

# Mindful Mindlessness in Goal Pursuit

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The great thing, then, in all education is to *make our nervous system our ally instead of our enemy.*

(James 1890/1950, p. 122)

Mindfulness is the process of drawing novel distinctions (e.g., Langer 1992). Processing information mindfully requires that attention be administered as devoid of preexisting appraisals and categories as possible. In doing so, the mindful individual is able to make direct contact with the external world rather than experiencing stimuli through the lens of a preexisting filter. Mindlessness, on the other hand, is the process of using preexisting rules and routines without considering aspects of the current situation that may be different from those prescribed by the preexisting schema.

To practice mindfulness, one must create new categories, be open to new information, and maintain awareness of more than one perspective (Langer, 1989). By the creation of new categories, problems are solved effectively and creatively. For example, a mindful approach to the question of who to hire as a computer programmer in a noisy work environment may bring to light that a deaf applicant may be better qualified than a hearing applicant of equal programming ability (Langer, 1989). Mindfulness can also manifest as freeing oneself from functional fixedness such that one is able to see multiple, creative uses for an object that is typically used only for one: a bicycle bell is a doorknob, a key can function like a knife. When one is mindful of the environment, it's not that one has a hammer and everything is a nail, so to speak, but rather, with mindfulness, everything is a Swiss army knife.

When one is open to new information, categories do not have to be considered exclusive definitions. For example, in teaching students the definition of a concept or a word, it is better to replace the common definition structure of "X is Y" with "X can be Y" to allow students to draw novel analogies and conjure up clever examples of the phenomenon instead of only those most common or prototypical (Langer,

1989). For example, if a student understands studying to be memorization, that student may fail to recognize when academic pursuits call for conceptual understanding or novel idea generation and thus fail to try to study when different methods are required.

When one maintains awareness of multiple perspectives, interpretations of a given situation proliferate. A lily can be a subject of study to a botanist, something to avoid for someone allergic, a collection of cells and proteins to a molecular biologist, a present to a romantic, and a symbol of the Virgin Mary to an art historian. A pointed question in a scientific talk can sound like constructive criticism to some and acerbic attack to others. Once these multiple perspectives are considered, individuals can better solve misunderstandings and resolve conflicts. Remembering these disparate perspectives may also help reduce the correspondence bias, and allow for the consideration of others' negative behavior as well intentioned or merely unintentional.

In defining mindfulness, it is important to note that it is not just self-awareness (e.g., Duval & Wicklund, 1972); when objects in the environment such as a mirror, tape-recorder, or the sound of one's own voice, are present in the environment, they are reminders of the self-as-object and so draw the focus of attention of the individual as "Me." The highly objectively self-aware individual regards the self as an entity in the environment that can be evaluated as any other. Mindfulness is a state of conscious awareness in which the individual as "I" actively constructs categories and distinctions. In contrast, mindlessness is a state of mind characterized by an overreliance on categories and distinctions drawn in the past—it is not simply taking the "I" out of experience. The individual is context-dependent and as such oblivious to novel (or simply alternative) aspects of the situation. Mindlessness is seen as similar to more familiar concepts such as habit, functional fixedness, overlearned and automatic (vs. controlled) processing where controlled processing is the conscious processing of information within a given context. Mindlessness is insensitive to novel aspects of a familiar situation (Langer, 1992); and as opposed to habit, it is not dependent on repetition—exposure to a rigid definition can lead to mindless information processing upon the very next exposure, causing uncritically accepted information to lead to premature cognitive commitments (Chanowitz & Langer, 1981).

While the mindfulness/mindlessness distinction seems similar to the distinction between conscious and nonconscious action, it does not map perfectly onto it. The distinction between conscious and nonconscious action has been with psychology since William James, under many different names. In *The Principles of Psychology* (1890/1950), James discusses habit and the will in two separate chapters. On habit (by which he means to pick out those actions that are initiated without a conscious act of the will), James discusses skill acquisition and the way in which experts, such as marksmen and pianists, are able to perform complex sets of smaller actions that comprise the greater action of hitting the target or playing a score. According to James, we can see evidence for automatic action when the first in the set of actions triggers the next, and so on, until the full act is complete, and the initiation of each of the composite actions does not require an act of conscious awareness to initiate. For the purposes of this chapter, we will adopt a similar definition, with the caveat that nonconscious goal pursuit is to be differentiated from the modern definition of habit, in

which situational context cues a particular action independent of goals (Neal, Wood, Labrecque, & Lally, 2012).

With regard to the will, James describes acts of the will as those actions that were predicted by the conscious intentions of the actor, and these actions are meant to serve as a contrast to what James believed were the primary actions of man, the automated ones. While the majority of contemporary research on motivation and goal pursuit has focused on these actions (and so not treated them as secondary), we have learned much about the antecedents, determinants, and potential strategies for maximizing conscious goal pursuit. More recently, however, there has been a surge in research on automatic behavior and, in particular, automated goal-directed behavior, or nonconscious goal pursuit.

Mindfulness and modern automaticity research share a fundamental theoretical thread: the environment plays a powerful role in the generation of human behavior, and social psychology tends to overestimate the role of the individual's mental states or intentions. Bargh and Chartrand (1999) made this connection explicit at the beginning of their paper "the unbearable automaticity of being" in which they both summarize and spark research on priming and automaticity. In particular, the authors cite Langer's (1978) chapter "Rethinking the role of thought in social interaction," in which Langer argues that many of the theories of attribution popular in the 1970s assumed mindful individuals carefully observing the scenes they were in and actively considering the minds of those around them. In accordance with this observation, Bargh and Chartrand (1999) argued that our behaviors, judgments, and goals can also be activated outside of awareness, and that historically this fact either has been regarded as a negative aspect of human nature or, more commonly, has been downplayed by psychologists. While much research published after this article has focused on automaticity in goal pursuit, in many ways both folk and empirical psychology of the will or conscious goal pursuit has remained focused on the causal efficacy of a conscious agent.

In order to further clarify the link between mindfulness/mindlessness and nonconscious goal pursuit, we will discuss the current state of research of both similarities and differences between conscious and nonconscious goal pursuit, also raising the question of what happens when consciousness is brought back to bear on actions that have already been automated. However, before we address these issues, we will discuss two prevalent problems of conscious goal pursuit. In goal selection, there is the challenge to commit to and strive for goals that are not only attractive but also feasible. To meet this challenge, research has proposed to engage in mental contrasting (summary by Oettingen, 2012), which means mentally juxtaposing a desired future with obstacles of present reality. In goal implementation, there is the challenge of weakness of the will, which occurs when one has set an appropriate goal but fails to effectively strive for it. To meet this challenge, research has proposed forming if-then plans called implementation intentions, linking a given critical cue with a goal-directed response (Gollwitzer, 1993, 1999). We will argue that both of these self-regulation strategies capitalize on mindful as well as mindless processes, and thus allow for mindful mindlessness in goal pursuit (i.e., selecting goals and planning their implementation). Finally, we will discuss the importance of turning a mindful eye to the common distinction psychology makes between conscious and nonconscious goal pursuit.

## Conscious Goal Pursuit

Conscious goal pursuit may be subdivided into two primary component parts: goal selection and goal implementation. Goal selection involves deciding on and committing to an intention, and research in this domain has mostly focused on the determinants of goal selection (Bargh, Gollwitzer, & Oettingen, 2010). If individuals act mindlessly, these determinants may or may not predict goal selection. As of yet, there is only one theory that provides a self-regulation strategy that allows mindful goal selection. According to Fantasy Realization Theory (Oettingen, 2012), mental contrasting allows for the mindful selection of goals by contrasting the desired future with the obstacles in present reality. Goal implementation, on the other hand, comprises the deployment of behaviors aimed at bringing about the desired outcome specified by the goal. Research has focused on determinants of goal implementation and their varied effects on goal attainment. As with goal selection, there is research on one extant self-regulation strategy (i.e., furnishing goal intentions with implementation intentions) that allows for the mindful planning out in advance of how a chosen goal is to be implemented.

### Determinants of goal selection: Desirability and feasibility

Research on goals has focused on the factors both at the individual and at the contextual level that predict goal selection. To approach goal selection mindlessly is to fail to consider carefully which goals are both desirable and feasible. Undesirable goals are worth only little time and effort to complete, and unfeasible goals lure individuals to spend time and energy on a future that may not be possible. Moreover, mindless goal selection may be driven by individual and contextual determinants (e.g., habits, peer pressure) without any consideration of new perspectives or possibilities. In other words, in mindless goal selection, suboptimal determinants for success may take the reins.

One central determinant of goal selection is an individual's perceived desirability of a goal. According to Ajzen and Fishbein (1980; Fishbein & Ajzen, 1975), high perceived desirability is the sum total of the perceived possible positive and negative consequences associated with the attainment of the goal. Each valenced assessment is weighted by its perceived likelihood of coming to fruition. While it is commonly assumed that individuals select desirable goals (Bargh et al., 2010), as suggested by Bandura (1977, 1997), feasibility concerns play an important role in forming goal commitments as well. Individuals recognize the importance of the likelihood of goal attainment in goal selection, meaning they consider whether they feel that they can perform the behaviors relevant to the desired goal. Thus, self-efficacy beliefs (or, according to Ajzen, 1991, "control beliefs") contribute much to perceived feasibility. To harbor high self-efficacy beliefs, people benefit from successes in the past, but they do not need to have previously made successful responses; rather, beliefs can also be based on observing similar others making similar responses (Bandura, 1977).

Practically, however, individuals may not let themselves be guided by the relative perceived desirability and feasibility of potential goals, but rather act independently

of these beliefs. Unfortunately, this means that mindlessness may lead people to put too much effort towards nearly impossible outcomes and thus prevent people from pursuing goals that are both worthwhile and within their grasp. Acting according to perceived desirability or feasibility, however, can be promoted by engaging in mindful reasoning (Oettingen, 2012).

### Mindful goal selection

As of yet, there is one theory that spells out what type of mindful reasoning makes people respect expectancies or feasibility criteria, thereby strategically guiding their own goal selection and subsequent goal striving (i.e., goal pursuit). According to Fantasy Realization Theory (Oettingen, 2012), there are four primary strategies for thinking about a desired future. First, there is mental contrasting in which the desired future is contrasted with obstacles in the way of realizing that future. This strategy allows for commitment to attractive goals that are also feasible, and to disengage from those that are unattainable. In contrast, dwelling, thinking only about the present reality, and indulging, thinking only about the positive future, lead to moderate commitments no matter whether the goal is perceived as highly feasible or unreachable. Finally, reverse contrasting, in which the present reality is acknowledged first and the desired future second, also does not allow for feasibility-dependent goal pursuit.

Mental contrasting pulls commitment and performance to match expectations (i.e., feasibility). By using mental contrasting, the individual is able to identify a discrepancy between the desired future and the present reality. This in turn activates expectations (i.e., the question of “Can I reach the desired outcome?” is raised). If expectations for success are high, people will experience high goal commitment and the affective, cognitive and behavioral consequences that come with it. If expectations are low, individuals will experience low goal commitment, having recognized that the discrepancy between fantasy and reality is not worth the effort it would take to close it or that it cannot be closed; these individuals will disengage from turning desired outcomes into goals and thus protect their resources. Indulging and dwelling protect a person’s resources less than mental contrasting because they do not allow for the allocation of resources in an expectation-dependent manner; the former strategies lead to an unchanged, medium level of engagement even when no engagement (in the case of low expectations of success) or full engagement (in the case of high expectations of success) would be the resource-efficient way to act.

Various studies have tested the effects of mental contrasting as compared to indulging and dwelling on goal commitment and goal striving (Oettingen, 2000; Oettingen, Hönig, & Gollwitzer, 2000; Oettingen, Mayer, Thorpe, Janetzke, & Lorenz, 2005; Oettingen, Pak & Schnetter, 2001; summary by Oettingen, 2012). For example, in one study, freshmen enrolled in a vocational school for computer programming (Oettingen et al., 2001; Study 4) first indicated their expectations of excelling in mathematics. Then, they named positive aspects they desired that would come from excelling in mathematics (participants named aspects such as feelings of pride and increasing job prospects) and aspects of present reality that might hinder their success (participants named aspects such as getting distracted and feeling lazy).

Students were then randomly assigned to one of three conditions: In the mental contrasting condition, participants had to elaborate on two aspects of the desired future and two aspects of present reality, in alternating order, starting with an aspect of the desired future. Participants in the indulging only condition elaborated on four aspects of the desired future; in the dwelling condition, they elaborated only on four aspects of present reality. Afterwards, participants indicated how energized (e.g., active, energetic) they felt. Two weeks after the experiment, participants' teachers reported how much effort each student had exhibited over the last two weeks and provided each student with a grade for that time period. Participants in the mental contrasting group with high expectations of success felt the most energized, invested the most effort, and received the highest grades. Conversely, participants in the mental contrasting group with low expectations of success felt the least energized, invested the least effort, and received the lowest course grades. Participants in the indulging and dwelling conditions felt moderately energized, exerted moderate effort, and received moderate grades independent of their expectations of success.

Spanning various life domains, a multitude of studies replicated these results. For example, experiments reveal the benefits of mental contrasting when studying abroad (Oettingen et al., 2001; Study 2), learning a second language (Oettingen et al., 2000; Study 1), getting to know an attractive stranger (Oettingen, 2000; Study 1), finding a balance between work and family life (Oettingen, 2000; Study 2), cigarette-smoking cessation (Oettingen, Mayer & Thorpe, 2010), and pursuing important individual interpersonal wishes (e.g., establishing a good relationship with one's mother; Oettingen et al., 2001; Studies 1 and 3). Strength of goal commitment has been assessed by cognitive (e.g., making plans), affective (e.g., feeling responsible for the desired ending), motivational (e.g., feelings of energization), and behavioral indicators (e.g., invested effort and markers of success). Indicators were measured via self-report, other-reported observations, or physiological measures directly after the experiment, weeks later, or both. Across studies, the results reveal the same pattern: participants in the mental contrasting group with high expectations showed the strongest goal commitment and goal striving. For those in the mental contrasting group with low expectations, people showed the least goal commitment and goal striving. Participants who indulged in a desired future or dwelled on present reality showed unchanged, medium-level commitment independent of their expectations of success, and this was also true for reverse mental contrasting. By mentally contrasting a desired future with the obstacles of present reality, individuals effectively become open to new information regarding whether to pursue the desired future, mindfully opening themselves up to the possibility of goal disengagement or creating a new categorization for an old wish: a goal that is high on desirability but also on feasibility.

### A mindless mechanism

Though engaging in mental contrasting requires drawing mindful contrasts, the processes by which mental contrasting facilitates smart goal selection rely on changes in implicit cognitions. Mental contrasting facilitates the anchoring of the desired future onto the present reality and the formation of a link between them; from this mental

exercise, individuals are able to see what it is in their current situation that stands in the way of their wishes—they form a relational link “X stands in the way of Y.” When reverse contrasting, the desired future has nothing to hang onto, and so no “standing in the way” relationship is formed between the obstacle (X) and the future (Y). In other words, by relinquishing old associations with a desired future and replacing a relational “standing in the way” link between the future and reality, expectations become activated and guide behavior accordingly.

Recent work has directly investigated the mechanisms behind the effects of mental contrasting. In one set of studies, Kappes, Singmann, and Oettingen (2012; Study 1), used a primed lexical decision task to measure the strength of associations between obstacles and instrumental behavior following mental contrasting as compared to reverse contrasting (thinking about the present reality prior to the desired future) and an irrelevant content control exercise. In Study 1, participants listed both an interpersonal concern and a health concern, and used mental contrasting or reverse contrasting on the interpersonal concern only. Individuals’ idiosyncratic desired futures and obstacles were put into a primed lexical decision task. Only those participants in the mental contrasting condition with high expectations showed a facilitation effect in classifying their instrumental behavior target as a word when it was preceded (primed) by their obstacle. This effect did not hold for health goals, which none of the participants elaborated on, or for participants in the mental contrasting condition with low expectations, reverse contrasting, and irrelevant contrast conditions.

In the second study, Kappes et al. (2012; Study 2) tested whether the strength of the association between perceived obstacle and instrumental behavior would mediate the expectancy-dependent change in that behavior. In this study, participants are told that a common obstacle to maintaining health in college is taking the elevator instead of the stairs. This set up the desired future as feeling healthy, the obstacle as using the elevator, and their instrumental behavior as taking the stairs. As in the previous study, there were three conditions: mental contrasting, reverse contrasting, and an irrelevant contrasting condition. In the same primed lexical decision task, only those individuals in the mental contrasting condition with high expectations showed a faster classification time in identifying the target word “exercise” as a word (as opposed to a nonword) after seeing the word “elevator.” After the strength of this associative link was measured, participants were told that the second part of the study would take place on another floor; whether participants took the stairs to and from the other part of the study served as the behavioral measure. As predicted, the stronger the association between the obstacle in present reality and the behavior to overcome it, the more likely that participants were to take the stairs, suggesting that newly created associative links drive the positive effects of mental contrasting for goal commitment and subsequent goal enactment (Kappes et al., 2012). Further research has shown that this is also true for associative links that mental contrasting creates between the desired future and the obstacle of present reality (Kappes & Oettingen, 2012).

Using mental contrasting to select goals allows for the formation of new insights about one’s desired future. Mental contrasting creates implicit associative links between the desired future and relevant obstacle of reality, as well as between obstacles and instrumental behaviors to overcome them. Note that the associative links have been formed on the basis of mindful reasoning; that is, they were formed on the basis

of extensive elaborations of both a nonexistent desired future and an existing negative reality, and thus the resulting associations should be relatively trustworthy. Once individuals have used mental contrasting to select an attractive and feasible goal, they can be confident that mindless behavior toward that goal, that is, behavior that is initiated from implicit cognition (i.e., strong associative links), will be aimed at this goal.

### Determinants of goal implementation

As with goal selection, if individuals do not mindfully plan goal implementation, they may leave the outcome of goal pursuit to the influence of individual and contextual determinants. In other words, there are many factors that determine how a given goal will be pursued, and many of these factors are outside of the individual's awareness or control. Research on goals has focused on the factors both at the individual and at the contextual level that predict successful goal implementation. To approach goal implementation mindlessly is to act in ways usually associated with these factors. Often, these factors are common features of the person and the situational context—for a health-conscious individual, an apple in a store becomes an opportunity to meet the goal to eat more fruit. Without considering familiar aspects of the context in a new way, goal implementation will likely proceed according to its individual- and context-level determinants.

But situational contexts can promote or hamper goal attainment. Over time, individuals may come to associate a particular cue in their context with a particular action simply because the two have been coactivated repeatedly, and these actions can be antagonistic to the actions required to meet one's goals. According to Wood and colleagues (Wood & Neal, 2007; Neal, Wood, and Quinn, 2006), habitual behaviors are cued directly by context and do not depend on goals. These actions are perfectly mindless—they are behaviors that are associated with context and so are deployed without consideration. For example, in one study, people were given a bag of either fresh or stale popcorn before entering a movie theater. Among individuals who do not usually eat popcorn during movies, those with fresh popcorn ate more than those with stale popcorn. Among individuals who regularly eat popcorn while they watched movies, popcorn was consumed regardless of quality (Neal, Wood, Wu, & Kurlander, 2011). While this phenomenon is specifically not goal-related, it clearly demonstrates the potential for powerful associations between context and action to affect a person's behavior when encountering a particular context. Without planning in advance or mindfully reconsidering familiar contexts, old habits reign, and unfortunately these habits often run counter to individuals' explicit goals. Mindless goal strivers will thus likely fall prey to these individual- and contextual-level predictors, which in turn determine whether people successfully implement their goals.

As of yet, there is one strategy for reinterpreting cues from one's context to make them actionable, and which can capitalize on the mind's ability to associate an action with a feature in context. Forming implementation intentions (Gollwitzer, 1993, 1999) requires that individuals understand aspects of their context from a new, more goal-relevant perspective, and in doing so they can form new associative links between contextual cues and goal-directed behaviors to maximize goal attainment.



### Mindful planning

If an individual takes a mindless approach to goal implementation, letting former, unconsidered associations between contextual cues and behaviors take the reins, goal attainment may prove impossible. Research on goal pursuit has identified many types of challenges that people may encounter during goal implementation that can result in failure to achieve the selected goal. These include: failing to get started, getting derailed, not calling a halt to ineffective behavior, ceasing goal striving too soon, and overextending oneself (Gollwitzer & Sheeran, 2006). Succumbing to any of these challenges is typically referred to as weakness of the will (Holton, 2009). One way to maximize goal striving in the face of these problems is to make mindful plans that construe familiar contextual cues as opportunities for goal striving and to link these cues with goal-directed behavior (i.e., form implementation intentions).

Furnishing mere goal intentions with implementation intentions optimizes goal striving. For example, if one has the goal intention to read more books, forming plans that delineate the when, where, and how of the goal-directed behaviors will help goal attainment. It is particularly effective to form such plans as an “if-then” statement, such as “If I encounter situation X, then I will perform goal-directed behavior Y!” or, more specifically, “If I am getting into bed for the night, then I will open my book!” Numerous studies suggest that furnishing goal intentions with implementation intentions leads to higher goal-attainment rates than goal intentions alone.

People can break longstanding habits by forming strong implementation intentions (e.g., if-then plans that spell out a response contrary to the habitual response to the critical situation; Holland, Aarts, & Langendam, 2006). Cohen, Bayer, Jaudas, and Gollwitzer (2008; Study 2) used implementation intentions to counter dominant responses in a Simon task. In this task paradigm, participants are asked to respond to a nonspatial aspect of a stimulus (i.e., whether a presented tone is high or low) by pressing a left or right key, and to ignore the fact that the stimulus appears on the left or right side of the screen, and so a key on either the same or opposite side of the stimulus is needed. The difficulty of correct responding is high when the location of the tone (e.g., right) and the required key press (e.g., left) are incongruent, as the dominant response is to press the key that corresponds with the side that the stimulus appeared on.

Similarly, other automatic responses, such as stereotyping, can be blocked by implementation intentions designed to run counter to them. For example, Mendoza, Gollwitzer, and Amodio (2010) have added to findings that implementation intentions can also be used to suppress the behavioral expression of implicit stereotypes (see also Stewart & Payne, 2008). In their study, individuals completed the Shooter Task paradigm in which individuals choose whether or not to simulate shooting at Black or White targets holding guns or nongun objects. In a correct response, individuals shoot at threatening, gun-wielding targets, and not innocent targets who merely have their hands full. In Study 1, individuals were given no task instructions or a goal intention to ignore irrelevant information, or formed an implementation intention aimed at ignoring irrelevant information. Individuals with implementation intentions made fewer errors than either those with goal intentions alone or no further instructions. In Study 2, the target of the implementation intention was facilitation, and so they

formed the strategy “If I see a target holding a gun, then I will shoot at it!” These participants also outperformed participants with a goal intention containing the same strategic information and participants with no further instructions (Mendoza, Gollwitzer, & Amodio 2010).

Implementation intentions not only override dominant or habitual responses, but generally facilitate goal implementation. In a recent meta-analysis (Gollwitzer & Sheeran, 2006), the overall impact of furnishing goals with implementation intentions on goal attainment was  $d = .65$ , based on 8,461 participants in 94 tests. These tests were on a wide variety of samples, including children with ADHD, adults with schizophrenia, the elderly, and heroin addicts, and tested a wide variety of goals, including taking vitamins, performance on a Stroop task, negotiation outcomes, academic performance, and exercise (Gollwitzer & Sheeran, 2006).

### A(nother) mindless mechanism

Implementation intentions capitalize on the associative structure of the mind. The if-then plan forms a strong associative link between a contextual cue and the goal-directed response. Research investigating the mechanisms of the success of implementation intentions identified changes in how individuals regard the context and the linked behavior. Due to the formation of implementation intentions, the relevant contextual cue becomes mentally activated and so more highly accessible (Gollwitzer, 1999). For instance, Webb and Sheeran (2004; Studies 2 and 3) observed that implementation intentions improve cue detection (fewer misses and more hits), without engendering false alarms. Moreover, using a dichotic listening task paradigm in which participants had to listen to two strings of verbal information, one in each ear, Achtziger, Bayer, and Gollwitzer (2012) asked participants to focus attention on one or the other stream. Achtziger and colleagues found that words describing the critical situation specified in the “if” part of the implementation intentions were highly disruptive to focused attention in implementation-intention participants compared to mere goal-intention participants, demonstrating the heightened accessibility of the contextual cue.

The success of implementation intentions in maximizing goal striving derives from heightened accessibility not only to contextual cues but also to the formation of a strong associative link between the contextual cue and the specified goal-directed behavior (Webb & Sheeran, 2007, 2008). These associative links seem to be stable over time (Papies, Aarts, & de Vries, 2009) and allow for the activation of the representation of the goal-directed response even by subliminal presentation of the specified contextual cue (Webb & Sheeran, 2007). In other words, the associative link between the representation of the specified if-component and then-component exhibits features of automaticity, including immediacy, efficiency, and redundancy of conscious intent (Gollwitzer, 1999). If-then planners act more quickly (e.g., Gollwitzer & Brandstätter, 1997; Experiment 3), deal more effectively with cognitive load (Brandstätter, Lengfelder, & Gollwitzer, 2001), and do not depend on conscious intentions to act in the specified situation (Bayer, Achtziger, Gollwitzer, & Moskowitz, 2009).

Using implementation intentions to implement goals allows individuals to open up their understanding of their context to a new, more goal-relevant perspective. Aspects of the context that might have previously gone entirely unnoticed gain heightened accessibility. Moreover, implementation intentions capitalize on the associative quality of the mind. Once people form implementation intentions, they have created a strong associative link between the contextual cue and the goal-directed behavior, such that the context triggers the behavior automatically. As with mental contrasting, the mindless mechanism behind this strategy does not carry the same dangers of other (not mindfully planned) behaviors.

It is important to note, however, that the authors are not advocating for completely mindless goal pursuit that may cause individuals to miss novel opportunities in the environment or evidence that goal disengagement is the best course of action. Instead, we recommend the combination of mental contrasting and implementation intentions, which allows for mindful goal selection and mindful goal implementation via mindless mechanisms—even the automaticity associated with these mindless mechanisms allows for flexibility in action to some degree, such as the ability to respond to feedback (Rosenbaum, Vaughan, Meulenbroek, Jax, & Cohen, 2009) and learn implicit rules (Eitam, Hassin, & Schul, 2008), which will be discussed in more detail later in this chapter. In other words, mental contrasting with implementation intentions allows for mindful mindlessness in goal pursuit via mindful goal selection and the mindful planning of automatic goal implementation.

### Mindful mindlessness in goal pursuit

The authors recommend combining the two strategies for effective goal pursuit, mental contrasting for mindful goal selection with subsequent effortful striving, and implementation intentions for mindful planning of goal implementation. When combined, mental contrasting with implementation intentions (MCII) provides a strategy for maximizing goal pursuit that capitalizes on the notion of strategic automaticity. Moreover, because mental contrasting allows for the recategorization of the desired future and the reality in a manner that respects expectations, and implementation intentions allow for reinterpreting aspects of the context as opportunities to act, both strategies utilize aspects of mindfulness. At the same time, however, both strategies for goal pursuit rely on automaticity and the notion that mindfully formed links are then followed strictly based on their association (i.e., mindlessly). The two strategies together can be described as a mindfully mindless self-regulation strategy.

More specifically, MCII leads to greater rates of goal attainment than either mental contrasting or implementations alone (Adriaanse et al., 2010; Christiansen, Oettingen, Dahme, & Klinger, 2010; Stadler, Oettingen, & Gollwitzer, 2009, 2010; review by Oettingen, 2012). The two strategies complement each other, as mental contrasting facilitates the pursuit of goals with high expectations for success and fosters high goal commitment and effortful goal striving, while implementation intentions work best on goals to which individuals are highly committed (Sheeran et al., 2005; Study 1). Moreover, mental contrasting allows for the identification of idiosyncratic obstacles, which can then be specified in the if-component of implementation intentions as a critical contextual cue, thus creating a maximally tailored self-regulation strategy.

In two studies demonstrating the power of MCII, Adriaanse and colleagues (2010) found that mental contrasting with implementation intentions led to greater reduction in unhealthy snacking compared to controls who only listed healthy snack options (Study 1) and mental contrasting alone or implementation intentions alone (Study 2). Together, the two strategies target both goal selection and goal implementation to optimize goal attainment; mental contrasting relies on the formation of a new insight into the contrast between one's desired future and the present reality, changes the meaning of the present reality towards being an obstacle, and implicitly links the obstacle to instrumental means. Forming implementation intentions provides a new, goal-relevant perspective on one's context and explicitly links goal-relevant opportunities (e.g., obstacles) to instrumental means. This creates strategic automaticity, the delegation of control of goal-directed behavior to contextual cues.

Not only does MCII allow for personally tailored strategies, but the general mental procedure can be taught, making MCII a metacognitive strategy applicable to multiple domains. For example, Stadler, Oettingen, and Gollwitzer (2009) taught participants the MCII technique. This intervention allowed participants to apply MCII independently to any desire of their choosing. When participants applied MCII to their individual health concerns, they exercised more often than individuals who were only provided with health-related information. Participants in the MCII group exercised nearly twice as much as before the intervention, and positive effects began to appear directly after the intervention and remained throughout the 16-week study. Finally, MCII has been tested beyond the health domain and was found to successfully promote adolescents preparing for standardized tests (Duckworth, Grant, Loew, Oettingen, & Gollwitzer, 2011; review by Oettingen, 2012). In summary, MCII works with both aspects of the mind—the so-called conscious controller uses mental contrasting to select and strive for expectancy-respecting goals and forms implementation intentions in advance of encountering the critical context, while the automatic “unconscious self” takes over after these mindful steps have been completed.

## **Nonconscious Goal Pursuit**

As previously mentioned, many models of human motivation assume an agentic conscious controller, but much research over the past two decades has focused on the automated will, the activation of goals outside of the awareness of the agent. Much like the birth of mindlessness research, this surge in research derives from the observation that the current state of a given body of research (attribution for mindlessness, motivation for nonconscious goals) overemphasizes mental content and underemphasizes the direct causal power of context on an individual's actions.

According to Langer (1989), much of the research on attribution assumed that individuals were constantly assessing what was going on in the minds of those around them, but in reality, it is likely that those individuals were not giving any thought to their surroundings at all. The fundamental attribution error, then, was not a failure to consider the situation with regard to the causal factors contributing to the actions of others, but rather a failure to consider any cause at all. As a result of this observation, Langer and colleagues conducted a now classic experiment in social psychology in

which a confederate asked someone waiting in line at a fax machine if they could skip them in line either because they were “in a rush” or because they needed to “make a copy.” She argued that if participants were paying attention to the content of the request instead of the format, they would not allow the person who explained that they needed to make a copy cut in line. If people were only paying attention to the form or using a preexisting schema, they would allow the person with a nonexistent reason for cutting the line to pass (Langer, 1978).

### First generation of research: Similarities regardless of awareness

According to the Auto-Motive Theory, goals may be activated indirectly (i.e., outside of awareness) through the repeated pairing of a given situation and its related goal; the contextual cues eventually activate the goal through the established associative link (Bargh, 1990; Bargh & Gollwitzer, 1994). This model predicts that both conscious and nonconscious activation of goals should lead to similar goal-attainment rates and qualities of goal striving (Bargh, Gollwitzer, Lee-Chai, et al., 2001). Accordingly, nonconsciously activated goals exhibit hallmarks of goal pursuit. In particular, nonconscious goals lead to goal-directed action, stay active until completed, produce persistence in the face of setbacks, and promote resumption after interruption (Bargh et al., 2001). We are able to see evidence for such hallmarks by the use of priming, in which goal-related words are either embedded in a seemingly unrelated task, as in a supraliminal (“above the threshold of consciousness”) priming procedure such as a word search puzzle, or flashed on the screen below the level of awareness as in subliminal priming (Bargh & Chartrand, 2000).

In line with Auto-Motive Theory, the first generation of research on nonconscious goal pursuit has focused on the similarities between conscious and nonconscious goal pursuit (Bargh et al., 2001; review by Gollwitzer, Parks-Stamm, & Oettingen, 2009). For example, participants with both conscious and nonconscious goals experience the phenomenon of goal projection (Kawada, Oettingen, Gollwitzer, & Bargh, 2004) in which an active goal in the agent leads to the perception of others having that same goal. Moreover, both conscious and nonconscious goals have similar effects on affect following success and failure. In particular, participants primed with an achievement goal, who succeeded on a task, experienced greater positive affect than those who completed the task without having been primed, and those primed with achievement who failed at the task experienced greater negative affect than those who were not primed (Leander, Moore, & Chartrand, 2009).

More recently, research has focused on whether nonconscious goals exhibit equivalent flexibility in goal striving as conscious goals. Much evidence has supported the flexibility of nonconscious goal striving as compared to no goal controls. For instance, participants with a nonconscious goal to achieve perform better than participants with no goal on implicit and unintentional learning tasks, in which success requires adapting to a dynamic environment, as well as the Wisconsin Card Sorting Task and the Iowa Gambling Task (Eitam, Hassin, & Schul, 2008; Hassin, Bargh, & Zimmerman, 2009). Such evidence is in line with cognitive work on perceptual motor acts, in particular, Feedback Control Theory, in which feedback from the environment determines

whether a motion has departed from the current goal or not (summary by Rosenbaum et al., 2009).

In a more recent study (Gantman, Gollwitzer, & Oettingen, 2012), we asked the question of whether nonconscious goals are as flexible as conscious goals. We found that participants with conscious and nonconscious goals alike exhibit optional flexibility: they spontaneously discover simpler means more frequently than participants with no goal. In addition, both conscious and nonconscious goal striving allowed for the fast discovery of a new solution when such flexibility was mandatory for task completion (i.e., mandatory flexibility). Taken together, these studies highlight a similarity between conscious and nonconscious goal striving—both allow for flexibility, either by incorporating feedback from the environment or by recognizing novel opportunities for success.

### Second generation of research: Awareness-based differences

Follow-up research has also addressed differences in conscious versus nonconscious goal striving. For instance, Govorun and Payne (2006) found differences in capacity, such that conscious goal striving is more subject to ego-depletion effects than nonconscious goal striving. Given recent research suggesting that knowledge of ego-depletion may be related to the emergence of the phenomenon (Job, Dweck, & Walton, 2010), it is possible that this difference in goal striving may be dependent on awareness of the goal in conjunction with the belief that self-regulatory resources are limited. After all, it does not make sense to bring the notion of limited self-regulatory resources in goal striving to bear on a situation in which one does not think there is goal striving in the first place.

Other work (Oettingen, Grant, Smith Skinner, & Gollwitzer, 2006) more directly investigated the difference in awareness of the goal in conscious and nonconscious goal pursuit. While this difference seems obvious, no preceding work has focused on potential affective consequences of this difference or what happens when nonconscious goal strivers are made aware of their (nonconsciously activated) goal-directed behavior. In order to study this question, Oettingen and colleagues (2006) provided participants with a task that required cooperation and induced either a conscious or a nonconscious goal of competitiveness (associated with expected, norm-conforming behavior and unexpected, norm-violating behavior, respectively). The participants given the nonconscious goal of competitiveness showed heightened negative affect as a result of their conflicting, norm-incongruent behavior (namely, acting competitively in a cooperation-based task) compared to those with a conscious goal to act competitively. Apparently, participants in the nonconscious condition could not explain their behavior. The authors call the phenomenon of people faced with their own unexpected behavior the “explanatory vacuum.”

A later study by Parks-Stamm, Oettingen, and Gollwitzer (2010) hypothesized that the increased negative affect in the nonconscious goal condition arose specifically from the lack of explanation for the behavior. The authors found that the heightened negative affect in the nonconscious goal condition could be reduced when a plausible explanation for primed competitive behavior (in this case, acting too quickly was equivalent

to acting competitively) was made available. More precisely, the authors replicated the previous study with the addition of a prior, seemingly unrelated study that asked half of the participants to perform quickly and half to perform accurately. Of the participants in the explanatory vacuum, those who engaged in the prior speed task showed less negative affect than those in the accuracy task, suggesting that when primed goal-directed behaviors can be explained (i.e., by having just done a task as quickly as possible) the negative affect associated with the explanatory vacuum does not arise. While this is preliminary evidence suggesting that people when primed with nonconscious goals may at times feel the need to explain their nonconscious goal pursuit, much research has investigated the effects of explicit awareness of goal-directed behavior, specifically when it has detrimental effects on performance.

### Explicit awareness of goal-directed behavior

Explicit awareness of the goal to perform well is associated with the pressure to excel (Bargh et al., 2010), which can lead to the phenomenon called “choking under pressure.” According to the *explicit monitoring theory*, performance pressure leads people to attempt to exert conscious control over the execution of physical behaviors (Baumeister, 1984; Lewis and Linder, 1997). In particular, Beilock and Carr (2001) proposed that “choking” in a behavioral task occurs when performance pressure leads people to attempt to exert conscious control over the execution of physical behaviors that have become automated.

When behaviors have automated, consciously monitoring the enactment of learned physical skills results in suboptimal performance as the behavior no longer requires conscious direction. Empirical demonstrations of the detrimental result of adding conscious control have included golf putting (Lewis & Linder, 1997), squash (Masters, Polman, & Hammond, 1993), and basketball played before a home audience (Baumeister & Steinhilber, 1984). Masters and colleagues (1993) called this tendency to exert conscious control over automated behaviors “conscious reinvestment.” They created a Reinvestment Scale that measures this tendency to exert conscious control under pressure and found that individuals who scored highly on this scale performed worse at a golf-putting task under pressure than those who were low in reinvestment and under pressure, despite evincing equal skill level in the no-pressure condition (Masters et al., 1993). This work suggests that awareness of the goal to perform well (operationalized as pressure) may recruit thoughts that are detrimental to successful performance.

Other recent research by Bijleveld, Custers, and Aarts (2011) has focused on the nonconscious presentation of rewards. The Attentional Blink is a task in which focused attention devoted to the details of the task hurts performance (Arend, Johnston, & Shapiro, 2006; Dale & Arnell, 2010). These authors presented high-value versus low-value monetary rewards for performance on the Attentional Blink paradigm either consciously or nonconsciously. Bijleveld and colleagues found that nonconscious high-value rewards were associated with improved performance on Attentional Blink trials, while the effect of a high-value incentive disappeared when it was presented consciously.

For test anxious college students, forming implementation intentions was found to ward off the tendency to consciously reinvest in the task at hand, thus facilitating performance on a math exam. In particular, implementation intentions aimed at ignoring distracting thoughts improved performance over and above those designed to facilitate task performance, suggesting that test anxiety hinders math test performance because it is distracting. Apparently, implementation intentions allow for the strategic automation of control over distracting thoughts so that conscious reinvestment is no longer a problem (Parks-Stamm, Gollwitzer, & Oettingen, 2010). Given that conscious awareness of performance goals may lead to detriments in performance, and that people may experience negative affect at the recognition of behavior elicited by counternormative nonconscious goals (i.e., experience an explanatory vacuum), it seems that the boundary between conscious and nonconscious goal pursuit is permeable and would benefit from further consideration.

### **A Mindful Perspective on the Conscious/Nonconscious Dichotomy in Goal Research**

Finally, the notions of conscious and nonconscious goals in psychological research may benefit from the look of a mindful eye, particularly on the ways in which we use strong words with minimal thought. With regard to nonconscious goal pursuit, especially when conducting studies involving the use of supra- or subliminal priming techniques, it is easy to refer casually to the participants in the study who will receive the nonneutral form of the manipulation as the “unconscious group” (vis-à-vis the “conscious” or the “control group”). While this shorthand is in most cases harmless, in the context of goal pursuit it obscures something important about those participants in the “unconscious” group; they are not, in fact, unconscious. When we fail to think about what else might be going on in the minds of our primed participants, we not only fail to understand something important about priming but fail to fully grasp the meaning of priming in the real world.

Not only are those participants in the “unconscious” (sometimes referred to as “nonconscious”) priming conditions aware, in the sense of phenomenal consciousness,<sup>1</sup> but also they are able to think about the behaviors that they have been presumably primed into performing. Moreover, can we induce thinking about these behaviors, and are these behaviors regarded differently from those that have not been directly primed in a laboratory setting? Future research would benefit from considering these issues.

There are two basic possible responses to this question. The first is simply that we act based on primed behavior much more often than we realize, and so whatever the regular, lay conception of action is, that is how we regard primed behaviors. On the other hand, particularly with regard to the priming of goals outside of awareness (Bargh et al., 2001), it may be the case that, as individuals are capable of forming explicit goals and subsequently (at least sometimes) carrying out the actions that follow from those goals as the result of a deliberate plan (Gollwitzer & Oettingen, 2011), people may find the possibility of acting on a goal that has been activated outside of awareness unsettling.



The explanatory vacuum phenomenon suggests that there might be resistance to this idea not only by scientists (as suggested by Bargh and Chartrand, 1999) but also at least by college undergraduates. Parks-Stamm, Oettingen, and Gollwitzer (2010; Study 2), conducted a follow-up explanatory vacuum study to determine whether finding an explanation for one's unexpected (and, in this case, primed) behavior happens reflexively, or whether individuals acting in an explanatory vacuum need to be prompted to notice that they lack an explanation for their behavior. They found that when participants were given extra time to reflect about their goals in the study, this had no effect on negative affect; only those participants with a prior goal to explain their behavior showed reduced negative affect as compared to those whose prior goal could not. In other words, it is possible that participants reflexively search for explanations for norm-violating behavior, suggesting that, even unprompted, students seek to understand the origins of unexpected primed behaviors in their minds and are likely unsatisfied by answers more in line with the concept of nonconscious goal pursuit.

The strong dichotomy between conscious and nonconscious goal pursuit in the field and its matching folk psychology seems to be embedded in the way that people think about themselves and their own behavior; if individuals spontaneously think about the origins of their actions when they could not have been predicted by the individuals' conscious intentions, it may be to repair or bolster beliefs in the conscious controller or to undermine concerns about the lack of controllability of one's own actions. We can see, however, from the self-regulation literature and the benefits of using mental contrasting with implementation intentions to maximize goal attainment that conscious and nonconscious goal pursuit can be strategically combined. If we dissolve the distinction, especially given that the unconscious seems quite increasingly capable of doing what consciousness can (Hassin, in press), we can begin to better understand the way in which we are agents and how to maximize our agentic efficacy. Once we expand our ideas of these two categories, we, both as psychologists and as lay theorists, can expand the concept of the agentic self to include our nonconscious actions.

## Summary and Conclusion

In this chapter, we have introduced the idea of mindful mindlessness in goal pursuit or strategic automaticity. We have argued that individuals select and implement their goals based on the influence of individual and contextual determinants that may include mindless associations. There exist two strategies for moderating the influence of these determinants on goal pursuit. For goal selection and effortful goal striving, individuals who mentally contrast the desired future with present reality gain insight into and respect their expectations for success. For those with high expectations of success, future and negative reality (obstacle) become linked, and the reality (obstacle) becomes linked to instrumental behavior, resulting in new implicit, associative links that may be acted on mindlessly. For goal implementation, individuals who furnish mere goal intentions with implementation intentions select opportunities in their context and specify how to act on them. The if-then structure (best combined with high goal commitment and fitting obstacles) forms a strong link between the eliciting

situation and the relevant goal-directed behavior. This, too, results in an implicit link between opportunity and relevant action that can be mindlessly followed to successful goal pursuit. Such faith in these associative links is, of course, only warranted by the mindful manner in which they were set.

In this chapter, we have also reviewed literature on both similarities and differences between conscious and nonconscious goals. Of note is the fact that individuals acting with nonconscious goals are unaware of the purpose of their purposeful behavior, and if that behavior is norm-violating, negative affect arises. This behavior is lower on the spectrum of awareness of automated behavior than the phenomenon of “choking under pressure” or the tendency to consciously reinvest attention in the task at hand when it can be successfully performed automatically. In these cases, it seems that explicit awareness of the goal leads to a decrease in goal-attainment rates compared to individuals without this tendency. By taking a mindful approach to these findings in the literature, we can shine new light on the distinction between conscious and nonconscious goal striving, suggesting that to retain an understanding of this dichotomy in a strong sense may keep further research from fully understanding goal pursuit more broadly.

### Note

1. Not to be confused with the fact that priming can be considered a case where there is access but not phenomenal consciousness *of the particular stimuli* (Block, 2002).

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