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Sequential and Concurrent Strategies of Multiple Goal Pursuit

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People have many goals, presenting them with a challenge regarding how to navigate their multiple pursuits in each instant. Two such strategies exist, referred to here as *sequential* and *concurrent* goal pursuit. The present perspective on multiple goal pursuit is presented through which we can better understand (a) the resource demands that necessitate strategies of multiple goal pursuit, (b) the differences between sequential and concurrent goal pursuit, and (c) when each of these strategies is likely to be adopted. The explanatory power of the current framework for diverse behavioral domains, including diet, exercise, addiction, and moral behavior is discussed, as are the implications for acting on one's goals and the impact of success versus failure when pursuing each strategy.

Keywords: goal pursuit, motivation, multifinality, strategies, goal systems

From the moment we open our eyes in the morning, we are faced with decisions regarding what to do and how to do it. Should you hit the gym, head to the office, or call someone to upgrade to energy efficient windows? Each of these options serves a different goal, whether it is to improve physical fitness, make progress on a research project, or improve the environment. You could move through these goals sequentially, first going to the gym, then the office, and finally calling the window company. It is also possible to satisfy multiple goals at once. For example, you could decide to bike to work, which would lead you to the office while exercising and reducing the emissions that would have resulted from driving, thereby moving toward multiple goals concurrently. Because people typically do have multiple goals that need to be satisfied in a relatively short period of time, it is important to gain an understanding of the ways in which people navigate their many pursuits. In other words, how are multiple goals kept from interfering with one another, how are they combined, and how are they completed before time runs out?

Highlighting the ubiquity of multiple goal pursuit, Neisser (1963, p. 195) stated, "almost all human activity, including thinking, serves not one, but a multiplicity of motives at the same time." The need for psychologists to understand the way in which it is carried out was termed the *reduction problem* by Bargh (2006, p. 158), who communicated the urgency to "understand better how these multiple possibilities get reduced and channeled back into single, serial responses. It is as if the mind constantly explodes the outside world into multiple parallel possibilities for action, but must then reduce and distill these back for use in a world in which you can only do one thing at a time . . . this was then, and remains today an excellent and important pragmatic question."

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Two general strategies for pursuing multiple goals can be adopted: First, the person may pursue one goal at a time, making progress on one task before moving on to the next. Second, the person may wish to move toward two or more goals at once. A person's decision to adopt a strategy of *sequential* goal pursuit versus a strategy of *concurrent* goal pursuit has important implications for the likelihood of attaining each of the person's goals and the shifting of activation in goal systems. This article will review relevant research through which we can better understand (a) the resource demands that necessitate strategies of multiple goal pursuit, (b) the differences between sequential and concurrent goal pursuit, and (c) when each of these strategies is likely to be adopted. In a final section, directions for future research, including a focus on the way in which these strategies may influence the process of acting on one's goals as well as the impact of success versus failure when pursuing each strategy will be discussed.

Self-Regulatory Resources

The resources available for decision-making and goal pursuit are finite and limited (Kahneman, 1973; Kanfer, Ackerman, Murtha, Dugdale, & Nelson, 1994; Kruglanski, Belanger, Chen, & Köpetz, 2012; Kruglanski et al., 2002; Mischel, 1996; Muraven & Baumeister, 2000; Simon, 1991; Thomas, Dougherty, Sprenger, & Harbison, 2008). It is precisely because of this limitation of resources that multiple goal pursuit is an important avenue for research. Although limits on self-regulatory resources influence the ability of the individual to successfully pursue a single goal, increasing the number of goals heightens the demands for each of these resources. Clearly, a person with the goal of cleaning his or her house faces fewer demands than a person who wishes to clean the house, mow the lawn, go grocery shopping, and play basketball. Moreover, when multiple goals are active, the person must enact a strategy for pursuing the various goals they have in mind. For example, what are the consequences of combining multiple goals through a single task as compared with keeping them distinct? The

decision ultimately involves deciding whether to pursue one's goals sequentially or concurrently.

Defining Sequential and Concurrent Goal Pursuit

Sequential Goal Pursuit

The defining feature of sequential goal pursuit is that resources are allocated to one goal at a time. This strategy entails determining the goal to be pursued first, allocating attention to that goal, and engaging in goal-consistent behavior. Once a goal is chosen, the person is likely to engage in *goal shielding,* whereby alternative goals are inhibited so that they do not interfere with the focal goal (Gollwitzer, Heckhausen, & Steller, 1990; Gollwitzer & Schaal, 1998; Shah, Friedman, & Kruglanski, 2002). Goal shielding is necessary to ensure that attention is not prematurely redirected to other goals, and represents the mechanism for the initiation of sequential goal pursuit. Once attention has been directed to a single goal, the person continues pursuit of that goal until s/he perceives that it has been attained or that sufficient progress has been made on its behalf. At that point, the person deactivates the goal and shifts attention to an alternative goal.

Concurrent Goal Pursuit

The defining feature of concurrent goal pursuit is attention is directed to more than one goal at a time. The person must have multiple goals activated at once and determine a single course of action that has the potential to satisfy the various goals. This requires the person to consider a larger set of information, to weigh the importance of the multiple goals, and to find an appropriate action that, taking everything into consideration, satisfies the set of goals at the same time. While initially placing computational demands on the individual, concurrent goal pursuit can be used as an efficient strategy for the timely attainment of goals. The dominant strategy employed during the activation of concurrent goals is to utilize a single means that serves multiple goals, referred to as the *multifinality principle* (Chun & Kruglanski, 2005; Chun, Kruglanski, Sleeth-Keppler, & Friedman, 2011; Köpetz, Faber, Fishbach, & Kruglanski, 2011; Kruglanski et al., 2002).

Sequential Versus Concurrent Pursuit as a Continuum

Importantly, whether one pursues sequential or concurrent goal pursuit is a matter of degree. Because goals are conceptualized as knowledge structures (Bargh, 1990; Kruglanski, 1996), it can be assumed that each goal stored in memory can possess varying degrees of activation (Förster, Liberman, & Friedman, 2007). Pure sequential goal pursuit would require that only one goal is active at a time and that the remaining goal structures are entirely deactivated. Most of the time a person has some subset of goals with varying degrees of activation. The larger this subset, and the higher the activation level of the members in the set, the more one can be said to be pursuing concurrent (and the less one is pursuing sequential) goal pursuit. Therefore, a person pursuing six simultaneous goals can be said to be engaging in concurrent goal pursuit to a greater extent than a person pursuing two simultaneous goals.

The distinction between sequential and concurrent goal pursuit is based on the relative activation of one's goals. It should be noted that neither sequential nor concurrent goal pursuit necessarily requires that the person is consciously aware of the goals. Pursuit of a single goal can be initiated, enacted, and completed without the person being aware of its activation (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trotschel, 2001). Similarly, multiple goals may be active at once without the person's awareness of all or some of the goals (Bargh, 1990, 2006; Bargh & Chartrand, 1999; Bargh & Morsella, 2010; Fishbach & Ferguson, 2007; Förster et al., 2007; Kruglanski et al., 2002).

Empirical Evidence

Sequential Goal Pursuit

Goal shielding represents the mechanism for the initiation of sequential goal pursuit. In order for the person to begin and continue pursuit of a single goal, he or she must successfully inhibit alternative goals (Gollwitzer, Bayer, & McCulloch, 2005; Gollwitzer et al., 1990; Gollwitzer & Schaal, 1998). Early evidence for the function of goal shielding can be gleaned from research conducted with children in which instructing them to inhibit a distraction while pursuing a focal task was found to increase the attention paid to the focal task and improve the performance on that task (Patterson & Mischel, 1976). One limitation of that research is that participants anticipated a future distraction, so it is not possible to evaluate whether goal shielding occurs without being prompted with explicit instructions. More recent evidence for the goal shielding mechanism was gleaned from six studies in which it was demonstrated that alternative goals are inhibited while the focal goal is pursued (Shah et al., 2002). It was found that when alternative goals facilitated progress on the focal goal, they remained more active. Moreover, goal shielding was found to foster successful goal progress. Consistent with the notion that goal shielding promotes progress on the focal goal, increased activation of alternative goals results in decreased commitment, progress, and means generation with respect to the focal goal. This is an effect known as *goal pulling,* which demonstrates the consequences of failure to successfully inhibit alternative goals (Shah & Kruglanski, 2002).

The goal shielding effect has been replicated when goals were operationalized as intentions (Veling & van Knippenberg, 2006) and fundamental motives (Leander, Shah, & Chartrand, 2011). Some evidence suggests that interference from alternative goals leads to increased investment of effort in goal shielding, as indexed by improved shielding immediately following interference (Goschke & Dreisbach, 2008). Finally, implementation intentions increase engagement in goal shielding, which in turn increases the likelihood of goal attainment (Achtziger, Gollwitzer, & Sheeran, 2008; Bayer, Gollwitzer, & Achtiziger, 2010). Following successful attainment of the focal goal, inconsistent alternatives are no longer shielded (Moskowitz & Li, 2011). It seems, then, that goal shielding is a mechanism for the initiation and maintenance of sequential goal pursuit. It limits the number of goals to be pursued, leading to increased progress on the focal goal. Moreover, the mechanism is enacted during times in which distraction is more likely. Once the goal is attained, the mechanism for maintaining its prioritization is relaxed and alternatives are allowed to be activated.

Engaging in sequential goal pursuit comes with specific advantages for the actor. Because most of one's self-regulatory resources can be directed toward a single goal, it increases the likelihood that significant progress is made on its behalf. The downside to engaging in sequential goal pursuit is that accomplishing three goals sequentially will typically take more time than accomplishing those three goals concurrently.

Goal Shifting

A large body of evidence has demonstrated that information related to goal pursuit remains cognitively accessible until the goal is attained, at which point goal-relevant information is deactivated (Bargh, Green, & Fitzsimons, 2008; Förster, Liberman, & Higgins, 2005; Marsh, Hicks, & Bink, 1998; Zeigarnik, 1927). While the goal is active, its associated means of attainment are evaluated more positively (Brendl & Higgins, 1996; Brendl, Markman, & Messner, 2003; Ferguson, 2008; Ferguson & Bargh, 2004; Fishbach, Shah, & Kruglanski, 2004; Fitzsimons & Shah, 2008; Lazarus, 1991; Lewin, 1926, 1936; Markman & Brendl, 2000; Moors & De Houwer, 2001; Moors, De Houwer, & Eelen, 2004; Rosenberg, 1956; Sherman, Rose, Koch, Presson, & Chassin, 2003). Yet, once the individual attains the goal, the goal and its associated means are deactivated and devalued (Amir & Ariely, 2008; Bargh et al., 2008; Bargh & Huang, 2009; Brendl et al., 2003; Carver, 2003; Carver & Scheier, 1998; Ferguson & Bargh, 2004; Fishbach & Ferguson, 2007; Fitzsimons & Fishbach, 2010; Förster et al., 2007; Kruglanski et al., 2002). Once sufficient progress is perceived or the goal is abandoned, the person may then redirect attention to alternative goals (Fitzsimons, Friesen, Orehek, & Kruglanski, 2009). Indeed, research has demonstrated that upon perceiving sufficient progress on one goal, the activation of alternative goals increases (Fishbach & Dhar, 2005; Fishbach, Dhar, & Zhang, 2006; Fishbach & Zhang, 2008; Fitzsimons & Fishbach, 2010; Fitzsimons & Shah, 2008; Koo & Fishbach, 2008; Moskowitz & Li, 2011). Thus, it seems that when progress has been made, attention is dynamically redirected to fit with the current status of goal pursuit.

One particularly important source of feedback on the progress of goal pursuit is the resulting affect (Carver & Scheier, 1990, 1998; Kruglanski et al., 2002). According to *control theory*, the recognition that goal pursuit has met a relevant criterion or is moving ahead of schedule should lead to the experience of positive affect (Carver & Scheier, 1998), and, therefore, positive affect should induce coasting on the goal (Carver, 2003). Therefore, as people engage in goal-directed behavior, they monitor their progress using both task-centered information and phenomenological experiences as signals. The specific contents of both types of feedback can be used quite flexibly, as when the same feedback information is interpreted differently depending on the context. As one example of this, research has found that goal-directed action can be interpreted as progress or commitment (Fishbach & Dhar, 2005). When action signals that progress has been made, the person tends to engage in *balancing*, whereby they will switch to an alternative goal (Fishbach, Zhang, & Koo, 2009). However, if that same behavior is interpreted as evidence that they are committed to their goal, they are likely to engage in *highlighting*, whereby they maintain or increase activation of the focal goal.

As another example of this flexibility, research on mood as input has demonstrated that the same phenomenological experience can serve as information suggesting that the person should stop working on a particular task or continue working, depending on the stop rule the person has adopted (e.g., Hirt, McDonald, & Melton, 1996; Hirt, Melton, McDonald, & Harackiewicz, 1996; Jefferis & Fazio, 2008). Recent research (Orehek, Bessarabova, Chen, & Kruglanski, 2011) suggests that during the sequential pursuit of multiple goals, positive affect does indeed lead to deactivation of the focal goal. Presumably, this occurs so that the person can shift his or her attention to the next goal in the sequence. In contrast, participants who only had a single goal in mind increased the activation of the focal goal when positive affect was experienced, presumably because they used the positive affect as a signal that they were on the right track (cf., Clore et al., 2001; see also Custers & Aarts, 2005; Fishbach & Labroo, 2007). Because additional goals were not queued, there was no need to deactivate the focal goal.

Thus, when predicting the impact of feedback during goal pursuit, it is important to consider at least the content of the information, the number of goals in mind, and the way in which the content has been framed and/or what decision rules may be used. When progress is perceived, the person will deactivate the focal goal, relax goal shielding, and shift attention to alternative goals. Although this sequence depicts the way in which goals are pursued sequentially, the next section considers the possibility of combining multiple goals into a single action.

Concurrent Goal Pursuit

Concurrent goal pursuit occurs when more than one goal is pursued in the same instant. This can be accomplished by finding a single means that satisfies more than one goal (i.e., is multifinal). The activation of multiple goals at once increases the computational demands as the person attempts to process the complex array of means–goal interrelations, and determine whether the goals can be combined (Emmons, King, & Sheldon, 1993; Kruglanski et al., in press; Shah & Kruglanski, 2002). However, once a multifinal means is found, it allows the person to save time by "killing two birds with one stone."

Several conditions must be met for multifinal means to be pursued. First, the two goals must be activated at the same time (Chun et al., 2011). If only one goal is active, then the nonactive goal will not be considered when selecting a course of action. Also, if one of the goals has already been attained through the use of a different means, it will be deactivated (Bargh et al., 2008; Förster et al., 2005; Marsh et al., 1998; Zeigarnik, 1927) and multifinal means will not be sought (Chun et al., 2011). Yet, the mere activation of multiple goals is not enough for concurrent goal pursuit to be employed.

The second condition is that there must be a means available that is capable of satisfying the multiple goals one has in mind (Köpetz et al., 2011). Sometimes this is relatively easy, such as when someone attempts to combine the goals of having fun and being social. Other times, this can be more difficult, such as when someone attempts to combine the goals of eating healthy and tasting delicious food. Engaging in concurrent goal pursuit constrains the means from which one can choose, because the number of options that satisfy two goals is less than the number of means

that serve one goal. For example, when deciding what to eat, if taste is the only concern, then any tasty food will do. Once a second goal is introduced, such as health, convenience, or price, then the number of options is reduced to the subset of tasty food that is also healthy, convenient, or within one's budget. Even once the compatibility of the goals is suitable for finding a multifinal means, it must be readily available in the environment in order to be pursued. Because there are fewer multifinal means than means that serve the single goal, the likelihood that it is unavailable or inaccessible is higher.

Although the preceding conditions place restrictions on the times in which a quest for multifinal means is *possible*, the prioritization of one's goals is likely to determine when concurrent goal pursuit is *desired*. When the relative prioritization of the person's active goals is similar (Köpetz et al., 2011) or when the person desires compromise among the active goals (Dhar & Simonson, 1999; Simonson, 1989), the person is more likely to desire combining the goals into a single action. When one goal is of higher priority than another, it is likely to be pursued first and the second goal will be inhibited (Shah et al., 2002). Because the lower priority goal is inhibited, the person does not consider it when selecting a course of action. However, when one's goals are of similar priority, the same block of time will likely be allocated to each goal and a multifinal means will be sought (Köpetz et al., 2011).

When the pursuit of concurrent goal pursuit is both possible and desirable, the person may seek multifinal options. However, in order for such a search to be carried to fruition, the person must be able to attend to a large amount of information in order to carry it out. This means that the person is capable of maintaining the activation level of multiple goals and their means of attainment at the same time.

Consequences for Instrumentality Concerns

One downside of concurrent goal pursuit through multifinality is that attaching a means to multiple goals decreases the perceived instrumentality between the means and each of the goals, and this is mediated by decreased association strength between the means and each goal, an effect referred to as *dilution* (Zhang, Fishbach, & Kruglanski, 2007). It seems that, just as the cognitive associations between informational nodes in memory are weakened by additional linkages (known as the *fan effect*, Anderson & Reder, 1999), connecting a means to additional goals weakens the perceived strength of the linkage between the means and each of the goals. As the number of linkages between the means and goals increases, the more the association and perceived instrumentality between the means and any single goal is diluted.

In some ways, the dilution effect can be considered to be "irrational" in the sense that the diluted instrumentality is based on the cognitive configuration of the goal elements rather than any objective evidence of the means' actual ability to serve the goal(s) (Kruglanski & Orehek, 2009). In fact, the experiments demonstrating the dilution effect (Zhang et al., 2007) presented participants with the exact same means (e.g., a computer) and experimentally manipulated the number of goals the means were said to serve. When participants were asked to think of three goals a computer serves, they perceived that it was less instrumental to those goals than when they were asked to think of a single goal that a computer serves. In reality, a computer's usefulness for checking e-mail does not change because a person is reminded that their computer is also capable of running statistics software and video games. Yet, the perception of its instrumentality does change. Therefore, although concurrent goal pursuit may save time, it comes at the expense of the perceived instrumentality of the course of action of each of the individual goals it serves.

Taken together, the available evidence suggests that individuals deploy attention in order to find multifinal means and engage in concurrent goal pursuit. When presented with multiple goals, people spontaneously engage in a quest for multifinal means and evaluate them more positively than their unifinal counterparts. The advantage of concurrent goal pursuit is that the person can attain multiple objectives at the same time. The downside is that the person perceives concurrent goal pursuit to be a less effective strategy for each specific goal. Because both sequential and concurrent goal pursuit come with advantages and disadvantages, research has investigated when each strategy is likely to be adopted. The next section addresses this issue.

Strategy Adoption

So far, it has been suggested that people are capable of engaging in both sequential and concurrent goal pursuit, and that the two strategies offer different advantages and disadvantages. Of course, before a person can enact either the sequential or concurrent goal pursuit strategy, a decision between them must be made. Research has outlined several guiding principles, which together identify the factors involved in choosing a goal pursuit strategy. The first type of factor that determines the selection reflects properties of the goals themselves. Specifically, this refers to the relative priority of each goal. The second factor concerns the cognitive configuration of goal elements. Specifically, this refers to the extent to which the goals are connected through a superordinate goal and/or through shared means. Finally, characteristics of the individuals' self-regulatory proclivities may guide the selection of strategies.

Engagement in concurrent goal pursuit requires that multifinal means are readily available, yet sequential goal pursuit is always a possibility. Some goals are more compatible than others (Köpetz et al., 2011). Therefore, the first factor that determines whether sequential or concurrent goal pursuit will be enacted is the severity of constraints imposed by the contents of the goals themselves. Beyond this, the properties of the goals can also determine which strategy will be preferred, such as the priority of each goal.

When the relative difference in goal priority is high, sequential goal pursuit will be preferred (Chun & Kruglanski, 2005; Chun et al., 2011; Köpetz et al., 2011; Moskowitz & Li, 2011; Shah et al., 2002). As the difference in priority is reduced, the preference for concurrent goal pursuit increases because no clear sequence is suggested. When one goal is clearly higher priority than other goals, time is likely to be reserved for it when resources are highest. Typically, this means that high-priority goals will be pursued first, leaving alternative pursuits for later. Pursuing high-priority goals first means that the actor maximizes the time between goal initiation and any deadlines that exist. It also means that the most important or pressing goals will be attained to first. However, situational constraints or strategic use of resources may alternatively lead to planning such that higher priority goals are pursued later, and lower priority goals are pursued first. This may

occur, for example, if the means to goal pursuit are not readily available, or if the person recognizes that they are fatigued in the present and expect their resources to be replenished later (Muraven, Shmueli, & Burkley, 2006; Shah, Brazy, & Jungbluth, 2005).

One of the dilemmas inherent in electing to engage in sequential or concurrent goal pursuit is a tradeoff between the value to be accrued from goal attainment and the attainability of the goals. When a single means is attached to an increasing number of goals, it garners the potential to achieve greater value by accomplishing multiple objectives at once (Chun & Kruglanski, 2005; Chun et al., 2011; Köpetz et al., 2011). However, attaching a single means to an increasing number of goals also dilutes the perceived instrumentality between the means and the focal goal (Zhang et al., 2007). Therefore, it is important to understand when a unifinal as compared with a multifinal means will be preferred. This preference is akin to determining whether to pursue one's goals sequentially or concurrently.

One factor that is especially important to this decision is the relative importance placed on instrumentality versus value considerations. According to *regulatory mode theory* (Higgins, Kruglanski & Pierro, 2003; Kruglanski et al., 2000; Kruglanski, Orehek, Higgins, Pierro, & Shalev, 2010), individuals operating in a *locomotion* regulatory mode are primarily concerned with moving toward goals by making swift and steady progress. Therefore, locomotion tendencies should lead to a preference for means that are unifinal, because they are perceived to be more instrumental, thereby affording the movement locomotors crave. In contrast, individuals operating in an *assessment* regulatory mode are primarily concerned with making the best possible decisions. Therefore, they should prefer a multifinal means, because it has the potential to reap a greater reward in terms of goal value.

To test the link between the regulatory modes of locomotion and assessment and a preference for sequential versus concurrent goal pursuit, five experiments were conducted (Orehek, Mauro, Kruglanski, & van der Bles, 2012). Consistent with hypotheses, it was found that locomotion tendencies lead to a preference for unifinal means and assessment tendencies lead to a preference for multifinal means. Additional evidence that locomotors prefer to engage in sequential goal pursuit and assessors prefer to engage in concurrent goal pursuit can be derived from the way in which they prefer to make decisions. In a recent experiment (Avnet & Higgins, 2003), it was shown that operation of the locomotion mode led to a preference for making a sequential series of comparisons among alternatives, a strategy known as *progressive elimination*. In contrast, operation of the assessment mode led to a preference for making concurrent evaluations of all possible alternatives at once, a strategy known as *full evaluation*. Therefore, it seems that during times in which the dominant concern involves making immediate and steady progress, sequential goal pursuit will be preferred. However, when the dominant concern is making the best possible choice, concurrent goal pursuit will be preferred.

Summary and Implications for Specific Behavioral Domains

The present perspective on multiple goal pursuit explicates the ways in which two strategies for attaining multiple goals—sequential and concurrent—operate, and specifies conditions under which each strategy is likely to be enacted. In this section, these principles will be summarized, and then will be applied to a number of behavioral domains.

Increasing the number of goals to be pursued by the actor places demands on a limited pool of available resources. Because multiple goals almost always exist, the individual must determine a strategy for efficiently navigating such a demanding environment. Sequential goal pursuit involves aligning one's goals in a series and moving through them one at a time. This strategy is initiated and maintained through the goal shielding mechanism, which has been shown to increase the likelihood that the focal goal is attained. One downside to this strategy is that pursuing one goal at a time is more time-consuming than pursuing all of them all at once. The alternative strategy is to pursue multiple goals concomitantly, referred to as concurrent goal pursuit. This can be accomplished by adopting a multifinal means that serves more than one goal at the same time. The advantage of this approach is that the person is able to attain multiple goals in a single moment, thereby saving time. However, a downside is that the set of potential means of goal attainment becomes more limited, and multifinal means are perceived to be less instrumental to each of the goals.

The adoption of a sequential versus a concurrent goal pursuit strategy depends on the prioritization of the goals, the structure of the goals and their means of attainment, along with the self-regulatory orientations of the individual. In short, high prioritization, a lack of multifinal options, and a concern for immediate and steady progress increase the preference for sequential goal pursuit. In contrast, low prioritization, presence of multifinal options, and a concern for making the best possible choice increase the preference for concurrent goal pursuit.

The current framework on sequential versus concurrent goal pursuit is general in nature and can, therefore, be applied to explain a variety of behavioral domains of interest to social, cognitive, clinical, organizational, and health psychologists, including exercise, healthy eating, addiction, and moral behavior. By demonstrating the utility of the current framework to these diverse behavioral domains, we hope to elucidate the explanatory power of this approach. This sampling also suggests that the current approach could be fruitfully applied to a number of additional areas of inquiry.

Maintaining a Healthy Lifestyle: Diet and Exercise

The present perspective on goal pursuit strategies offers novel insights for research on healthy lifestyle maintenance, including dieting and exercise decisions. Previous theorizing has often pointed toward the importance of enacting self-control as an adaptive strategy of implementing a healthy diet and exercise intentions. If the person could only will themselves to make the healthy decision in the face of temptations such as tasty fattening food and leisurely sedentary activities, then the person would embark on a path toward healthiness. However, taking a person's multiple goals into account suggests a more nuanced view.

For example, recent research has depicted individuals' decision-making process as comprising a conflict between two goals: weight control versus food enjoyment. Because these goals are often incompatible, it was argued that one or the other goal would likely be shielded, such as when the goal to control one's weight decreases in activation once the goal to enjoy food is adopted.

Based on the notion that a sequential goal pursuit strategy will be enacted when the relative prioritization of the goals is clear, we would expect that increasing the strength of one goal should lead to the inhibition of the alternative goal.

Indeed, research has found that priming the goal of food enjoyment decreases individuals' accessibility of the goal toward weight control (Stroebe et al., 2008). The study's authors concluded that although multiple factors may affect individuals' difficulty with controlling their weight, this difficulty can partially be attributed to their tendency to silence potential weight concerns at the moment of decision making, thereby affording individuals the opportunity to fulfill their desire toward food enjoyment. Here, the goal shielding mechanism is initiated by the individual while pursuing the unhealthy option, demonstrating that whatever goal is most powerful in the moment has the potential to lead to the inhibition of alternatives. However, the reverse should also hold true, such that making the goal of weight control accessible will temporarily reduce individuals' desire toward food enjoyment. The strongest, and dangerous, case in which this would occur is when individuals' motivation to reduce their weight overpowers the desire to eat to such a degree that they fall below healthy weight limits, such as the case with individuals suffering from anorexia nervosa.

Given that sequential goal pursuit can be used to maintain the activation of healthy options and inhibit conflicting goals, we would also assume that progress on one goal would lead to goal shifting such that the conflicting goal would then be freed to be pursued. For example, when one health-related goal is completed, it will then be deactivated and allow the person to pursue alternative, even incompatible goals. Indeed, previous research has found that participants led to believe that they had made significant progress on their weight management goal were more likely to choose an unhealthy food to eat than participants who were made to feel like they had not made as much progress on their weight management goal (Fishbach & Dhar, 2005). Moreover, sequential goal pursuit affords people the option of planning to move toward a goal later. By planning to do it later, the person is free to shield the goal in the moment in favor of alternatives. In the realm of health behaviors, this may mean that planning to go to the gym in the evening allows the person to shield health concerns in the moment, thereby increasing the consumption of unhealthy foods in the present. Indeed, participants in one experiment did exactly that (Fishbach & Dhar, 2005). Whereas planning to engage in goal-directed behaviors later or to change one's lifestyle may thus appear to be beneficial toward making goal progress, it may also lead individuals to temporarily shield the goal of doing so, paradoxically allowing them to indulge in activities that conflict with their desired lifestyle.

Another strategy for pursuing health-related goals would be to pursue them concurrently. For example, when individuals are both hungry and have a healthy goal active, they find foods that satisfy both these goals as more desirable than foods that serve only one of the goals (Köpetz et al., 2011). Therefore, we can ask when individuals will choose to pursue health goals concurrently with alternatives (such as taste) or when they will choose to pursue them sequentially. When multifinal options are available in the environment, individuals are more likely to adopt them. However, foods that are both tasty and healthy are fewer in number (Köpetz et al., 2011).

Attaching the health-related activities, such as exercise, to more than a single goal has been found to have the additional downside of decreasing the perceived instrumentality of that activity to the health goal (Zhang et al., 2007). As with research on other behavioral domains, individuals high on the locomotion orientation have been found to prefer aerobic exercise when it is attached to a single goal rather than when it is attached to multiple goals, whereas the reverse pattern was found for individuals high on the assessment orientation (Orehek et al., 2012). Together, these findings suggest that whether or not individuals are likely to engage in a particular activity in order to fulfill their health-related goals depends on the same factors that influence other means–goal relations.

The present goal pursuit perspective thus offers new insights into factors that can affect individuals' choices for maintaining a particular lifestyle including their dieting and exercising decisions. Included in this section were a number of pitfalls and challenges for individuals who adopt either a sequential or a concurrent strategy for maintaining a healthy lifestyle. The challenges of eating healthy and exercising should come as no surprise, but the current framework outlines specific mechanisms for certain types of failures derived from the cognitive configuration of goal elements.

Addiction

Addiction may also be fruitfully explored using the present model of general goal pursuit strategies. Drug and alcohol abuse have been associated with a number of negative health outcomes including deteriorated psychological functioning (e.g., Craig, 1988), severe health problems (e.g., Shannon et al., 2008), and even death (e.g., Vaillant, 1996). Given the serious psychological and physiological issues associated with substance abuse, much work has been directed toward identifying factors that may contribute to the initiation and maintenance of addictive behaviors. Recently, scholars have called for an integration of empirical and theoretical contributions on goal pursuit and addiction (Köpetz, Lejuez, Wiers, & Kruglanski, 2013), but did not discuss the potential utility of considering sequential and concurrent goal pursuit strategies as they relate to addiction.

As outlined above, individuals are more likely to pursue their goals in a sequential manner as one of their goals increases in priority relative to the other (Chun & Kruglanski, 2005). In the domain of addiction, this thus implies that individuals may be particularly inclined to pursue their addiction goal sequentially because satisfying this goal is likely to increase in importance as the craving becomes more intense. In other words, the pressing craving for a substance suggests a clear course of action to the addicted individual in which using the substance is prioritized over pursuing alternative goals.

Research on addiction yields results consistent with this implication by showing that addicted individuals are focused on cues relevant for satisfying their addiction more so than they are focused on cues irrelevant to their addiction (Johnsen et al., 1994) and often have difficulty disengaging their attention from them (Franken, Kroon, & Hendriks, 2000). Relevant to the present discussion, recent research has found that heavy smokers who had been deprived of nicotine for four hours displayed positive implicit attitudes toward cigarettes and participants who had just smoked a cigarette displayed negative implicit attitudes about smoking

(Sherman et al., 2003; Rydell, Sherman, Boucher, & Macy, 2012). Moreover, smokers in another study who were randomly assigned to either smoke or not smoke a cigarette prior to taking part in the experiment and were offered the chance to buy real raffle tickets in order to win cash paid less money for the raffle tickets when they had not smoked, and were therefore still craving, than participants who had just smoked.

Apparently, craving smokers were less willing to invest in an alternative goal than when the smoking goal had been satiated (Brendl et al., 2003). Taken together, these results suggest that the principles of goal priority and goal shifting apply to addiction, just as they applied to goal pursuit more generally.

A final factor by which the present theory on goal pursuit suggests that addiction is maintained due to some of the unintended consequences of planning during sequential goal pursuit. Planning to pursue a goal in the future, such as planning to quit or to go to work, has the potential to lead to its deactivation and, thus, indulgence in incompatible activities in the present (Fishbach & Dhar, 2005). Indeed, addicted individuals have been found to rationalize their addiction-related behavior by intending to pursue their alternative goals (i.e., quitting or going to work) once they have consumed the substance of their addiction (e.g., Ward & Rothaus, 1991). The paradoxical implication of this is that planning to lessen, or recover from, substance use in the future can inhibit the goal of doing so, thereby permitting individuals to temporarily indulge in substance use. Moreover, assuming that one can go to work, care for one's children, or clean the house following substance use can become difficult or dangerous when the substance has pharmacological effects that undermine such efforts. Therefore, planning to quit later, or to tackle other goals later, can lead to an inhibition of those planned objectives and lead to substance use in the present that in some cases can impair the individual from shifting back to life's duties.

Because addiction requires shielding many goals, such as legal concerns, responsible spending, and the pursuit of activities that compete for time, we would expect that it generally requires significant goal shielding in order to continue. In order to accommodate the addiction into life, individuals are likely to select interpersonal relationships, environments, and ways of making money that can accommodate the addiction. In the case of particularly debilitating addictions, such as crack cocaine use, prostitution can become a means of making money because it is one occupation that is multifinal with respect to the concurrent addiction and finance goals (Köpetz et al., 2013). In other means, prostitution can become a means of obtaining money and drugs, whereas getting money through other occupations would require abstaining from regular drug use.

The present perspective highlights the importance of increasing the priority of alternative goals, such as family, friends, careers, health, and so on as well as reducing the priority of the addictive behavior for the treatment of the addiction. Simply working to reduce the pull of the addiction may not be enough to balance the priority of the addiction with alternative goals and ultimately for the alternative goals need to become prioritized enough so that when multifinal means are not available to satisfy both the addiction and the other goals, the person chooses in favor of shielding the addictive goal.

Moral Behavior

Can the present framework shed some light on the decision to act in ways that are perceived to me moral? Recent work in the area of moral licensing and moral credentials has shown that individuals strategically use both their past and foregone behavior in order to justify engaging in counterattitudinal or immoral acts (e.g., Merrit, Effron, & Monin, 2010; Merrit et al., 2012). Because individuals are highly motivated to preserve their positive identities, but often find themselves in situations that challenge their ability to do so, it was reasoned that they may refer to good deeds they enacted or bad deeds they chose to forego as a way of justifying immoral acts in the present. As such, they become licensed, or allowed, to undertake dubious behavior without having to question the positivity of the self.

Indeed, evidence has been provided that individuals engage in a variety of counterattitudinal or immoral acts after recalling enacted good behavior (Effron & Monin, 2010) and forfeited bad behavior as well as by exaggerating the possibilities that were present to enact bad behavior (Effron, Miller, & Monin, 2012). Doing so allows them to establish so called credentials that allow for subsequent questionable behavior in both the same domain as the credentials were acquired in as well as in unrelated domains (Effron & Monin, 2012). Together, these results were interpreted as evidence that a potential or actual history of good behavior as well as the absence of bad behavior can make the enactment of questionable and inconsistent behavior to appear legitimate to the actor.

Although the explanation for inconsistent behavior offered above is reasonable and appealing, the present perspective on sequential versus concurrent goal pursuit implies a different explanation whereby this behavior is performed not solely because of individuals' established credentials, but because of the activation of one's goals. Specifically, the presented framework on goal pursuit suggests that as individuals feel that they have made sufficient progress toward achieving one goal, this goal is deactivated and attention is redirected toward pursuing alternative goals (e.g., Fishbach & Dhar, 2005; Fitzsimons et al., 2009; Fitzsimons & Shah, 2008; Orehek et al., 2011).

What counts as sufficient progress is not necessarily determined by tangible movement toward one's goal. Instead, feelings of progress can also be fostered by merely thinking about the goal, such as when an individual thinks about all the work they have done on its behalf (Fishbach & Dhar, 2005; Fitzsimons & Shah, 2008). Applied to the present discussion of moral licensing, this suggests that thinking about one's actual or potential past behavior may temporarily silence the goal, thereby allowing individuals to engage in behavior that is inconsistent with it. In this sense, for example, satisfying the goal of establishing an unprejudiced identity by thinking about one's past behavior will then contribute to individuals' comfort in enacting prejudiced behavior (Effron et al., 2012) because it connotes attainment of the objective, thereby leading to the decrease in activation of the goal. Evidence for the goal-deactivation mechanism can be gleaned from work in which individuals with egalitarian values were given the opportunity to demonstrate their egalitarianism by writing about times in which they had been successful at being egalitarian. Once they had done so, the activation of the egalitarian goal had decreased (Moskowitz & Li, 2011).

Because sequential goal pursuit allows the individual to shield alternative considerations, either because one goal is more important than another, or because previous action has led to a perception of goal progress (and, therefore, deactivation of the alternative consideration), it has greater potential to lead to morally questionable behavior than does concurrent goal pursuit. Concurrent goal pursuit requires the satisfying of multiple goals, which necessarily constrains behavior in ways that limit some of the most extreme options (Bélanger, Lafreniere, Vallarand, & Kruglanski, 2012; Köpetz et al., 2011).

For example, an individual who would like to increase his or her income may be constrained by additional goals such as not wanting to break the law or go to jail, not wanting to be dishonest, and/or not wanting to use violence as a means of attaining money. These additional constraints rule out the possibilities of selling narcotics, robbing banks, and setting up a Ponzi scheme. However, if acquiring money was the person's sole (or clearly most important) objective, and alternative goals could be inhibited, then options such as these may be seriously considered. Recently, terrorism has been explained according a similar analysis in which violent acts and self-sacrifice are extreme means of reaching political objectives precisely because they are unable to be enacted when goals are pursued concurrently (Kruglanski et al., in press). Consistent with the notion that more committed individuals would be able to inhibit alternative goals, recent research has found that individuals characterized by obsessive passion engage in more goal shielding (Bélanger et al., 2013).

Directions for Future Research

Acting on Goal Pursuit Strategies

It is surprisingly uncommon for social psychologists, even those who study motivation and goal pursuit, to study actual behavior (Baumeister, Vohs, & Funder, 2007). One of the limitations of the research on multiple goal pursuit so far is that the research has stopped at the point in which the strategy is evaluated positively, the appropriate means is activated, or a decision to act is made. Therefore, little is known about the consequences for adopting each strategy on the way in which people move toward their goals. For example, would a person be more likely to abandon one strategy or the other in the face of obstacles or negative feedback? Although research has not yet tackled this question, an informed hypothesis can be formulated. Because concurrent goal pursuit creates a situation in which more is at stake, it may be expected that the person will be more likely to persist when the going gets tough.

Another question may be whether the two strategies differ in the *way* in which individuals deal with obstacles and negative feedback. Because concurrent (vs. sequential) goal pursuit constrains the means that are available, if the path to one means is blocked, the person has fewer alternative means to substitute for the initial means. Therefore, in addition to maintaining one's overall persistence, it can be expected that the person will be more likely to stick with the initial means rather than switch to an alternative means when concurrent rather than sequential goal pursuit has commenced.

However, yet another possibility exists when multifinal means are blocked. Rather than switching to an alternative multifinal means to the same goals, the person may break up the multiple goals into their individual pursuits, and switch to a strategy of sequential goal pursuit, electing to pursue each of the goals in a series or reducing the multifinality constraints by attempting to pursue fewer goals at once. Therefore, it can be expected that once concurrent goal pursuit is adopted and obstacles are faced, the person will sometimes switch to a less multifinal means and satisfy the goals serially. Future research could investigate whether the restriction of alternative multifinal options increases the likelihood of such a strategy switch and whether the person follows through on the entire series of goals once such a switch occurs. For example, a person who possesses three goals with a single multifinal option that is initially available but then becomes thwarted would be likely to pursue a unifinal means that serves one of those goals if it is readily available. After successfully completing that unifinal means, the two other goals should increase in their levels of activation, and if means to their attainment are available, they should be pursued. Future research could profitably explore these multiple possibilities.

Outcomes of Goal Pursuit: Success Versus Failure

So far, the dominant consideration in the present article centers on how, when, and why sequential versus concurrent goal pursuit will be adopted. Yet, once the person embarks on either strategy, he or she must get busy with the act of seeing the plan to the end. Along the way the person is likely to encounter feedback regarding the success or failure of that mission. Whether one adopts a sequential or concurrent strategy is likely to have important implications for the magnitude of the impact the feedback will have on the individual. Because concurrent goal pursuit entails the activation of more goals, and the pursuit of those goals either succeeds or fails in unison, the resulting positive or negative impact should be greater. Succeeding in attaining multiple goals at once should garner more overall value and lead to greater positive affective experiences. However, failing in the pursuit of multiple goals at once should produce especially strong negative affective experiences. Therefore, future research could test the hypothesis that success and failure affect the individual to a greater degree when a concurrent strategy, rather than when a sequential strategy, has been employed.

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