8 Successful goal pursuit

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What can today's psychology of motivation reply to the layman's question of "How do I attain my goals?" Most importantly, nowadays, research on the psychology of goals suggests that this question needs to be broken down by differentiating between successful goal setting and successful goal implementation. The distinction between goal setting and goal striving was originally emphasized by the German psychologist Kurt Lewin (1926). It turns out to be very useful for understanding the many new findings produced by the renaissance of research on goals (Gollwitzer & Moskowitz, 1996; Oettingen & Gollwitzer, 2001), and thus we will use it to organize our answer to the question of what people can do to increase their chances of meeting their goals.

Selecting appropriate goals

If people want to increase the chances of meeting their goals they need to first select appropriate goals. It seems wise to select goals to which one can commit strongly, as strong goals (intentions) have a better chance of being attained (Ajzen, 1991). Strong goal commitments are commonly based on the belief that a given goal is both desirable and feasible. The person should thus consult their needs and motives to determine the desirability of a goal (Brunstein, Schultheiss, & Grassmann, 1998) and to determine its feasibility. On the other hand, it is necessary to reflect on one's skills, talents, and competencies, as well as the likelihood that goal-related outcomes will lead to desired consequences (Bandura, 1997; Heckhausen, 1977). It is important to recognize, however, that perceiving a goal as highly feasible and attractive does not yet make for strong goal commitments. Recent research suggests that a certain mode of thinking about the desired future (i.e., mentally contrasting the desired future with the obstacles of present reality) is needed first. If people simply dream about a positive future, or only dwell on the negative reality, it is not guaranteed that high-feasibility beliefs are indeed translated into strong goal commitments (Oettingen, Pak, & Schnetter, 2001).

It also matters how the desired goal state is framed. Researchers have discovered that conceptualizing one's goals in terms of promoting positive outcomes vs preventing negative outcomes (promotion vs prevention goals;

Higgins, 1997), acquiring competence vs demonstrating the possession of competence (learning vs mastery goals; Dweck, 1999), and attaining external vs internal rewards (extrinsic vs intrinsic goals; Ryan & Deci, 2000) affects goal attainment, whereby promotion, learning, and intrinsic conceptualizations are commonly associated with better outcomes than prevention, mastery, and extrinsic conceptualizations. Even the degree of precision with which the desired outcome is spelled out, in terms of when (time frame) and at what level of achievement (standards of quantity and quality) it is to be completed, affects a person's chances of reaching the desired goal. It is commonly observed that goals with a proximal vs a distal time frame (or deadline) are more likely to be achieved, and it is the goals with specific rather than "do your best" standards that lead to better performances.

Implementing chosen goals

But Kurt Lewin's distinction between goal setting and goal striving reminds us that goal attainment may not be secured solely by forming strong goal commitments and framing the goals at hand in an appropriate manner. There is the second issue of implementing a chosen goal (i.e., goal striving), and one wonders what people can do to enhance their chances of being successful at this phase of goal pursuit. The answer boils down to the following: We need to prepare ourselves so that our chances to overcome the major difficulties of goal implementation are kept high. But what are these difficulties or problems? There are at least four problems that stand out. These problems include getting started with goal pursuit, staying on track, calling a halt, and not overextending oneself. Getting started with goal pursuit is often difficult, because we are busy with other things and thus fail to detect, attend to, and remember to use good opportunities to act towards the chosen goal. But even if we notice the presence of a good opportunity we are often too slow to seize it in time (Gollwitzer, 1993). Once we get started with goal-directed actions, we face the problem of staying on track. This becomes difficult when distractions mount, in particular very tempting distractions (Mischel, Shoda, & Rodriguez, 1989). But forced disruptions that demand the resumption of goal-directed activity also threaten staying on track (Gollwitzer & Liu, 1995; Mahler, 1933) as do increases in task difficulty that demand more effort expenditure (Wright, 1996). Moreover, successful goal implementation requires that we call a halt to using a chosen means or route to goal attainment if this means (or route) lacks instrumentality (Kruglanski, 1996), and it demands disengagement from goal pursuit altogether if the originally desired goal turns into something unattractive or unfeasible (Carver & Scheier, 1998). Finally, goals cannot be implemented successfully if we over-extend our striving for the goal at hand. People commonly hold more than one goal, and overextending oneself in the pursuit of the goal at hand puts people at a disadvantage with respect to the successful implementation of the other goals one is also holding (i.e., ego-depletion effect; Muraven &

Baumeister, 2000). In the present chapter, I will argue that a person can best prepare for these problems of goal implementation by making if–then plans (i.e., form implementation intentions) that specify these critical situations in the if-part and an appropriate goal-directed response in the then-part.

Implementation intentions: Planning out goal implementation in advance

Implementation intentions are if–then plans that connect anticipated critical situations with responses that will be effective in accomplishing one's goals. Whereas goal intentions or goals specify what one wants to do/achieve (i.e., "I intend to perform behaviour X!, or "I intend to achieve outcome X!"), implementation intentions specify the behaviour that one will perform in the service of goal achievement if the anticipated critical situation is actually encountered (i.e., "If situation Y occurs, then I will initiate goal-directed behaviour Z!"). Implementation intentions are subordinate to goal intentions because, whereas a goal intention only states *what* one will do or achieve, an implementation intention spells out the *when*, *where*, and *how* of what one will do or achieve.

To form an implementation intention, the person must first anticipate critical situations and then think of possible responses to that situation that are instrumental for goal attainment. For example, the person with the goal intention to eat healthily might anticipate the critical situation of "when the waiter describes the various daily specials at the restaurant tomorrow evening" and then think of a possible goal-instrumental response, such as "then I'll just order a salad!" Implementation intention formation is thus the mental act of linking an anticipated critical situation to an effective goal-directed response in an if–then format. This link is reinforced by an act of will in the sense that the person intends to perform the specified behavior when the critical situation is encountered (i.e., If _____, then I will _____!).

The mental links created by implementation intentions are expected to facilitate goal attainment on the basis of psychological processes that relate to both the anticipated critical situation (the if-component of the plan) and the intended behaviour (the then-component of the plan). Because forming implementation intentions implies the selection of a critical future situation, it is assumed that the mental representation of this situation becomes highly activated, and hence more accessible (Gollwitzer, 1993, 1999). This heightened accessibility should benefit information processing in relation to the specified situation. In particular, people should be in a good position to identify and take notice of the critical cue when they encounter it later.

Processes related to the if-component

Several studies have tested the idea that the mental representation of the situation specified in the if-part of the implementation intention becomes

highly accessible by examining how well participants holding implementation intentions detected, attended to, and recalled the critical situation compared to participants who had only formed goal intentions (Gollwitzer, Bayer, Steller, & Bargh, 2002; Webb & Sheeran, 2004). Evidence that implementation intentions improve detection of the critical situation was obtained in a study using the embedded figures test (Gottschaldt, 1926), where smaller a-figures were hidden within larger b-figures (Gollwitzer et al., 2002). Enhanced detection of the hidden a-figures was observed when participants had specified the a-figure in the if-part of an implementation intention (i.e., had made plans on how to create a traffic sign from the a-figure). Equivalent findings were obtained in a study that used a classic illusion from the psychology of language (Webb & Sheeran, 2004, Study 1). Participants who formed if–then plans in relation to the critical letter F showed superior letter detection compared to a variety of control conditions – even though detection was extremely difficult.

In a study using a dichotic-listening paradigm, Gollwitzer et al. (2002) observed that words describing the anticipated critical situation attracted attention among implementation intention participants. Participants who formed if–then plans seemed to find it difficult to ignore information about the critical situation presented in the unattended channel; the consequence was that their shadowing performance for the attended material decreased relative to goal intention participants. This finding implies that opportunities to act that are specified in implementation intentions will not easily escape people's attention, even when people are busy with other ongoing tasks.

Processes related to the then-component

The mental act of linking a critical situation and an intended goal-directed behavior in the form of an if–then plan parallels the formation of associations between situations and actions during the development of *habits*. Habits and if–then plans are both characterized by strong links between (mental representations of) particular cues and responses. Most important, in the same way that the operation of habits is automatic, in the sense that action control becomes immediate, efficient, and needless of conscious intent (Aarts & Dijksterhuis, 2000; Sheeran, Aarts, Custers, Rivis, Webb, & Cooke, 2005; Verplanken & Faes, 1999; Wood, Quinn, & Kashy, 2002), so responses specified in implementation intentions should also be initiated immediately, efficiently, and without the need of a conscious intent. There is evidence that action control by implementation intentions also exhibits these features of automaticity.

Gollwitzer and Brandstätter (1997, Study 3) showed the immediacy of action initiation by implementation intentions in a study where participants were asked to form plans that specified viable opportunities for presenting counter-arguments to a series of racist remarks made by a confederate. Participants who formed implementation intentions initiated the relevant

counter-argument more quickly (i.e., closer to the intended time) than did participants who had only formed goal intentions to counter-argue (for similar findings see Orbell & Sheeran, 2000; Webb & Sheeran, 2004). The efficiency of action initiation was tested by Brandtstätter, Lengfelder, and Gollwitzer (2001, Studies 3 and 4) using a Go/No-Go task. Participants formed the goal intention to press a button as quickly as possible if numbers appeared on the computer screen but not if letters appeared. Participants in the implementation intention condition also planned to press the button particularly fast if the number 3 was presented. This Go/No-Go task was then embedded as a secondary task in a dual task paradigm. Findings showed that implementation intention participants showed a substantial increase in speed of responding to the number 3 compared to the control group, regardless of whether the primary task that had to be performed simultaneously was easy or difficult. These findings support the idea that implementation intention effects are efficient; the operation of if–then plans cannot require much in the way of cognitive resources, because they facilitated performance even when two tasks were undertaken at the same time.

The redundancy of conscious intent for implementation intention effects has also been demonstrated in several experiments. Bayer, Moskowitz, and Gollwitzer (2002) tested whether implementation intentions lead to action initiation without conscious intent once the critical situation is encountered. In these experiments, the critical situation was presented subliminally and its impact on preparing to perform (Study 1) or performing (Study 2) respective goal-directed behaviours was assessed. For instance, participants in Study 2 were asked to classify a series of geometrical figures (e.g., circles, eclipses, triangles, squares) into rounded vs angular objects using left vs right button-press responses. All participants formed the goal intention to classify the figures as quickly and accurately as possible. Implementation intention participants also made the following plan: "And if I see a triangle, then I will press the respective button particularly fast!" Participants worked on a set of 240 figures, presented in succession on a computer screen. Some of the figures were preceded by the subliminal presentation of the critical figure (i.e., a triangle), whereas others were preceded by a control prime (i.e., the % symbol). Findings indicated that participants in the implementation intention condition had faster classification responses for angular figures when the triangle instead of the % symbol was presented as a subliminal prime; no such speed-up effect was observed among goal intention participants.

In another study, Sheeran, Webb, and Gollwitzer (2005, Study 2) gave participants the conscious goal to solve a series of puzzles as accurately as possible. One half of the participants also formed an implementation intention in relation to another dimension of performance, namely to answer the puzzles as quickly as possible. This implementation intention manipulation was then crossed with a situational priming manipulation that was designed to activate the goal of responding quickly. Speed and accuracy of responses

to the puzzles were measured subsequently. Even though participants indicated no awareness that the puzzle task activated a task-relevant goal (during debriefing all participants reported that their only goal was to solve the puzzles accurately), the results showed that the puzzles were solved fastest when participants were primed with the goal of responding quickly and had formed an if–then plan. These findings indicate that people's conscious intent is not required for implementation intentions to affect performance – people need not be aware that they have encountered the critical cue specified in their plan (Bayer et al., 2002) or even be aware of the goal driving their behavior (Sheeran et al., 2005).

Both implementation intentions and habits engender swift, effortless responses that do not require conscious instigation or guidance. In addition, these effects of if–then plans and habits are both underpinned by strong associations between cues and responses. However, there is an important difference between implementation intentions and habits, which accrues from the fact that the respective cue–response links have different origins. In the case of habits, frequent and consistent execution of a response in the presence of a particular stimulus leads to the development of the relevant associations. In the case of implementation intentions, the same linkage can be fashioned *in situ* by an act of will. Implementation intention effects thus represent an important sub-type of automaticity that differs from the automaticity in habits (Gollwitzer & Schaal, 1998; Sheeran et al., 2005). Implementation intentions allow people to choose – consciously and in advance – what goal-directed responses will be elicited automatically, and what situational cues will elicit them. By making an if–then plan, people decide to delegate control of their behavior to pre-selected situational features with the express purpose of reaching their goals. This is what is meant by the idea that forming an implementation intention entails *strategic automation of goal pursuit* (Gollwitzer, 1993, 1999).

Implementation intentions and overcoming problems of goal implementation

Given these special features of action control by implementation intentions, one wonders whether people benefit from forming implementation intentions when they are confronted with the four central problems of goal implementation: getting started, staying on track, calling a halt, and not overextending oneself. In the following, I will present implementation intention research on these four issues.

Getting started

There are at least three reasons why getting started can be difficult. The first has to do with remembering one's goal intention (Einstein & McDaniel, 1996). When acting on a given goal is not part of one's routine, or when one

has to postpone acting on it, one can easily forget to do so. Dealing with many things at once or becoming preoccupied by a particular task can make this even more likely, especially when the given goal is new or unfamiliar. Empirical support for this reason for people's difficulties in getting started on their goals comes from retrospective reports by inclined abstainers. For example, 70% of participants who had intended to perform a breast self-examination but failed to do so, offered forgetting as their reason for non-performance (Milne, Orbell, & Sheeran, 2002; Orbell, Hodgkins, & Sheeran, 1997). Also, meta-analysis has shown that the longer the time interval between measures of goal intentions and goal achievement, the less likely it is that intentions are realized (Sheeran & Orbell, 1998). These findings suggest that remembering one's goal intentions does not come easily to people.

But even if one remembers what one is supposed to do, there is a second problem that needs to be solved: responding to the critical situation in time. This problem is especially acute when the critical situation presents itself only briefly. In these circumstances, people may fail to initiate goal-directed responses either because they fail to notice that the critical situation is present, or because they are unsure how they should act when this moment presents itself, or they simply procrastinate in acting on it. Oettingen, Hönig, and Gollwitzer (2000, Study 3) showed that considerable slippage can occur even when people have formed strong goal intentions to perform a behavior at a particular time. Participants were provided with diskettes containing four concentration tasks and formed goal intentions to perform these tasks on their computers at a particular time each Wednesday morning for the next 4 weeks. The program on the diskette recorded the time that participants started to work on the task from the clock on participants' computers. Findings indicated that the mean deviation from the intended start time was 8 hours, that is, a discrepancy of 2 hours on average for each specified opportunity. Similar findings were obtained by Dholakia and Bagozzi (2003, Study 2) when participants' task was to evaluate a website that could be accessed only during a short time window. Here, only 37% of participants who. formed a respective goal intention were successful at accomplishing the task. In sum, people may not get started with goal pursuit because they fail to seize good opportunities to act.

There are also many instances where people remember their goal intentions (e.g., to order a low-fat meal) and recognize that the critical situation is present (e.g., the waiter describing the specials of today), but nonetheless fail to initiate goal-directed behaviors, because they start to reflect anew on the desirability of the goal intention (i.e., start to have second thoughts about eating healthily). This problem has to do with overcoming an initial reluctance to act that is likely to arise when people have decided to pursue a goal that involves a trade-off between attractive long-term consequences versus less attractive short-term consequences (Mischel, 1996). For example, a strong goal intention to order low-fat meals is commonly formed on the basis of long-term deliberative thinking according to which eating low-fat

food is perceived as highly desirable; however, once the critical situation is confronted, short-term desirability considerations are triggered that occupy cognitive resources at the moment of action (e.g., the low-fat meal is perceived as tasteless at the critical juncture).

Numerous studies suggest that the problem of getting started on one's goals can be solved effectively by forming implementation intentions. For instance, Gollwitzer and Brandstätter (1997, Study 2) analyzed a goal intention (i.e., writing a report about how one spent Christmas Eve) that had to be performed at a time (i.e., during the subsequent Christmas holiday) where people are commonly busy with other things. Still, research participants who had furnished their goal intention with an implementation intention that specified when, where, and how one wanted to get started on this project were about three times as successful in writing the report as mere goal intention participants. Similarly, Oettingen et al. (2000, Study 3) observed that implementation intentions helped people to act on their task goals (i.e., taking a concentration test) on time (e.g., at 10 am in the morning of every Wednesday over the next 4 weeks). Other studies have examined the effects of implementation intentions with goal intentions that are somewhat unpleasant to perform. For instance, the goal intentions to perform regular breast examinations (Orbell et al., 1997), cervical cancer screenings (Sheeran & Orbell, 2000), resumption of functional activity after joint replacement surgery (Orbell & Sheeran, 2000), and engaging in physical exercise (Milne et al., 2002), were all more readily acted upon when people had furnished these goals with implementation intentions. Moreover, implementation intentions were found to help in meeting goal intentions where it is easy to forget to act (e.g., regular intake of vitamin pills, see Sheeran & Orbell, 1999; the signing of work sheets with the elderly, see Chasteen, Park, & Schwarz, 2001).

The results of the sum of these studies clearly indicate that acting on a goal is facilitated by forming implementation intentions that plan out in advance how one intends to get started. Apparently, the various cognitive mechanisms triggered by if–then plans automate action initiation, thus facilitating it. This conclusion is supported by the finding that the beneficial effects of implementation intentions are commonly more apparent with difficult to implement goals as compared to easy goals. For instance, implementation intentions were more effective in helping people to act on difficult as compared to easy personal projects during the Christmas break (Gollwitzer & Brandstätter, 1997, Study 1), and forming implementation intentions were more beneficial to frontal lobe patients, who typically have severe problems with executive control, than to college students (Lengfelder & Gollwitzer, 2001, Study 2).

Straying on track

Many goals cannot be accomplished by simple discrete one-shot actions but require continuous striving and repeated complex behavioral performances to be attained. Once a person has initiated these more complex goal

pursuits, bringing them to a successful ending may get very difficult when certain internal (e.g., being anxious, tired, overburdened) or external (e.g., temptations, distractions) stimuli are not conducive to goal realization but instead generate interferences that could potentially derail the ongoing goal pursuit. Thus, one wonders whether implementation intentions can facilitate the shielding of such goal pursuits from the negative influences of interferences from inside and outside the person.

There are two major strategies in which implementation intentions can be used to shield an ongoing goal pursuit: (a) directing one's implementation intentions towards the suppression of negative influences, and (b) directing one's implementation intentions towards spelling out the ongoing goal pursuit so that it becomes sheltered from these negative influences. For instance, if a person wants to avoid being unfriendly to a friend who is known to make outrageous requests, she can protect herself from showing the unwanted unfriendly response by forming suppression-oriented implementation intentions. Suppression-oriented implementation intentions can take different formats. They may focus on reducing the intensity of the unwanted response by intending not to show the unwanted response: "And if my friend approaches me with an outrageous request, then I will not respond in an unfriendly manner!" But they may also try to reduce the intensity of the unwanted response by specifying the initiation of the respective antagonistic response: "And if my friend approaches me with an outrageous request, then I will respond in a friendly manner!" Finally, suppression-oriented implementation intentions may even focus a person away from the critical stimulus: "And if my friend approaches me with an outrageous request, then I'll ignore it!"

Two lines of experiments analyzed the effects of suppression-oriented implementation intentions. The first line looked at the control of unwanted spontaneous attending to tempting distractions (Gollwitzer & Schaal, 1998, Studies 1 and 2). Participants had to perform a boring task (a series of simple arithmetic tasks) while being bombarded with attractive distracting stimuli (e.g., video clips of award-winning commercials). Whereas control participants were asked to form a mere goal intention ("I will not let myself get distracted!"), experimental participants in addition formed one of two implementation intentions: "And if a distraction arises, then I'll ignore it!" or "And if a distraction arises, then I will increase my effort at the task at hand!" The ignore-implementation intention always helped participants to ward off the distractions (as assessed by their task performance), regardless of whether the motivation to perform the tedious task (assessed at the beginning of the task) was low or high. In contrast, the effort-increase implementation-intention was effective only when motivation to perform the tedious task was low. Apparently, when motivation is high to begin with, effort-increase implementation intentions may create over-motivation that hampers task performance. It seems appropriate therefore to advise motivated individuals who suffer from being distracted (e.g., ambitious students doing their

homework) to resort to ignore-implementation intentions, rather than to adhere to implementation intentions that focus on the strengthening of effort.

The second line of experiments analyzing suppression-oriented implementation intentions studied the control of the automatic activation of stereotypical beliefs and prejudicial evaluations (Gollwitzer & Schaal, 1998, Studies 3 and 4). In various priming studies with short stimulus-onset asynchronies of less than 300 ms between primes (presentations of members of stigmatized groups) and targets (adjectives describing relevant stereotypical attributes or neutral positive/negative adjectives), implementation intentions helped to inhibit both the automatic activation of stereotypical beliefs about and prejudicial evaluations of women, the elderly, and the homeless. These implementation intentions (i.e., if–then plans) specified being confronted with a member of the critical group in the if-part, and either "then I won't stereotype" (respectively: "then I won't evaluate negatively") or "then I will ignore the group membership" in the then-part. Regardless of which then-parts were used, both types of suppression-oriented implementation intentions were effective.

The research presented in the last two paragraphs used implementation intentions that specified a potential interference in the if-part. The specified interference was linked to a then-part that described an attempt at suppressing the unwanted negative influence of this interference on one's goal pursuit. Self-regulation by this type of implementation intentions implies that one has to be in a position to anticipate these potential interferences on the way to the goal; one even needs to know what kind of unwanted responses these interferences elicit, if one prefers to specify not showing this response in the then-part of the implementation intention (rather than showing a goal-directed response or simply ignoring the interfering event). Fortunately, a simpler way of using implementation intentions to protect an ongoing goal pursuit from getting derailed is also available. Instead of gearing one's implementation intentions toward anticipated potential interferences and the disruptive responses triggered thereby, one may form implementation intentions geared at stabilizing the ongoing goal pursuit at hand. Using again the example of a tired person who is approached by her friend with an outrageous request, and who will likely respond in an unfriendly manner: If this person has stipulated in advance in an implementation intention what she will converse about with her friend, the critical interaction may simply run off as planned, and being tired should thus fail to affect the person's relating to her friend. As is evident from this example, the present self-regulatory strategy should be of special value whenever the influence of detrimental self-states (e.g., being tired, irritated, anxious) on derailing one's goal-directed behavior has to be controlled. This should be true no matter whether such self-states and/or their negative influences on one's goal-directed behavior reside in consciousness or not.

Gollwitzer and Bayer (2000; Gollwitzer, Bayer, & McCulloch, 2005) tested this hypothesis in a series of experiments in which participants were asked (or

not) to make if–then plans regarding the implementation of an assigned task goal. Prior to beginning work on the task, participants' self-states were manipulated so that the task at hand became more difficult (e.g., a state of self-definitional incompleteness prior to a task that required perspective taking, see Gollwitzer & Wicklund, 1985; a good mood prior to a task that required evaluation of others nonstereotypically, see Bless & Fiedler, 1995; a state of ego-depletion prior to solving difficult anagrams, see Baumeister, 2000; Muraven, Tice, & Baumeister, 1998). The induced critical self-states negatively affected task performance only for those participants who had not planned out in advance how they wanted to perform the task at hand (i.e., had only set themselves the goal to come up with a great performance). Implementation-intention participants were effectively protected from the negative influences associated with the induced detrimental self-states.

People's goal pursuits, however, are not only threatened by detrimental self-states but also by adverse situational conditions. There are many situations that have negative effects on goal attainment unbeknown to the person who is striving for the goal. A prime example is the social loafing phenomenon where people show reduced effort in the face of work settings that produce a reduction of accountability (i.e., performance outcomes can no longer be checked at an individual level). As people are commonly not aware of this phenomenon, they cannot form implementation intentions that specify a social loafing situation as a critical situation, thereby rendering an implementation intention that focuses on suppressing the social loafing response an unviable self-regulatory strategy. As an alternative, people may again resort to forming implementation intentions that stipulate how the intended task is to be performed, and thus effectively block any negative situational influences.

Supporting this contention, when Endress (2001) performed a social loafing experiment that used a brain-storming task (participants had to find as many different uses for a common knife as possible), she observed that implementation intentions ("And if I have found one solution, then I will immediately try to find a different solution!") but not goal intentions ("I will try to find as many different solutions as possible!") protected participants from social loafing effects. Findings reported by Trötschel and Gollwitzer (2004) also support the notion that goal pursuits planned by forming implementation intentions become invulnerable to adverse situational influences. In their experiments on the self-regulation of negotiation behavior, loss-framed negotiation settings failed to unfold their negative effects on fair and cooperative negotiation outcomes when the negotiators had planned out their goal intentions in advance to be fair and cooperative with if–then plans. Finally, in further experiments (Gollwitzer, 1998), it was observed that competing goal intentions activated outside of a person's awareness (by using goal-priming procedures described in the first part of this chapter) failed to affect a person's ongoing goal pursuit, if this goal pursuit was planned out in advance via implementation intentions.

It appears, then, that the self-regulatory strategy of planning out goal pursuits in advance via implementation intentions allows the person to reap the desired positive outcomes without having to change the environment from an adverse to a facilitative one. This is very convenient, as such environmental change is often very cumbersome (e.g., it takes the costly interventions of mediators to change the loss frames adopted by conflicting parties into gain frames) or not under the person's control. Moreover, people are often not aware of the adverse influences of the current environment (e.g., a de-individuated work setting or a loss-framed negotiation setting), or they do not know what alternative kind of environmental setting is actually facilitative (e.g., an individualized work setting or a gain-framed negotiation setting).

Callling a halt

There is a further self-regulatory problem with successful goal implementation: switching to better means when the chosen means turn out to be unproductive, or disengaging from a failing goal pursuit altogether so that other pressing goals can finally be served (Carver & Scheier, 1999; Gollwitzer, 1990). People often fail to readily disengage from chosen means and goals because of a strong self-justification motive (Brockner, 1992). However, such escalation effects should be reduced effectively by the use of implementation intentions that specify exactly when to switch to a different means or when to stop a failing goal pursuit, as action control is then delegated to this specified cue. The self-regulatory strategy, of setting goals (e.g., to avoid the escalation of commitment by always pursuing the best strategy, or never to pursue failing goals) should be comparatively less effective, as it demands effortful deliberation of the instrumentality of the faulty means or the feasibility or desirability of the failing goal, which will – to make things worse – likely be biased by self-defensiveness.

Henderson, Gollwitzer, and Oettingen (2004, Study 1) tested the hypothesis that furnishing disengagement goals with implementation intentions should help people to more effectively relinquish a failing strategy of goal pursuit. For this purpose, a classic paradigm was used that creates a strong escalation tendency (Bobocel & Meyer, 1994): Participants had to choose and subsequently justify their choice between four different strategies of performing an assigned test measuring an important aptitude (i.e., general academic knowledge). Prior to working on the test with the chosen strategy, participants in the mere goal-intention condition repeated the statement "I will always pursue the best strategy!" Participants in the implementation-intention condition repeated the above goal intention to themselves along with the respective plan "And if I receive disappointing feedback, then I'll switch to a different strategy!" Implementation intentions did indeed facilitate switching to a different strategy: 66% in the goal-intention group, but 93% in the implementation-intention group disengaged from their initial strategy when false failure feedback was given on participants' quality of test

performance. In Experiment 2, Hendersen et al. (2004) explored whether disengagement from a failing course of goal-directed action is still furthered by implementation intentions even if a substitute course of goal-directed action (i.e., an alternative strategy or means) is absent: that is, the person needs to disengage from a failing goal pursuit altogether. Again, implementation-intention participants were more successful in doing so than mere goal participants who only had set themselves the goal to stop a failing goal pursuit.

Not overextending oneself

Given the many benefits of forming implementation intentions, one wonders whether goal implementation based on if–then plans means overextending oneself, so that subsequent goal striving suffers. Two such cost issues have been analyzed empirically so far: First, it was analyzed whether action control via implementation intentions produced a high degree of ego-depletion (Muraven et al., 1998) that consequently handicaped needed self-regulatory resources. Second, even though implementation intentions can successfully suppress unwanted thoughts, feelings, and actions in a given context, these very thoughts, feelings, and actions may rebound in a temporally subsequent, different context (Wegner, 1994).

The assumption that implementation intentions subject behavior to the direct control of situational cues (Gollwitzer, 1993) implies that the self is not implicated when behavior is controlled via implementation intentions. As a consequence, the self should not become depleted when task performance is regulated by implementation intentions. Indeed, using different ego-depletion paradigms, research participants who used implementation intentions to self-regulate in one task do not show reduced self-regulatory capacity in a subsequent task. Whether the initial self-regulation task was controlling emotions while watching a humorous movie (Gollwitzer & Bayer, 2000), or performing a Stroop task (Webb & Sheeran, 2003, Study 1), implementation intentions successfully preserved self-regulatory resources as demonstrated by greater persistence on subsequent difficult tasks.

To test whether striving for fairness goals by using suppression-oriented implementation intentions produces rebound effects, Gollwitzer, Trötschel, and Sumner (2004) ran two experiments using research paradigms developed by Macrae, Bodenhausen, Milne, and Jetten (1994). In both studies, participants first had to suppress the expression of stereotypes in a first-impression formation task that focused on a particular member of a stereotyped group (i.e., homeless people). Rebound was measured either in terms of subsequent expression of stereotypes in a task that demanded the evaluation of the group of homeless people in general (Study 1), or a lexical decision task that assessed the accessibility of homeless stereotypes (Study 2). Participants who had been assigned the mere goal of controlling stereotypic thoughts while forming an impression of the given homeless person were more stereotypical in their judgments of homeless people in general (Study 1) and showed a

higher accessibility of homeless stereotypes (Study 2) than participants who had been asked to furnish this lofty goal with relevant if–then plans. Rather than causing rebound effects, implementation intentions appear to be effective in preventing them.

Summary and conclusion

People can do a lot to make their goal pursuits more successful. First, they need to strongly commit to their goals, and this is facilitated when both high-desirability and high-feasibility beliefs are respected, and when goal contents are framed appropriately. Second, as research on implementation intentions has observed, planning out in advance how one wants to act on a chosen goal increases the likelihood that one will successfully traverse the major problems of goal implementation: getting started, staying on track, calling a halt, and not overextending oneself.

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