Implementation Intentions

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Overview

Implementation intentions (Gollwitzer, 1993, 1996; summaries by Gollwitzer, 1999; Gollwitzer, Bayer, & McCulloch, 2005; Gollwitzer & Sheeran, 2006; Sheeran, Milne, Webb, & Gollwitzer, 2006) are **if-then plans that link situational cues (i.e., good opportunities to act, critical moments) with responses that are effective in attaining goals or desired outcomes** ("If situation Y is encountered, then I will initiate behavior Z in order to reach goal X!"). Implementation intentions are **formed for the purpose of enhancing the translation of goal intentions into action**. The idea is that intention realization can be promoted by forming if-then plans that enable people to deal effectively with self-regulatory problems that might otherwise undermine goal striving. Accumulated evidence indicates that if-then plan formation promotes effective management of various problems in goal striving and increases rates of goal attainment. These effects are observed because component processes of implementation intentions mean that people are in a good position both to see and to seize good opportunities to move toward their goals. Implementation intention effects are stronger when self-regulatory problems beset goal striving, and when if-then planning is supported by strong, activated goal intentions. Below, we develop these points under the headings (1) goal intentions and goal attainment, (2) self-regulatory problems in goal striving, (3) the nature and operation of implementation intention, (4) forming effective implementation intentions: relating if-then plans to self-regulatory problems, and (5) moderators of implementation intention effects.

Goal Intentions and Goal Attainment

Most theories designed to understand and predict health behaviors—including protection motivation theory (PMT, Rogers, 1983), the prototype/willingness model (PWM; Gibbons, Gerrard, & Lane, 2003), the theory of planned behavior (TPB; Ajzen, 1991), and social cognitive theory (Bandura, 1997)—construe the formation of a goal intention as the key act of willing that promotes goal attainment. **Goal intentions can be defined as the instructions that people give themselves to perform particular behaviors or to achieve certain desired outcomes** (Triandis, 1980) and are measured by items of the form, "I intend to achieve X!" Goal intentions can vary in strength as they index a commitment to pursuing a goal or performing a behavior (Gollwitzer, 1990; Webb & Sheeran, 2005). For example, smokers may have weak intentions to quit smoking next week but strongly intend to quit 'some day;' a woman may intend to get a mammogram soon, and an overweight man might definitely intend to lose a certain amount of weight during the coming year.

Correlational surveys that measure participants' goal intentions at one time-point and measure behavioral outcomes at a later time-point seem to support the predictive validity of goal intentions. For instance, a meta-analysis of 10 previous meta-analyses found that goal intentions accounted for 28% of the variance in behavior, on average, across 422 studies (Sheeran, 2002). Although $R^2 = .28$ is a large effect size (cf. Cohen, 1992), a substantial proportion of the variance in behavior is not explained by goal intentions. The magnitude of the gap between intentions and action is illuminated by studies that decomposed this relationship in terms of a 2 (goal intention: to act vs. not to act) × 2 (goal attainment: acted vs. did not act) matrix (Orbell & Sheeran, 1998). A review of health behavior matrices (e.g., condom use, exercise, cancer screening) found that people translated their 'good' intentions into action only 53% of the time (Sheeran, 2002). More seriously, evidence indicates that correlational studies overestimate the consistency between intentions and behavior. A meta-analysis of experimental studies that succeeding in changing goal intentions among treatment

versus control conditions (Webb & Sheeran, 2006) found that the magnitude of the difference in subsequent behavior was only small-to-medium (R^2 = .03). In sum, accumulated evidence indicates that **forming even strong goal intentions does not guarantee goal attainment**.

Self-Regulatory Problems in Goal Striving

Why do people often fail to translate goal intentions into goal attainment? According to the model of action phases (Heckhausen & Gollwitzer, 1987), forming an intention to pursue a particular goal is only the first step on the path to goal attainment; to attain the goal the person must also effectively regulate actual striving for the goal (i.e., implement their goal intention successfully). Realizing one's goal intentions can be difficult because people often confront problems en route to goal attainment (Gollwitzer & Sheeran, 2006). In the context of health goals, two self-regulatory problems appear to offer the greatest challenges to effective goal striving—failing to get started, and getting derailed along the way.

Failing to Get Started with Goal Striving

Remembering to act. Three factors seem to be involved in failures to get started with goal striving. The first problem is remembering to act, and is encapsulated by the title of a recent paper by Einstein, McDaniel and colleagues, "forgetting of intentions in demanding situations is rapid" (Einstein, McDaniel, Williford, Pagan, & Dismukes, 2003). That is, dealing with many things at once or being engrossed in a particular task make it difficult to remember to act on one's goal intention. Indeed, people spontaneously explain their failures to enact their intentions in terms of 'forgetting' (e.g., 70% of participants who intended to but did not perform breast self-examination offered this explanation; Orbell, Hodgkins, & Sheeran, 1997).

Seizing an opportune moment to act. Even if one remembers to act, there is a second problem that needs to be solved, namely, seizing an opportune moment to act. This problem is especially acute when people are faced with tight deadlines or small windows of opportunity. In

these circumstances, people may fail to initiate goal striving because they do not notice that a good time to get started has arrived or because they are unsure about how they should act when the opportunity presents itself. For instance, Sheeran and Orbell (2000) found that 31% of a sample of women who were invited to attend for cervical cancer screening failed to seize this opportunity (by making the necessary appointment) despite strong intentions to be screened (M = 4.60 on a 1-5 scale).

Second thoughts at the critical moment. Finally, people may not get started with goal-directed behaviors even in situations when they both remember to act and they realize that a good time to act is upon them—because they start to have 'second thoughts' at the **critical moment**. This is the problem of overcoming initial reluctance (Gollwitzer & Sheeran, 2006) and arises when people intend to perform behaviors that are perceived as having benefits in the long term but costs in the short-term (e.g., take the low-fat lunch option, use a condom). Often it is hard for people to initiate their intended healthy action when faced with a delicious curry on the lunch menu (Roefs et al., 2006) or in the heat of a sexual encounter (Abraham et al., 1999).

Getting Derailed during Goal Striving

Even assuming that the person is successful in initiating goal striving, it is still not yet certain that the goal will be attained. This is because accomplishing important health and social goals generally requires not one single action but rather demands repeated and persistent goal striving. Several problems can arise during the course of goal striving and prevent the realization of one's goal intention. Three particular problems that can send people off track are addressed here: spontaneously attending to distracting stimuli, falling prey to bad habits, and becoming overwhelmed by negative, intrusive self-states such as distress (see Gollwitzer & Sheeran, 2006; Gollwitzer, Parks, Jaudas, & Sheeran, 2007, for further elaboration).

Enticing stimuli. Michel's (Mischel & Ebbeson, 1970; Mischel & Patterson, 1978; Patterson & Mischel, 1976) classic studies on resistance to temptation demonstrated how **spontaneous attention to enticing stimuli can undermine goal achievement**. For instance, one experiment found that when children could see a less preferred reward, they succumbed to temptation; when both rewards were absent, they were more likely to wait in order to obtain the preferred reward (Mischel & Ebbeson, 1970; see also Gollwitzer & Schaal, 1998). More recently, Ehrman et al. (2002) found that smokers demonstrate attention biases to smoking-related images compared to both non-smokers and former smokers. Often, however, it is not sufficient merely to suppress attention to opportunities related to competing goal pursuits—suppression of behavioral responses also is needed.

Suppressing behavioral responses. Suppressing such behavioral responses is not easy when the relevant actions have been performed frequently and consistently in the same context, and have thus acquired features of automaticity (i.e., the response has become habitual). A meta-analysis by Ouellette and Wood (1998) showed that when behaviors have been performed repeatedly in stable situational contexts in the past (i.e., circumstances conducive to habit formation) then goal intentions only weakly predict future performance of the behavior. Consistent with this analysis, Garbe and Buettner (2000) found that sunscreen use was compromised by outdoor work habits.

Negative States

Goal striving also can get derailed when **people succumb to the unwanted influence of negative self-states** (e.g., negative mood or distress). For instance, Cinciripini et al. (2003) showed that distress undermined smokers' efforts to quit even controlling for other factors (demographics, self-efficacy, etc.). Tice, Bratslavsky, and Baumeister (2001) showed that when people are in a bad mood they prioritize mood repair over other goals and thus are liable to engage in behaviors assumed to offer solace in the short-term (e.g., consuming high-calorie foodstuff). Sheeran, Aubrey, and

Kellett (2007) found that **expectations of negative affect** (i.e., anticipated feelings of shame or embarrassment) was the key factor that militated against clients attending their scheduled, initial appointments for psychotherapy—even though participants had strong intentions to attend. In sum, unwanted attention responses, unwanted behaviors, and unwanted thoughts and feelings can each drive goal striving off track and prevent people from reaching their goals.

The Nature and Operation of Implementation Intentions

Whereas goal intentions specify what one wants to do or achieve (i.e., "I intend to achieve X!"), **implementation intentions specify the behavior that one will perform in the service of goal attainment and the situational context in which one will enact it**, in the format of an if-then plan (i.e., "If situation Y occurs, then I will initiate goal-directed response Z!"). Implementation intentions are subordinate to goal intentions because, whereas a goal intention specifies what one will do, an implementation intention only spells out the when, where, and how of what one will do.

Forming Implementation Intentions

Identifying response and critical cues. To form an implementation intention, the person must first identify a response that is instrumental for goal attainment and, second, anticipate a critical cue to initiate that response. For example, the person might specify the behavior "perform breast self-examination" and specify a situational cue "just before I leave the shower tomorrow morning" in order to enact the goal intention of detecting possible breast cancer. Implementation intention formation is the mental act of linking an anticipated critical situation with an effective goal-directed response. An association is formed between mental representations of specified cues (opportune or critical situations) and means of attaining goals (cognitive or behavioral responses) in an act of will.

Heightening accessibility of cues. The mental links created by implementation intentions facilitate goal attainment on the basis of psychological processes that relate to both the anticipated situation (the if-part of the plan) and the intended behavior (the then-part of the plan). Because

forming an implementation intention implies the selection of a critical future situation, the mental representation of this situation becomes highly activated, and hence more accessible (Gollwitzer, 1999). This heightened accessibility of the if-part of the plan was demonstrated in several studies (e.g., Aarts, Dijksterhuis, & Midden, 1999; Parks-Stamm, Gollwitzer, & Oettingen, 2007; Webb & Sheeran, in press, 2007) and means that people are in a good position to identify and take notice of the critical cue when they subsequently encounter it (e.g., Webb & Sheeran, 2004). For instance, participants who formed implementation intentions to collect a coupon were faster to recognize words related to location of the coupon (e.g., corridor, red door) compared to participants who only formed the goal intentions to collect the coupon; and implementation intention participants also were more likely to collect the coupon subsequently.

Strategic automaticity of response. Studies also indicate that implementation intention formation forges a strong association between the specified opportunity and the specified response (Webb & Sheeran, in press, 2007). The upshot of these strong links is that the initiation of the goal-directed response specified in the if-then plan becomes automated, that is, exhibits features of automaticity including immediacy, efficiency, and redundancy of conscious intent (Bargh, 1994). The idea is that people do not have to deliberate anymore about when and how they should act when they have formed an implementation intention—unlike people who have formed mere goal intentions. Evidence that if-then planners act quickly (Gollwitzer & Brandstätter, 1997, Experiment 3), deal effectively with cognitive demands (Brandstätter, Lengfelder, & Gollwitzer, 2001), and do not need to consciously intend to act at the critical moment (Sheeran, Webb, & Gollwitzer, 2005, Study 2) is consistent with this idea.

These component processes of implementation intentions (enhanced cue accessibility, automatization of responding) mean that if-then planners are in a good position both to see and to seize good opportunities to move towards their goals. **Fashioning an if-then plan strategically**

automates goal striving (Gollwitzer & Schaal, 1998) because people delegate control of goal-directed behaviors to pre-selected situational cues with the express purpose of reaching their goals—automatic action initiation originates in an act of will (if-then planning). But does the **strategic automaticity** in implementation intentions enable people to deal effectively with self-regulatory problems in goal striving (failing to get started, getting derailed) and increase rates of goal attainment? Findings from a recent meta-analysis (Gollwitzer & Sheeran, 2006) suggest that this is the case.

Self-regulatory Problems Related to Getting Started

Gollwitzer and Sheeran (2006) found that implementation intention formation had a medium-to-large effect on alleviating failures to get started with goal striving (d = .61). That is, if-then planning substantially increased the likelihood of initiating action compared to merely forming respective goal intentions, and this was the case for each of the three specific self-regulatory problems of getting started: **remembering to act** (e.g., taking vitamin pills; Sheeran & Orbell, 1999), **missing opportunities** (obtaining a mammography; Rutter, Steadman, & Quine, 2006), and **overcoming initial reluctance** (e.g., undertaking a testicular self-examination; Sheeran, Milne, Webb, & Gollwitzer, 2005). Implementation intention formation had an effect of similar magnitude on preventing derailment of goal striving (d = .77). Overall, forming implementation intentions had a medium-to-large effect on rates of goal attainment across the 94 studies included in the review (d = .65). Thus, if-then plans make an important difference to whether or not people translate their goal intentions into action.

Forming Effective Implementation Intentions:

Relating the If-Then Plan to the Self-Regulatory Problem at Hand

Discovering the Form of the Self-regulatory Problem

Because implementation intentions are formed to aid the translation of goal intentions into action, a useful starting point for if-then planning is to identify what self-regulatory problem besets a person's goal striving—what prevents the person from reaching goal X? Gollwitzer and Sheeran's (2006) review suggested that problems in getting started with goal striving and getting derailed are likely to pose significant self-regulatory challenges across a range of different behaviors and various goal domains. It seems wise, however, to discover whether these problems arise and what particular form the self-regulatory problem takes (e.g., remembering to act versus initial reluctance) among one's target population. Several strategies can be used in this regard. For instance, **previous qualitative or quantitative research** concerning the focal behavior can provide clues about the nature of the self-regulatory challenges. Also, **pilot research** could be undertaken to ascertain the specific self-regulatory problem (e.g., by asking a sub-sample to list problems they encountered during previous attempts to reach the goal). Both of these approaches proved informative in Sheeran et al.'s (in press) study of non-attendance for psychotherapy; these researchers obtained qualitative studies that investigated people's reasons for not keeping their psychotherapy appointment and they also undertook interviews with small samples of clients who attended versus did not attend an appointment that they had been given. Two other possibilities are to invite participants to nominate what they perceive as the most pressing problem for them personally, or to generate a list of self-regulatory problems and ask participants to select the problems that they most want to manage (Achtziger, Gollwitzer, & Sheeran, in press).

Selecting An Effective Response and Suitable Occasion

Once the self-regulatory problem has been identified, the next step is to select (a) a response that is effective in dealing with this problem, and (b) a suitable occasion to initiate that response. That is, an implementation intention should specify a cognitive or behavioral response that is instrumental for obtaining the goal in the then-part of the plan, and specify an opportune moment to

execute that response in the if-part of the plan. For instance to reach the goal of obtaining screening for cervical cancer, the plan might be, “If it is [time and place specified by participant], then I will [participant specifies how they will make an appointment, e.g., by phone]!” (Sheeran & Orbell, 2000). **Selecting a suitable occasion to enact a goal-directed response involves anticipating a situation where it would be fitting to execute the goal-directed response**. The occasion or critical situation specified in the if-part of the plan could be either an internal cue (e.g., a strong feeling) or an external cue (e.g., a particular place, object, person, or point in time). The critical situation can be suitable or fitting either because it represents a feasible opportunity to act (i.e., it is easy to execute the goal-directed response at this moment) or because the situation represents an anticipated obstacle to goal striving that needs to be overcome in order to reach the goal (Oettingen, Park,& Schnetter, 2001).

Selecting a goal-directed response involves anticipating how to make progress towards one’s goal by dealing effectively with key self-regulatory problems en route to goal attainment. Because for any given goal various routes to goal attainment are possible (Kruglanski et al., 2002), it follows that the specification of the then-part of the implementation intention can take many different forms. For instance, the then-part of a plan could specify enacting one of the many behaviors that lead to goal attainment, or specify ignoring those stimuli that engender unwanted responses and thereby threaten goal attainment. In addition, the specification of the goal-directed response could focus on either the initiation of goal striving or the maintenance of an ongoing goal pursuit. Thus, the if- and then-parts of implementation intentions can be used to resolve self-regulatory problems in goal striving in three ways (a) by **promoting the initiation of goal striving** and thus circumventing problems in failing to get started and getting derailed prematurely, (b) by **stabilizing goal striving** in order to ensure that unwanted influences do not derail goal striving, and (c) by **shielding goal striving** from anticipated obstacles that could send goal striving off track.

Table 1 provides examples of possible implementation intentions that exemplify the various dimensions of the if-parts and then-parts of plans outlined above, and illustrate how different self-regulatory problems might be handled effectively. For instance, Example 1 (And if it is 5pm on Monday, then I will jog home from work!) specifies an external cue (a time and place) in the if-part of the plan and the initiation of a goal-directed behavior in order to aid remembering to act and make progress towards the goal of increasing physical activity. Example 5 (And if I have walked up one flight of stairs and see the elevator, I tell myself 'I can do it! I can take the stairs all of the way up to my office!') also specifies an external cue, but here the cue threatens to send goal striving off track (one might be tempted to take the elevator in this situation). The then-part of the implementation intention is therefore geared at stabilising goal striving (by specifying self-talk that enhances self-efficacy at the critical juncture; see Bayer & Gollwitzer, 2007) in order to emancipate the goal of increasing physical activity from the influence of unwanted (sedentary) habits. Finally, in Example 4, the if-part of the plan specifies an internal cue (And if I start thinking about my favorite snack…) and the then-part of the plan specifies an ignore response (…then I immediately ignore that thought!) in order to meet the goal of reducing one's intake of high-fat snacks. This critical situation and goal-directed response are specified because evidence indicates that preventing people from elaborating desire thoughts is effective in shielding dieting goals from unwanted attention responses (see Achtziger et al., in press). Three further issues need to be addressed concerning the formation of effective implementation intentions.

Precision, Multiple Implementation Intentions, and Format

First is the issue of **precision in selecting the if-parts and then-parts of implementation intentions**. If-then planning may not be very effective if relevant opportunities and responses are not specified precisely. For example, a plan that specifies "exercise more" in the then-part of the plan and "tomorrow" in the if-part has not spelled out an unambiguous opportunity to act or a specific

goal-directed response to initiate—the person still has to identify a particular behavior to perform in a particular situation to facilitate goal achievement (e.g., "If it is 5pm on Monday, then I will job home from work!"). Having to thus deliberate about when, where, and what to do in situ means that the person is unlikely to garner the benefits of enhanced accessibility of critical cues and automation of responding that is conferred by forming precise if-then plans; the person seems no better off than having merely formed the goal intention to "exercise more tomorrow." Second, and related, is the issue of **forming multiple implementation intentions**. To achieve complex goals, the person may need to perform manifold behaviors and so face numerous self-regulatory problems. In such instances, it may be useful to form more than one if-then plan. Provided the components of the plan are precise (i.e., deliberation about appropriate opportunities and responses is not required in situ), viable (i.e., the specified situations will be encountered, the specified responses can be executed), instrumental (i.e., the specified situation permits action, the specified response facilitates goal achievement), and non-overlapping (i.e., different responses are not specified in relation to the same cue, specified responses do not conflict), then the formation of multiple implementation intentions should prove helpful in promoting goal attainment (see Achtziger et al., 2007; Murgraff, White, & Phillips, 1997, for empirical examples).

Third and last is the issue of the **format of implementation intentions**. If-then plans, by definition, have a contingent format. The importance of using an if-then format in wording the plan was demonstrated by Oettingen, Hönig, and Gollwitzer (2000, Study 3). All participants were provided with diskettes containing four concentration tasks and were asked to perform these tasks on their computers each Wednesday morning for the next four weeks. Participants in the control condition were asked to indicate what time they would perform the task by responding to the statement "I will perform as many arithmetic tasks as possible each Wednesday at _____ (self-chosen time before noon)." Participants in the implementation intention condition, on the other hand,

indicated their chosen time by responding to the statement "If it is Wednesday at _____ (self-chosen time before noon), then I will perform as many arithmetic tasks as possible!" The programme on the diskette recorded the time that participants started to work on the task from the clock on participants' computers. Despite the apparent similarity between the control and implementation intention instructions, the conditional structure of the implementation intention had a dramatic impact on how closely participants performed the task to their intended time indicating that using the defining if-then format in implementation intention inductions is important to ensure strong implementation intention effects.

Finally, one might wonder what happens if for any reason people fail to enact their implementation intentions: Is the person then less able to continue goal striving compared to having formed a mere goal intention. Recent evidence suggests that because implementation intentions conserve regulatory capacity (Gollwitzer & Sheeran, 2006), people are in a better – not worse – position to continue goal striving. For instance, implementation intention participants whose goal of visiting a website was blocked (the website had been taken off the net) actually showed more frequent subsequent attempts to get through compared to mere goal intention participants. In fact, evidence indicates that people who form implementation intentions not only make more frequent attempts to reach the goal when their path is blocked, they also make higher quality and more strenuous attempts to overcome the blockage (Gollwitzer, Parks-Stamm, Jaudas, & Sheeran, 2007; Martijn et al., 2008). Thus, fears that blockage of the execution of an if-then plan handicaps continued goal striving would seem unfounded.

Moderators of Implementation Intention Effects

Self-regulatory Problems

As well as features of respective if-then plans (e.g., the precision, viability, and instrumentality of the plan components), two other factors are important in determining the strength

of implementation intention effects. The first concerns the presence of a self-regulatory problem. When there are few barriers to goal achievement, then favorable goal intentions and self-efficacy can suffice in promoting performance, and implementation intention formation might be superfluous (e.g., Gollwitzer & Brandstätter, 1997, Studies 1 & 2; Sheeran & Orbell, 1999, Study 1). However, when goal striving is difficult, or when people have chronic difficulties in striving to obtain their goals (e.g., schizophrenic patients, opiate addicts, patients with a frontal lobe injury; see Brandstätter et al., 2001; Lengfelder & Gollwitzer, 2001) then it is especially worthwhile to engage in if-then planning (Gollwitzer & Sheeran, 2006).

Strength of Goal Intentions

A second determinant of the strength of implementation intention effects is the state of the respective goal intention. When people have no intention of pursuing a health goal then they are unlikely to form an implementation intention that spells out adequately when, where, and how the goal will be pursued, even when asked to do (Sheeran, Milne, Webb, & Gollwitzer, 2005). Sheeran, Webb, and Gollwitzer (2005) showed that strong effects of implementation intentions were obtained predominantly when the underlying goal intention was strong and activated (see also Seehausen Bayer, & Gollwitzer, 1994, cited in Gollwitzer, 1996). Similarly, Koestner, Lekes, Powers, and Chicoine (2002) showed that if-then plans benefited the completion of personal projects more when those projects were consistent with personal interests and values than when projects were motivated by external reasons such as social pressure. Because implementation intentions are formed for the purpose of enhancing the translation of goal intentions into action, it is important to ensure that strong positive goal intentions exist among one's target sample. If goal intentions are unfavorable, then studies may need to start out with a motivational intervention to promote the requisite goal intentions before having participants form implementation intentions that are designed to strengthen intention-behavior consistency (Oettingen, Barry, Guttenberg, & Gollwitzer, 2007).

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Table 1

Examples of Possible Implementation Intentions Geared at Resolving Self-Regulatory Problems in Failing to Get Started with Goal Striving and Getting Derailed.

Self-Regulatory Problem	Example of Implementation Intention	Relevant Studies
Failing to Get Started		
Remembering to act	[1. Goal is to increase physical activity] And if it is 5pm on Monday, then I will jog home from work!	Chasteen, Park, and Schwarz (2001); Gollwitzer and Brandstätter (1997, Study 2); Koestner et al. (2002); Sheeran and Orbell (1999).
Missing opportunities	[2. Goal is to obtain health and safety training] As soon as I receive the list of courses, then I will immediately make the phone call to book my place on the first course!	Brändstatter, Lengfelder, and Gollwitzer (2001, Study 1); Dholakia & Bagozzi (2003); Gollwitzer and Brandstätter (1997, Study 3); Oettingen, Hönig, and Gollwitzer (2000, Study 3); Sheeran and Orbell (2000); Sheeran and Silverman (2003).
Initial reluctance	[3. Goal is to eat healthily] And if it is Saturday at 10am, then I will select 5 low-fat dishes from my cook book to make during the week!	Bayer and Gollwitzer (2007); Orbell and Sheeran (2000); Prestwich, Lawton, and Conner (2003); Sheeran, Webb, and Gollwitzer (2005, Study 1).

Getting Derailed

Unwanted attention responses and	[4. Goal is to reduce intake of high-fat snacks] And if I start to think about my favorite snack, then I will immediately ignore that thought!	Achtziger, Gollwitzer, and Sheeran (in press); Gawrilow Gollwitzer (in press); Gollwitzer and Schaal (1998); Paul, Gawrilow, Zech, Gollwitzer, Rockstroh, Odenthal, Kratzer, and Wienbruch (2007).
Falling prey to bad habits	[5. Goal is to increase physical activity] And if I have walked up one flight of stairs and see the elevator, then I will tell myself 'I can do it! I can take the stairs all the way up to my office!'	Cohen, Bayer, Jaudas, and Gollwitzer (2008); Holland, Aarts, and Langendam (2006); Verplanken and Faes (1999)
Detrimental self-states	[6. Goal is to remain calm in an anxiety-provoking situation] And if my heart starts to race, then I will start my breathing exercise!	Gollwitzer and Bayer (2000); Gollwitzer, Sheeran, Michalski, and Seifert (2008); Schweiger Gallo and Gollwitzer (2007); Sheeran, Aubrey, and Kellett (2007).