and temptations that are in conflict, following a pattern of highlighting the choice of goal items is beneficial.

In summary, the contexts of self-regulation influence the dynamic of self-regulation individuals follow. When a superordinate goal is salient, it prompts a commitment representation of goal pursuits and highlighting, whereas a progress representation and balancing are more likely in the absence of a salient superordinate goal. In addition, when action alternatives appear to compete with each other, they prompt a pattern of highlighting one type of alternatives, whereas when these options appear to complement each other, they promote balancing between the alternatives.

PART III: FEEDBACK ON SELF-REGULATION

Feedback is inherent to self-regulation; hence people associate specific social roles with providing feedback on successful versus unsuccessful goal pursuits. Thus educators, coaches, and bosses all provide feedback that helps individuals monitor their goal pursuits. In addition, people seek feedback from those around them, regardless of their social role, including friends, family members, colleagues, and neighbours. The feedback people seek can refer to mastery goals, such as how well they perform a new skill, but also to relationship goals, such as how well they maintain their marriage or friendships. Across these social agents and various goals, we examine how goal frames (commitment vs. progress) influence the feedback individuals seek, give, and respond to.

Responding to feedback

We draw a general distinction between positive feedback on accomplishments, strengths, correct responses versus negative feedback on lack of accomplishments, weaknesses, and incorrect responses. We propose that distinct motivational consequences exist for receiving positive and negative feedback. Positive feedback increases goal adherence when it signals greater commitment to the goal, but negative feedback increases the goal adherence when it signals lack of goal progress. For example, we find that feedback on completed actions promotes goal adherence more than feedback on required actions when individuals are unsure about their commitment, but the opposite pattern emerges when individuals wish to monitor their progress (Koo & Fishbach, 2008). Similarly, in another set of studies (Fishbach et al., 2006), feedback on successful (vs. failed) goal pursuit increased the motivation to select similar goal-congruent actions when the superordinate goal was salient, but the same feedback on success (vs. failure) diminished the motivation to work on the goal when the focus was on the action itself.

Feedback often includes direct information about the positive versus negative aspects of one's performance. Alternatively, feedback also comes in the form of affective information, and people rely on their emotions or

moods as a source of feedback for self-regulation (Beer & Keltner, 2004; Carver & Scheier, 1998; Frijda, 1986; Higgins, 1987; Schwarz & Clore, 1983; Tangney, Miller, Flicker, & Barlow, 1996). In addition, we find that direct performance feedback also exerts its influence by inducing an emotional response. That is, the feedback induces positive or negative moods, which in turn inform people about their commitment to or progress towards their goals, thus influencing the strength of the motivation to adhere to a goal.

Whether mood then increases or decreases the motivational priority of a goal is often a matter of mood attribution to either a source unrelated to the goal or to the progress on this goal. If people attribute mood to a source unrelated to the goal (e.g., background music), a positive mood informs them to adopt this pursuit more than a negative mood does (Aspinwall, 1998; Fishbach & Labroo, 2007; Trope & Neter, 1994). If, however, people attribute the source of their mood to progress towards accomplishing a goal, a positive mood informs them more than a negative mood does that they have made adequate progress, and they subsequently relax their efforts in pursuing this goal (Carver & Scheier, 1998; Martin, Ward, Achee, & Wyer, 1993).

In support of this analysis, we (Eyal, Fishbach, & Labroo, 2009) found in a series of studies that positive mood decreases performance when one attributes it to progress towards a goal, but it improves performance when one attributes it to an unrelated source. Participants in one study completed a word association task that induced a positive or negative mood outside conscious awareness (e.g., they listed associations for positive-valence words such as "beautiful" vs. negative-valence words such as "ugly"; Isen, Johnson, Mertz, & Robinson, 1985). Those in the misattribution condition were then led to believe their mood indicated their level of progress on this presumed "creativity task", whereas the rest of the participants remained unaware of the source of their mood. Next we assessed participants' performance on an anagram task that presumably measured a similar creativity skill. As Figure 9 shows, among those who remained unaware of the source of their mood, positive mood improved performance on the anagram task more than negative mood did. However, among those who misattributed mood to performance, negative mood increased performance more than positive mood did. A follow-up study found that people infer greater commitment to the goal—but no greater progress—from a positive (vs. negative) mood unrelated to their performance. Correspondingly, people also infer greater goal progress—but no greater commitment—from a positive (vs. negative) mood related to performance on the goal. We can thus conclude that positive mood increases motivation when it signals commitment and negative mood increases motivation when it indicates lack of sufficient progress towards a goal.
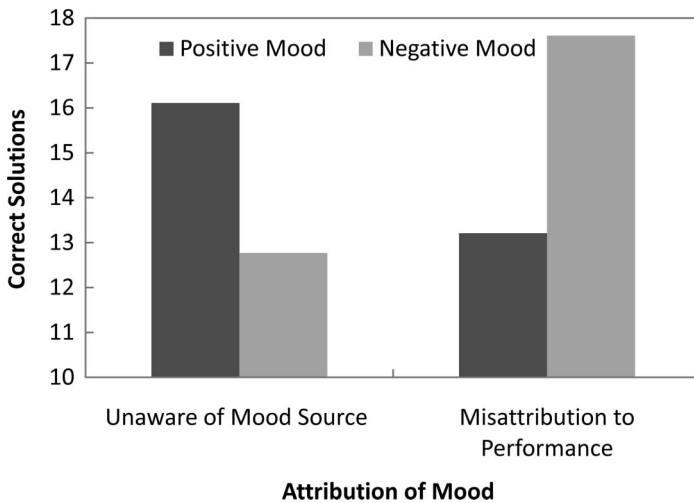
Figure 9. Number of correct solutions on an anagram task as a function of mood attribution.

Whereas in several studies we manipulated the attribution of performance-unrelated mood, in other studies we manipulated the attribution of performance-related mood to performance (correct attribution) versus an unrelated source (incorrect attribution). Participants in these studies received positive or negative feedback on their performance and were then led to believe their moods resulted from the feedback or an unrelated source. We found that mood attribution, rather than the true source of one's mood, determined the impact of mood on goal adherence. Specifically, positive moods increased goal adherence when participants attributed mood to a goal-unrelated source, whereas negative moods increased goal adherence when participants attributed mood to the lack of progress on the goal.

In addition to mood, people's representation of goal pursuits—expressing commitment versus making progress—influences how they respond to feedback on self-regulation. We reviewed several factors that influence the representations of goal actions, and on the basis of the previous analysis we assume these representations shift over time as people gain experience in a particular domain. In particular, as people move from a novice to an expert status they begin to think of a goal less in terms of evaluating commitment and more in terms of monitoring progress. For example, college freshmen might wish to decide whether enrolling in college was the right decision, whereas college seniors might be more likely to ask about the pace of their progress and whether it is sufficient to graduate on time. These changes in goal frames may determine the impact of feedback delivered at different points in time: The novice would increase effort in response to positive feedback (inferring commitment), whereas the experienced individual would

increase effort in response to negative feedback (inferring lack of progress; see also Louro, Pieters, & Zeelenberg, 2007). Indeed, in our studies on relationship goals, we (Fishbach & Finkelstein, 2009) find that new friends wish to connect more after receiving positive (vs. negative) feedback from their friend, for example, about something nice they did for that person. In contrast, old friends express a greater desire to connect with each other after receiving negative (vs. positive) feedback from their friend, for example, about missing an important occasion.

Feedback seeking and giving

As individuals advance towards a goal, their frames shift from expressing commitment to making progress and the share of negative feedback increases. As a result, not only do they respond more to negative feedback, but they also seek less positive and more negative feedback. In addition, when providing the feedback, individuals increase the share of negative feedback and decrease the share of positive feedback as the recipient of the feedback advances towards the goal.

To demonstrate these shifts in feedback as a function of goal advancement, we (Finkelstein & Fishbach, 2009) manipulated the actual or perceived advancement on goals and tested feedback seeking and giving. For example, in a study that tested feedback seeking, participants learned a new task (typing in German for American students) and could choose between receiving feedback either on their mistakes or on their correct responses after each typing trial up to seven trials. As participants progressed on the typing task, a larger proportion of them sought the negative feedback. Thus, gaining experience resulted in more negative feedback seeking.

Similar shifts exist in feedback giving. We (Fishbach & Finkelstein, 2009) examined the feedback friends give to each other as a function of whether they feel their relationship is either relatively new or long standing. Participants listed a non-romantic friend and then answered either a set of questions that made them feel they had known this person for a long time or a set of questions that made them feel they had known this person for a short time. For example, participants perceived their relationship as relatively long standing when they indicated whether they had known their friend for more than a couple of years (most did), but they perceived their relationships as relatively new when they indicated whether they had known the friend for more than 20 years (few did). To assess feedback giving, participants then wrote a short toast for their partner for an upcoming event, such as a birthday party, in which they could express both their appreciation for, as well as criticism towards, that individual. As predicted, participants who were made to feel their relationship was long standing were

more likely to give their partner negative feedback (i.e., to "roast" rather than toast), compared with those who felt their relationships were relatively new.

In summary, our research suggests that feedback influences self-regulation by either providing information on goal commitment or on the level of progress towards that goal. These effects of feedback often depend on how people interpret the mood the feedback elicited. If positive mood signals commitment to a goal, it increases goal adherence, but if positive mood signals sufficient goal progress, it decreases goal adherence. Importantly, individuals not only respond to feedback, they also actively seek and give feedback on goal performance. We find parallels in the emphasis on positive versus negative feedback across three modalities— giving, receiving, and responding—such that as people advance towards a goal, they shift towards more negative feedback.

SUMMARY AND CONCLUSIONS

The work on the dynamics of self-regulation aims to explore the problem of prioritising goals in a multiple goal context (Fishbach & Dhar, 2005; Fishbach et al., 2006; Fishbach & Zhang, 2008; Koo & Fishbach, 2008; Zhang et al., 2007). In particular, we ask when people follow a dynamic of highlighting a single goal over a sequence of actions and when they follow a dynamic of balancing between goals over this sequence. In this way we wish to identify when the initial pursuit of a goal increases the motivational priority of a goal more than failing to pursue it.

We propose that the pattern of self-regulation an individual follows depends on the representation of goal actions in terms of expressing commitment or making progress. When people interpret goal actions as a signal for goal commitment, they are more likely to take similar actions that highlight the goal. Likewise, when people interpret absence of actions as a signal for low commitment, they are less likely to follow the goal. Conversely, when people interpret goal actions as a signal that progress has been made and the discrepancy to goal attainment is now reduced, they balance by relaxing their efforts. Likewise, they are also more likely to follow the goal if they consider lack of actions and absence of progress. We therefore conclude that either acting on a goal or failing to do so can potentially increase the motivational priority of the goal, depending on the inference one makes and the resulting dynamics of self-regulation.

We reviewed research that supports the presence of different goal frames and their implications for the patterns of self-regulation that individuals follow. We find that when people interpret an action as indicative of commitment, they make similar choices that inhibit competing goals (Shah, Friedman, & Kruglanski, 2002; Stroebe, Mensink, Aarts, Schut, &

Kruglanski, 2008). When they interpret the same action as indicative of progress, however, they disengage from the goal and attend to other goals (Khan & Dhar, 2006; Monin & Miller, 2001). We further find that future goal plans function in a similar manner as past actions, since people infer commitment or progress on the basis of planned (hypothetical) actions.

Our program of research identifies several variables that influence the representation of goal actions, some of which affect the question individuals ask—commitment or progress—whereas others influence which representation the context activates. This research further has implications for feedback on self-regulation, including feedback individuals give, receive, and respond to.

Implications of our research go beyond personal goals to situations in which people join other group members in tasks such as generating ideas at team meetings or contributing to a charity. Practical implications of this framework abound: social agents, such as educators and managers, may benefit from considering the information people derive from their actions (commitment or progress) and the implications for what they decide to do next. For example, mandatory goal pursuits or imposed choices (e.g., banning unhealthy products) might signal to people that they have made progress towards a goal (e.g., of leading a healthier lifestyle) without them experiencing the corresponding boost in goal commitment, because they did not voluntarily select the goal (Brehm, 1966). In such situations, imposed choices may be effective in the short run but will promote balancing between the imposed goal and alternative goals and eventually might decrease the likelihood of making complementary, voluntary choices towards achieving the imposed goal (e.g., by promoting unhealthy behaviours). In addition, when people work on a goal without making any progress—for example, when they invest effort in a futile cause, as in sunk-cost situations (Arkes & Ayton, 1999; Arkes & Blumer, 1985)—they may experience commitment without progress. Such experience should be mostly effective in increasing commitment and motivating the voluntary choice of similar complementary actions that pursue the same goal.

REFERENCES

Aarts, H., & Dijksterhuis, A. (2000). Habits as knowledge structures: Automaticity in goal-directed behavior. *Journal of Personality and Social Psychology*, *78*, 53–63.

Arkes, H. R., & Ayton, P. (1999). The sunk cost and Concorde effects: Are humans less rational than lower animals? *Psychological Bulletin*, *125*, 591–600.

Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organisational Behavior and Human Decision Processes*, *35*, 124–140.

Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organising framework for collective identity: Articulation and significance of multidimensionality. *Psychological Bulletin*, *130*, 80–114.

Aspinwall, L. G. (1998). Rethinking the role of positive affect in self-regulation. *Motivation & Emotion*, *22*, 1–32.

Atkinson, J. W. (1964). *An introduction to motivation*. Oxford, UK: Van Nostrand.

Atkinson, J. W. (1974). Strength and motivation and efficiency of performance. In J. W. Atkinson & J. O. Raynor (Eds.), *Motivation and achievement* (pp. 193–218). New York: Wiley.

Atkinson, J. W., & Raynor, J. O. (1978). *Personality, motivation, and achievement*. New York: Halsted Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman/Times Books/Henry Holt & Co.

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA: Academic Press.

Beer, J. S., & Keltner, D. (2004). What is unique about self-conscious emotions? Comment on Tracy & Robins' "Putting the self into self-conscious emotions: A theoretical model". *Psychological Inquiry*, *15*, 126–129.

Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1–62). New York: Academic Press.

Brehm, J. W. (1966). *Theory of psychological reactance*. Burlington, MA: Academic Press.

Brunstein, J. C., & Gollwitzer, P. M. (1996). Effects of failure on subsequent performance: The importance of self-defining goals. *Journal of Personality and Social Psychology*, *70*, 395–407.

Buehler, R., Griffin, D., & Ross, M. (1994). Exploring the "planning fallacy": Why people underestimate their task completion times. *Journal of Personality and Social Psychology*, *67*, 366–381.

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.

Chartrand, T. L., & Bargh, J. A. (1996). Automatic activation of impression formation and memorization goals: Nonconscious goal priming reproduces the effects of explicit task instructions. *Journal of Personality and Social Psychology*, *71*, 464–478.

Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloan, L. R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology*, *34*, 366–375.

Cialdini, R. B., Trost, M. R., & Newsom, J. T. (1995). Preference for consistency: The development of a valid measure and the discovery of surprising behavioral implications. *Journal of Personality and Social Psychology*, *69*, 318–328.

Dhar, R., & Simonson, I. (1999). Making complementary choices in consumption episodes: Highlighting versus balancing. *Journal of Marketing Research*, *36*, 29–44.

Dovidio, J. F., Piliavin, J. A., Gaertner, S., Schroeder, D. A., & Clark, R. D. (1991). The arousal: Cost–reward model and the process of intervention: A review of the evidence. In M. Clark (Ed.), *Prosocial behavior*. *Review of personality and social psychology* (Vol. 12, pp. 86–118). Newbury Park, CA: Sage.

Ellemers, N., Spears, R., & Doosje, B. (1997). Sticking together or falling apart: Ingroup identification as a psychological determinant of group commitment versus individual mobility. *Journal of Personality and Social Psychology*, *72*, 617–26.

Eyal, T., Fishbach, A., & Labroo A. L. (2009). *When mood cues goal progress versus goal adoption: A matter of (mis)attribution*. Unpublished manuscript, University of Chicago.

Feather, N. T. (1990). Bridging the gap between values and actions: Recent applications of the expectancy-value model. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 151–192). New York: Guilford Press.

Ferguson, M. J., & Bargh, J. A. (2004). Liking is for doing: The effects of goal pursuit on automatic evaluation. *Journal of Personality and Social Psychology*, *87*, 557–572.

Finkelstein, S. R., & Fishbach, A. (2009). *Seeking and giving negative feedback in self-regulation*. Unpublished manuscript, University of Chicago.

Fishbein, M., & Ajzen, I. (1974). Attitudes towards objects as predictors of single and multiple behavioral criteria. *Psychological Review*, *81*, 29–74.

Fishbach, A., & Dhar, R. (2005). Goals as excuses or guides: The liberating effect of perceived goal progress on choice. *Journal of Consumer Research*, *32*, 370–377.

Fishbach, A., Dhar, R., & Zhang, Y. (2006). Subgoals as substitutes or complements: The role of goal accessibility. *Journal of Personality and Social Psychology*, *91*, 232–242.

Fishbach, A., & Finkelstein, S. R. (2009). *Seeking, giving and responding to feedback from relationship partners*. Unpublished manuscript, University of Chicago.

Fishbach, A., Henderson, M. D., & Koo, M., (2009). *Group goals and sources of motivation: When others don't get the job done, I (might) pick up the slack*. Unpublished manuscript, University of Chicago.

Fishbach, A., & Labroo, A. (2007). Be better or be merry: How mood affects self-control. *Journal of Personality and Social Psychology*, *93*, 158–173.

Fishbach, A., & Zhang, Y. (2008). Together or apart: When goals and temptations complement versus compete. *Journal of Personality and Social Psychology*, *94*, 547–559.

Förster, J., Higgins, E., & Idson, L. C. (1998). Approach and avoidance strength during goal attainment: Regulatory focus and the "goal looms larger" effect. *Journal of Personality and Social Psychology*, *75*, 1115–1131.

Frijda, N. H. (1986). *The emotions*. Cambridge: Cambridge University Press.

Heath, C., Larrick, R., & Wu, G. (1999). Goals as reference points. *Cognitive Psychology*, *38*, 129–166.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*, 319–340.

Hull, C. L. (1934). The rat's speed-of-locomotion gradient in the approach to food. *Journal of Comparative Psychology*, *17*, 393–422.

Isen, A. M., Johnson, M. M., Mertz, E., & Robinson, G. F. (1985). The influence of positive affect on the unusualness of word associations. *Journal of Personality and Social Psychology*, *48*, 1413–1426.

Jackson, J. M., & Williams, K. D. (1985). Social loafing on difficult tasks: Working collectively can improve performance. *Journal of Personality and Social Psychology*, *49*, 937–942.

Jehn, K. A., Chadwick, C., & Thatcher, S. M. B. (1997). To agree or not to agree: The effects of value congruence, individual demographic dissimilarity, and conflict on workgroup outcomes. *International Journal of Conflict Management*, *8*, 287–305.

Khan, U., & Dhar, R. (1996). Licensing effect in consumer choice. *Journal of Marketing Research*, *43*, 259–266.

Kelley, H. H. (1972). Attribution in social interaction. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 1–26), Morristown, NJ: General Learning Press.

Kerr, N. L., & Bruun, S. E. (1983). Dispensability of member effort and group motivation losses: Free-rider effects. *Journal of Personality and Social Psychology*, *44*, 78–94.

Kidwell, R. E., & Bennett, N. (1993). Employee propensity to withhold effort: A conceptual model to intersect three avenues of research. *Academy of Management Review*, *18*, 429–456.

Kivetz, R., Urminsky, O., & Zheng, Y. (2006). The goal-gradient hypothesis resurrected: Purchase acceleration, illusionary goal progress, and customer retention. *Journal of Marketing Research*, *43*, 39–58.

Koo, M., & Fishbach, A. (2008). Dynamics of self-regulation: How (un)accomplished goal actions affect motivation. *Journal of Personality and Social Psychology*, *94*, 183–195.

Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, R., Chun, W. Y., & Sleeth-Keppler, D. (2002). A theory of goal systems. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 34, pp. 331–378). San Diego, CA: Academic Press.

Kuhl, J., & Beckmann, J. (1985). *Action control from cognition to behavior*. New York: Springer-Verlag.

Leonardelli, G. J., & Brewer, M. B. (2001). Minority and majority discrimination: When and why. *Journal of Experimental Social Psychology*, *37*, 468–485.

Lewin, K., Dembo, T., Festinger, L., & Sears, P. S. (1944). Level of aspiration. In J. M. Hunt (Ed.), *Personality and the behavioral disorders* (pp. 333–371). New York: Roland Press.

Liberman, N., & Förster, J. (2008). Expectancy, value and psychological distance: A new look at goal gradients. *Social Cognition*, *26*, 515–533.

Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, *75*, 5–18.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting & task performance*. Upper Saddle River, NJ: Prentice-Hall.

Loewenstein, G. (1996). Out of control: Visceral influences on behavior. *Organisational Behavior and Human Decision Processes*, *65*, 272–292.

Losco, J., & Epstein, S. (1977). Relative steepness of approach and avoidance gradients as a function of magnitude and valence of incentive. *Journal of Abnormal Psychology*, *86*, 360–368.

Louro, M. S., Pieters, R., & Zeelenberg, M. (2007). Dynamics of multiple goal pursuit. *Journal of Personality and Social Psychology*, *93*, 174–193.

Martin, L. L., Ward, D. W., Achee, J. W., & Wyer, R. S. (1993). Mood as input: People have to interpret the motivational implications of their moods. *Journal of Personality and Social Psychology*, *64*, 317–326.

McCauley, C. (2001). The psychology of group identification and the power of ethnic nationalism. In D. Chirot & M. Seligman (Eds.), *Ethnopolitical warfare: Causes, consequences, and possible solutions* (pp. 343–362). Washington, DC: APA Books.

Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: Dynamics of willpower. *Psychological Review*, *106*, 3–19.

Miller, G. A., Galanter, E., & Pribram, K. H. (1960). *Plans and the structure of behavior*. New York: Henry Holt.

Monin, B., & Miller, D. T. (2001). Moral credentials and the expression of prejudice. *Journal of Personality and Social Psychology*, *81*, 33–43.

Moskowitz, G. B. (2002). Preconscious effects of temporary goals on attention. *Journal of Experimental Social Psychology*, *38*, 397–404.

Myrseth, K. O. R., & Fishbach, A. (2009). Self-control: A function of knowing when and how to exercise restraint. *Current Directions in Psychological Science*, *18*, 247–252.

Oettingen, G., & Mayer, D. (2002). The motivating function of thinking about the future: Expectations versus fantasies. *Journal of Personality and Social Psychology*, *83*, 1198–1212.

Powers, W. T. (1973). *Behavior: The control of perception*. Oxford, UK: Aldine.

Rachlin, H. (1997). Self and self-control. In J. G. Snodgrass & R. L. Thompson (Eds.), *The self across psychology: Self-recognition, self-awareness, and the self-concept. Annals of the New York Academy of Sciences* (Vol. 818, pp. 85–97). New York: New York Academy of Sciences.

Ringelmann, M. (1913b). Recherches sur les moteurs animés: Travail de l'homme [Research on animate sources of power: The work of man]. *Annales de l'Institut National Agronomique, 2e série–tome*, *12*, 1–40.

Schwarz, N., & Clore, G. L. (1983), Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, *83*, 1261–1280.

Shah, J. Y., Friedman, R., & Kruglanski, A. W. (2002). Forgetting all else: On the antecedents and consequences of goal shielding. *Journal of Personality and Social Psychology*, *83*, 1261–1280.

Shah, J. Y., & Kruglanski, A. W. (2003). When opportunity knocks: Bottom-up priming of goals by means and its effects on self-regulation. *Journal of Personality and Social Psychology*, *84*, 1109–1122.

Stroebe, W., Mensink, W., Aarts, H., Schut, H., & Kruglanski, A. W. (2008). Why dieters fail: Testing the goal conflict model of eating. *Journal of Experimental Social Psychology*, *44*, 26–36.

Stroebe, W., Papies, E. K., & Aarts, H. (2008). From homeostatic to hedonic theories of eating: Self-regulatory failure in food-rich environments. *Applied Psychology: An International Review*, *57*, 172–193.

Tajfel, H. & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relation*. Chicago: Nelson-Hall.

Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions? *Journal of Personality and Social Psychology*, *70*, 1256–1269.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, *103*, 193–210.

Tolman, E. C. (1932). *Purposive behavior in animals and men*. New York: Appleton-Century-Crofts.

Trope, Y., & Fishbach, A. (2000). Counteractive self-control in overcoming temptation. *Journal of Personality and Social Psychology*, *79*, 493–506.

Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, *110*, 403–421.

Trope, Y., & Neter, E. (1994). Reconciling competing motives in self-evaluation: The role of self-control in feedback seeking. *Journal of Personality and Social Psychology*, *66*, 646–657.

Turner, J. C. (1987). A self-categorisation theory. In M. Hogg, P. Oakes, S. Reicher, & M. S. Wetherell (Eds.), *Rediscovering the social groups: Studies in the social psychology of intergroup relations*. London: Academic Press.

Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review*, *94*, 3–15.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, *71*, 3–25.

Weinstein, N. D. (1989). Optimistic biases about personal risks. *Science*, *246*, 1232–1233.

Weldon, E., Jehn, K. A., & Pradhan, P. (1991). Processes that mediate the relationship between a group goal and improved group performance. *Journal of Personality and Social Psychology*, *61*, 555–569.

Wicklund, R. A., & Gollwitzer, P. M. (1982). *Symbolic self-completion*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Zander, A. (1980). The origins and consequences of group goals. In L. Festinger (Ed.), *Retrospections on social psychology* (pp. 205–235). New York: Oxford University Press.

Zauberman, G., & Lynch, J. G. Jr. (2005). Resource slack and propensity to discount delayed investments of time versus money. *Journal of Experimental Psychology: General*, *134*, 23–37.

Zhang, Y., Fishbach, A., & Dhar, R. (2007). When thinking beats doing: The role of optimistic expectations in goal-based choice. *Journal of Consumer Research*, *34*, 567–578.