

The Goal Fungibility Model: A Theoretical Account of Goal Persistence and  
Substitution After Failure

by

Jeffrey Hughes

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## Abstract

After failure at a goal, people have a variety of options for what to do next, including persistence at the goal or substituting it for a different goal. This thesis introduces a model of goal fungibility, which addresses individual differences in people's general tendencies to persist or substitute after goal failure. It hypothesizes that promotion-focused individuals, who construe goals as ideals, should be more willing to substitute goals after failure, whereas prevention-focused individuals, who construe goals as duties, should instead be more likely to persist at the same goal. After describing the model, several possible moderators are examined, and implications for other areas of research are explored.

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## **Introduction**

Human beings, at any given time, have a variety of different goals they are pursuing. During the course of these goal pursuits, it is inevitable that they will sometimes face challenges, obstacles, and failure. When these occur, however, individuals have at least three potentially-adaptive responses at their disposal. They may choose to persist on the goal, working to overcome the obstacles; they may persist on the same goal but try a new means or strategy for doing so; or they may focus their attention on a new goal that might provide them with success, substituting one goal for another. Which option individuals choose is almost certainly the result of numerous factors; however, when and why individuals choose a particular option has implications for how they allocate resources (e.g., Schmidt & DeShon, 2007), for their subsequent experiences of success (and thus judgments of self-efficacy; Bandura, 1977), and for the goals they set and pursue in the future (e.g., Venables & Fairclough, 2009). As such, it is important to understand the antecedent factors leading to choices between goal persistence and substitution, especially after failure or obstacles.

Given that goals must be pursued with a particular means or method of carrying it out, the decision between persistence and substitution may generally be thought of in terms of substituting means or substituting goals. As an example, imagine someone who wishes to learn to play the guitar. He might first try teaching himself how to play using guitar books and online tutorials. However, if these measures prove unsuccessful, he may decide to persist on the goal by substituting his current means (self-teaching) with another means of carrying it out that has a higher likelihood of success. For instance, he may seek out a professional guitar teacher from which to take lessons. Alternately, he may instead decide to substitute goals by exchanging pursuit of one goal for pursuit of another altogether. In this case, he might decide that he is better

off investing his free time toward the book he has been writing. Neither strategy is likely to be preferable in all cases for all people, so neither one can be considered generally “right” or “wrong.” Both persistence and substitution are potentially adaptive strategies that can be used at various times. However, it is possible that individual differences as well as the characteristics of the goal itself may lead individuals to favour one strategy over another. In other words, some goals may be more fungible, or substitutable, than others.

This thesis will lay out a theoretical model for understanding the nature of goal fungibility, with a particular focus on what happens after failure or setbacks. This model will be placed in a hierarchical framework in order to demonstrate how responses to failure may play out at different levels of a goal hierarchy, depending on an individual’s motivations. The remainder of this introduction will discuss some of the groundwork from previous research that informs this model. Following this, I will then explicate the goal fungibility model in full detail, and explore some other variables that may moderate the effects predicted by the model. Finally, I will explore several implications of goal fungibility for other areas of research, both within and outside the motivation literature.

## **Progress and Commitment**

Many theoretical traditions have sought to explain how people respond to success or failure at a goal. These traditions have conceptualized the notions of success and failure in numerous ways—as high or low progress (Fishbach & Dhar, 2005; Koo & Fishbach, 2008); as a small or large discrepancy from a standard (Carver & Scheier, 1982), or as gains/non-losses versus non-gains/losses (Higgins, 1997). Each of these different conceptualizations will be explored in more detail below. Across these different perspectives, however, similar questions

have been reviewed, which help to address the complexity of the decisions people make after success or failure.

One of the dominant perspectives in the self-regulation literature involves cybernetic models of goal regulation (Carver & Scheier, 1982; Powers, 1973). Drawing from models in mechanical engineering and computing, cybernetic models explain how present behaviour is regulated by feedback from past behaviour and from the environment (Powers, 1973). These basic principles underlie control theory, a cybernetic model that has been applied specifically to human (and non-human animal) behaviour.

Control theory (Carver & Scheier, 1982) conceptualizes self-regulation as a system of discrepancy-reducing feedback loops, such that the system works to decrease discrepancies between ideal states (goals) and actual environmental states. Carver (2003) posited that progress toward a goal—toward reducing a discrepancy—should result in positive affect, which then signals to the system that it can “coast” and pursue other (perhaps even contradictory) goals. Further theorizing suggested that affect should more specifically be influenced by the velocity, or *rate of progress* toward the goal (Carver & Scheier, 1990; see also Hsee & Abelson, 1991; Lawrence, Carver, & Scheier, 2002). For instance, Lawrence et al. (2002) gave participants the task of guessing the meaning of foreign words and providing false feedback that either indicated decreasing performance (negative velocity), increasing performance (positive velocity), or stable performance over time. In the negative velocity condition, participants reported significant decreases in mood from baseline, whereas in the positive velocity condition, mood increased from baseline (though it was not quite significantly different from zero).

Thus, theory and empirical work from a control theory perspective would suggest that greater progress toward a goal should lead to less goal-consistent behaviour, or goal-switching

(Carver & Scheier, 1982; Carver, 2003; Lawrence et al., 2002). In contrast, insufficient progress should increase persistence at that goal, in hopes of decreasing the discrepancy and thus reducing negative affect.

However, research by Fishbach and colleagues suggests that the story may be more complex than control theory would propose. How an individual construes progress or lack of progress may affect whether he or she disengages from a goal or persists (Koo & Fishbach, 2008). For instance, if lack of progress is taken as an indication of lack of commitment to the goal, it may lead to disengagement. However, if a person's commitment is not in question, lack of progress would instead indicate a large discrepancy that must be reduced, which should lead to increased persistence. Similarly, progress may lead to increased or decreased goal pursuit depending on how that progress is construed. Confirming these predictions, Fishbach and colleagues found that goal progress liberated people to pursue inconsistent goals (Fishbach & Dhar, 2005), but that when focusing on goal commitment (Fishbach, Eyal, & Finkelstein, 2010; Zhang, Fishbach, & Dhar, 2007) or on commitment to superordinate goals (Fishbach, Dhar, & Zhang, 2006), participants instead increased goal pursuit after previous progress. In addition, when goal commitment was uncertain, progress increased motivation by signalling commitment; when goal commitment was certain, progress instead decreased motivation for that goal (Koo & Fishbach, 2008).

Along similar lines, several studies examining the allocation of resources, such as time and effort, to a particular goal have found that the same goal discrepancy (i.e., amount of progress made) may lead to different behaviours depending on how that discrepancy is experienced. Important moderating variables include positive affect (Louro, Pieters, & Zeelenberg, 2007; Orehek, Bessarabova, Chen, & Kruglanski, 2011), goal valence or value

(Kernan & Lord, 1990), and proximity to goal completion (Louro et al., 2007). Regarding this last study, it should be noted that although Louro and colleagues conceptualized goal proximity in terms of closeness to reaching the goal (i.e., the distance from the current state to the end state), some of their studies operationalized this in terms of past progress made up to that point—the distance from the starting point to the current state. They found that positive affect moderated the relationship between goal progress and allocation of resources toward that goal, such that positive emotions increased allocation when the goal was distant (i.e., low progress) but decreased allocation when the goal was close (i.e., high progress).

The results of the research outlined above show that decisions made regarding which goals to pursue after success (progress) or failure (lack of progress) are dependent on numerous factors, the primary one being how goal progress is construed in conjunction with one's level of commitment to the goal.

### **Resource Allocation in a Multi-Goal Context**

Another factor that influences how people respond to success or failure is the nature and salience of other goals in the situational context. Research by Schmidt and colleagues has examined how people allocate resources in a multi-goal context; drawing from control theory principles, they describe and explain how the allocation of resources shifts over time as a result of changes in goal discrepancies. Schmidt and DeShon (2007) found that in a multiple-goal context (i.e., two tasks to complete), resources were typically allocated to the goal with the greatest discrepancy, with participants alternating between tasks as progress was made on each; however, as the deadline for completing the tasks got closer, this pattern reversed, such that participants instead allocated resources to the goal *closest* to completion. Follow-up research (Schmidt, Dolis, & Tolli, 2009; Schmidt & Dolis, 2009) posited that dual-goal expectancies

played a role in explaining this pattern, such that early on the expectancy of being able to complete both goals was high, but as time progressed, this expectancy diminished. What this suggests is that as a deadline approaches, individuals may decide to “cut their losses” with regard to the most discrepant goal. By abandoning the goal with the least progress, they can concentrate their efforts on the goal closest to completion, in anticipation of achieving success on at least one of the two goals.

In general, the conclusion to be drawn from this research is that in a multiple-goal context, changes in goal progress, success, or failure can lead to increased or decreased time, effort, and other resources spent on a particular goal. In addition, this decision rests not only on the progress being made on the focal goal, but also on the status of other salient goals.

### **Salience of the Self-Concept**

A final factor that has been shown to affect individuals’ responses to success or failure is the salience of the self-concept. Some research has shown that getting feedback on a task, whether positive or negative, generally increases persistence compared to getting no feedback (Fishbach et al., 2010). However, other researchers have theorized that feedback about a task may *reduce* goal persistence if it is directed at the level of the self-concept (Kluger & DeNisi, 1996). In other words, feedback, whether positive or negative, that draws attention to self-related goals (e.g., self-esteem maintenance, impression management) may result in a person drawing resources away from the task at hand and redirecting them toward reducing self-related discrepancies unrelated to the task. Vancouver and Tischner (2004) attempted to test this by giving participants positive or negative normative (i.e., self-relevant) feedback on a task, then giving some participants an opportunity to self-affirm, and others no opportunity to do so. They then measured participants’ performance on the same task a second time. What they found was

that participants given negative feedback with no chance to self-affirm performed more poorly on the task (controlling for pre-feedback performance) compared to those who *did* self-affirm after being given negative feedback, and compared to those given positive feedback.

The researchers' explanation for these results was that the negative feedback pulled attention to the level of the self-concept, which then drew resources away from the task at hand. However, an alternate (though complementary) explanation is that the negative feedback indicated to participants that the task they were doing had failed to fulfill goals related to the self (e.g., achievement); those who didn't self-affirm afterward then allocated more resources to other goals that could bolster the self, thus substituting one goal for another.

In addition, DeNisi and Kluger (2000) further theorized that the effects of positive or negative feedback at the self-level may also depend on the type of self-discrepancy (ideal or ought) that is active at the time (see Higgins, 1987). The ideal self involves what one aspires to be, whereas the ought self involves what one believes one is expected to be. When the ought self is active, negative feedback may serve to increase persistence on the task at hand by drawing attention to potential failure to achieve expectations; positive feedback, however, should reduce persistence by suggesting that one's duties have been fulfilled. On the other hand, when the ideal self is active, positive feedback should increase persistence by identifying an opportunity to achieve aspirations; however, negative feedback may decrease persistence by increasing the perception that the gap between the ideal self and the actual self is simply too great. In this latter case, DeNisi and Kluger suggested the person may be more likely to give up. In summary, then, the valence of feedback received for a goal may have very different effects on persistence depending on individual differences regarding the self-concept.

In summary, the research regarding goal persistence and commitment, resource allocation among multiple goals, and goals related to the self-concept reveals a rich complexity in the decisions people make regarding goal pursuit. After success at a goal, an individual may choose to persist at the goal to achieve further success or to allocate resources to other goals that need fulfillment. After failure, he or she may choose to persist on the goal to try and achieve success or choose to set aside or abandon that goal in favour of another goal. Which choice is made depends on several factors, including the type of feedback received (self-relevant or not); the amount of progress (high or low); the level of commitment to the goal; the self-concepts active in an individuals' mind (ideal or ought); and the discrepancies associated with other salient goals. Thus, the nature of the self-concept, properties of the focal goal, and the presence of other goals must all be considered to determine what decision a person will make regarding whether to persist on a goal or substitute it for another goal.

## **The Goal Fungibility Model**

The literature reviewed up until now has laid out some general principles regarding how decisions are made regarding goal pursuit, and in particular some of the situational and contextual factors that influence these decisions. However, people differ in the ways in which they perceive and interpret situational factors; for instance, individual differences can influence how their self-concept is activated in a particular situation, which in turn influences how they perceive the nature of the goals they are pursuing and the feedback they get about the progress on those goals. As such, it is important to identify particular individual differences that may interact with the situation to influence goal choice and goal pursuit. The goal fungibility model to be described below identifies one of these individual differences: regulatory focus (Higgins, 1997; Scholer & Higgins, 2011). This construct has important implications for the way in which individuals' self-concepts, their goals, and progress on those goals are construed. In this way, regulatory focus serves to integrate previous research on these constructs. Thus, to begin constructing the goal fungibility model, it is important first to outline what regulatory focus is and how it operates.

### **Regulatory Focus Theory**

Regulatory focus theory is closely related to self-discrepancy theory (Higgins, 1987), mentioned above, but goes further to develop the interplay between the self-concept, core needs, goal orientations, and situational contexts. Regulatory focus theory posits the existence of two complementary self-regulatory systems: promotion and prevention (Higgins, 1997). The promotion system is related to the ideal self; it is concerned with the needs for growth and nurturance, and is thus oriented toward gains (and away from non-gains). In the promotion system, goals are conceptualized as ideals or aspirations to strive toward. The prevention system,

on the other hand, is associated with the ought self; it is concerned with the needs for safety and security, and is thus oriented toward non-losses (and away from losses). In the prevention system, goals are conceptualized as duties or obligations to fulfill. Both of these systems are present in everyone, and both are necessary in order to survive and thrive in the world. However, in some individuals one system may be more chronically active over the other (individual differences), and some situations may make one system more temporarily accessible over the other (situational factors; Scholer & Higgins, 2011). As such, promotion and prevention focus have been studied as both the result of individual differences, resulting from chronic accessibility of one system over another (e.g., Higgins et al., 2001; Higgins, Shah, & Friedman, 1997), and as the result of situational factors, temporarily elicited by the context (e.g., Higgins, Roney, Crowe, & Hymes, 1994; Shah & Higgins, 1997).

One important note to be made here is that promotion focus and prevention focus are conceptually distinct from approach and avoidance motivation, because both systems involve approaching desired end-states (gains and non-losses, respectively) and both involve avoiding undesired end-states (non-gains and losses, respectively; Scholer & Higgins, 2011). One implication of this is that the same goal can be represented in different ways by promotion- or prevention-focused individuals. For example, a promotion-focused individual may sign a petition for improved access to education because he or she believes it will fulfill a strongly-held ideal for society, whereas a prevention-focused individual may sign the same petition because he or she believes it will fulfill a strongly-held duty to society.

As stated above, the desired state for promotion focus is a gain state, whereas for prevention focus it is a non-loss or “neutral” state. If a loss is represented as “-1,” neutral as “0,” and a gain as “+1,” the goals of the two systems can be represented on a conceptual number line

shown in panel A of Figure 1. The promotion system is attempting to move away from “0” toward a “+1” gain, whereas the prevention system is attempting to move away from “-1” losses toward the “0” state (Scholer & Higgins, 2012). Such a conceptualization accords with research by March and Shapira (1992), who identified two reference points that they termed the “survival reference point” (-1) and the “aspiration reference point” (+1). They theorized that individuals shift their attention between these two reference points. To extend their theorizing, regulatory focus serves as a predictor of which point is most salient to a particular individual at a given time, depending on which regulatory system is most active at that time. At the goal level, ideals are a way of maximizing gains to reach the aspiration reference point, whereas duties are a way of minimizing losses to keep oneself above the survival reference point.

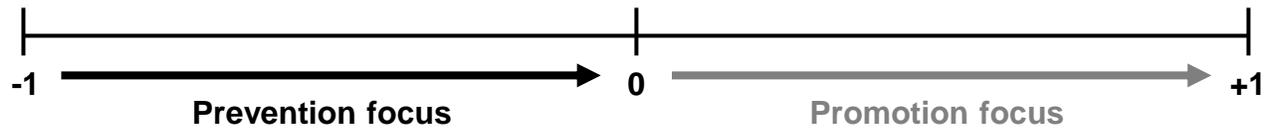
In addition to these two reference points, the neutral reference point (0) holds a special place in terms of how goals and outcomes are perceived. In particular, it categorizes outcomes into “gains” and “losses” that lead to positive or negative emotions (Heath, Larrick, & Wu, 1999). However, when regulatory focus is involved, what is interesting to note is that the nature of the neutral reference point creates an asymmetry between the two systems (represented in panel B of Figure 1). For the promotion system, the neutral point is an aversive state that signifies the absence of any gain. This is a *single defined state* that symbolizes non-gains on all goals, and thus (at least in terms of avoiding that neutral state) any gain will do. Each goal is an aspiration that offers the opportunity for gains. Certainly some aspirations might offer greater gains than others, but all else being equal, one gain is all that is needed to avoid that neutral state. For the prevention system, though, the neutral point is a desirable state that signifies the absence of any loss. However, this is again a single defined state that symbolizes non-losses on all goals. Thus, in order to reach that state, prevention-focused individuals must fulfill *all* of their duties.

To fail to do so is to remain in a state of loss, which makes each and every duty a necessity. To phrase the asymmetry differently: For the promotion system, there is one way to fail and many ways to succeed; for the prevention system, there is one way to succeed and many ways to fail.<sup>1</sup>

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<sup>1</sup> This point is, of course, somewhat overstated, as individuals have both promotion and prevention systems, and thus likely hold a mixture of ideals and duties. Nevertheless, individuals for whom one system is predominant should display this asymmetry, and the asymmetry should increase the more a particular system predominates over the other.

Panel A:



Panel B:

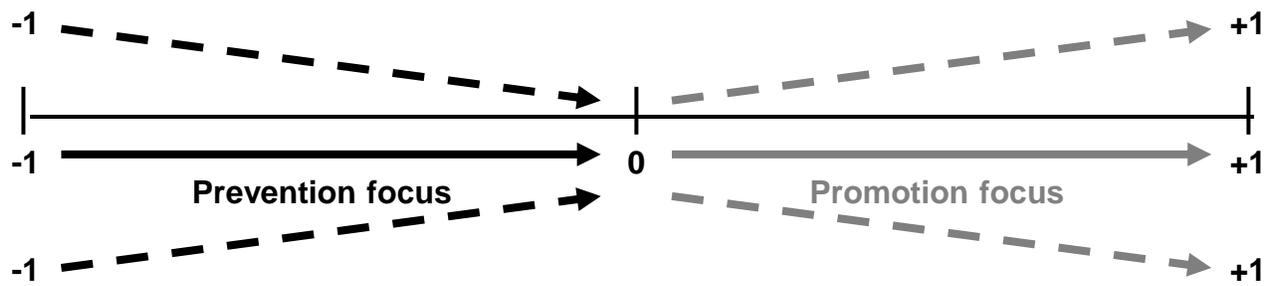


Figure 1. Conceptual diagram representing the goal states of promotion focus and prevention focus. Solid arrows represent current goals, and dashed arrows represent other possible goals that can be pursued.

## **Fungibility of Ideals and Duties**

This asymmetry between the promotion and prevention systems leads to the first fundamental claim of the goal fungibility model: ideals are more fungible than duties. All else being equal, a promotion-focused individual may have multiple options for making gains, any of which might offer roughly the same utility as the others. In other words, these ideal goals are aspirations that are substitutable for each other in terms of their capacity for producing overall positive emotions and feelings of gain. If pursuit of one ideal ends in failure (0), another may offer a similar chance of making gains (+1), and success at that goal will lead to the end result of +1. A prevention-focused individual, however, must as a necessity fulfill every one of his or her duties in order to reach the coveted neutral point. Succeeding (0) at one duty (e.g., picking up one's children from school) does not compensate for failure (-1) at another duty (e.g., failing to provide adequate nutrition for one's children); the end result is still -1. As such, he or she cannot simply give up on a particular duty and substitute it for another one—each one is necessary.

This asymmetry is indirectly supported by several lines of research. One line of evidence involves research into expectancy–value models of motivation (e.g., Edwards, 1954; Feather & Newton, 1982; Vroom, 1964). While traditional theories of goal pursuit and decision-making have suggested that individuals seek to maximize the product of expectancy and value in goal pursuit, Shah and Higgins (1997) found that regulatory focus moderated this relationship. Specifically, they found that only individuals in a promotion focus sought to maximize expectancy  $\times$  value in goal choice and goal pursuit. For individuals in a prevention focus, however, this multiplicative relationship did not hold. Instead, expectancy information became less relevant as the value of a goal increased. This suggests that the more a goal is perceived to be a necessity (i.e., high value) the less weight will be given to expectancy information. If a

person has a necessary duty to fulfill, it does not matter how likely it is that she will fulfill it—she must make the attempt anyway. Since goal success and failure are important sources of information about expectancy (Bailey, Helm, & Gladstone, 1975; Shimkunas, 1970), prevention-focused people should be less likely to switch goals based on this information.

A second line of evidence for this asymmetry comes from the study by Schmidt and DeShon (2007) on multiple-goal resource allocation mentioned above. In addition to having participants work on two tasks simultaneously, an additional aspect of the study involved altering the incentives for each task. By changing whether a goal was framed in terms of a gain (receiving a gift certificate if successful) or loss (having a previously-received gift certificate taken away if unsuccessful), they found that participants tended to devote more resources to the loss-framed goal than to the gain-framed goal. While regulatory focus was not measured in this study, it speaks to the importance that is placed on loss-framed goals, which is a preference influenced by regulatory focus (Higgins, 1997).

A third line of evidence involves research on goal shielding. Shah, Friedman, and Kruglanski (2002) have demonstrated that when one is pursuing a goal, alternative goals that may compete for attentional resources are often inhibited (see also Gollwitzer, 1990). Shah and colleagues asked participants to identify personal goals, and then used these goals in a lexical decision task. By subliminally priming one goal and then asking participants to identify another goal as a word target, they found that when one goal was primed, participants were slower to identify alternative goals, compared to when a non-goal word was primed. They also found that greater shielding of the goal to complete an anagram task led to higher performance (more anagrams found) and higher persistence (longer time spent on task). However, they also found several moderators of the goal shielding effect, including goal commitment and regulatory focus.

They observed that goals to which participants were more highly committed were more strongly shielded; in addition, duties were more strongly shielded than ideals. This second moderator thus might provide some insight into goal fungibility. If duties are more strongly shielded than ideals, this should make switching from one duty to another more difficult, as a result of the decreased cognitive accessibility of alternatives.

Finally, other research that speaks to this asymmetry between duties and ideals has examined how promotion- and prevention-focused individuals are differentially motivated to persist on a task after positive or negative feedback. This has been assessed by using measures of regulatory focus strength (Idson & Higgins, 1999; Shu & Lam, 2011), manipulating the type of task (promotion or prevention task; Van Dijk & Kluger, 2011), and manipulating the framing of a task (Förster, Grant, Idson, & Higgins, 2001; Van Dijk & Kluger, 2004). Across this variety of methods, this research has shown that promotion-focused individuals display increased effort, persistence, and performance after success feedback compared to failure feedback, whereas prevention-focused individuals display these characteristics more after failure feedback compared to success feedback. These results suggest that something about the way that a goal is conceptualized (in terms of gains and losses, or duties and ideals) leads to different motivational outcomes for promotion- and prevention-focused individuals after success or failure. However, they still fall short of offering a complete explanation of how and why such outcomes occur. I am suggesting that these outcomes can be explained more fully when the notion of fungibility is included.

### **Goals in a Hierarchical Framework**

In order to create this more complete explanation of how ideals may be more fungible than duties, it is useful to incorporate these goals into a broader framework of hierarchical goals.

Numerous goal theories have included a hierarchical structure in order to explain the connections between goals (e.g., Carver & Scheier, 1982; Elliot & Church, 1997; Kruglanski et al., 2002). However, goal systems theory (Kruglanski et al., 2002) in particular offers a fruitful hierarchical framework for the purposes of the goal fungibility model.

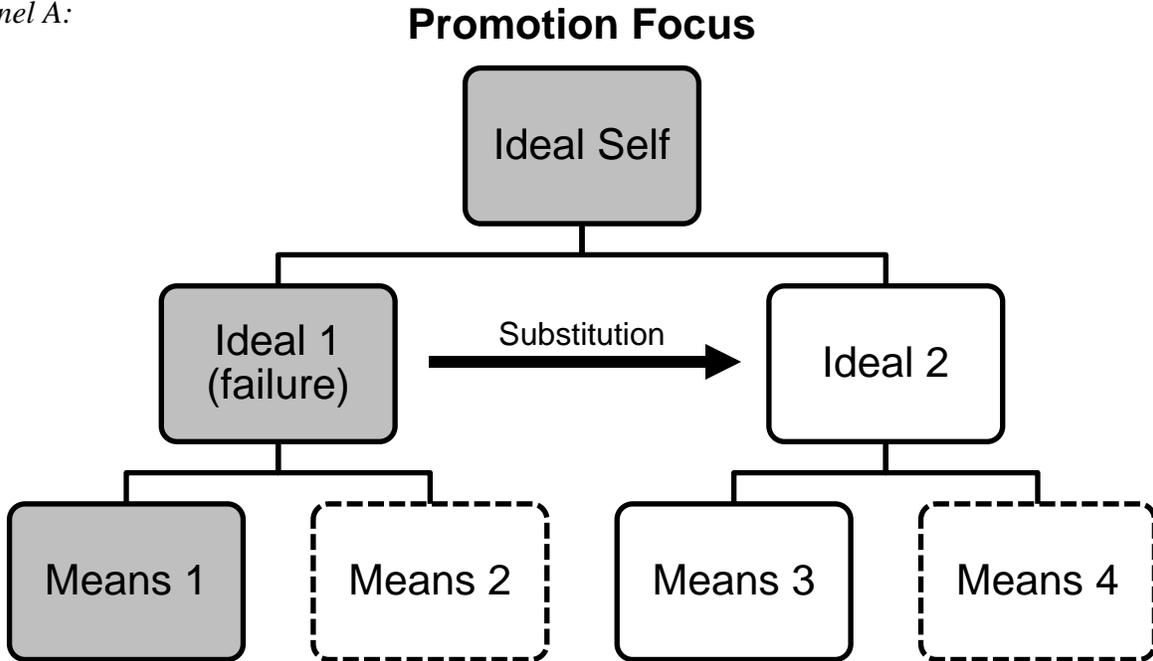
Goal systems theory makes a distinction between goals and means. Any particular goal has one or more means nested underneath it that serve that goal (Kruglanski, Pierro, & Sheveland, 2011). For example, to get to the grocery store (goal), one could drive a car, ride a bicycle, or walk—three means serving the same goal. In addition, a particular means may serve more than one goal (Köpetz, Faber, Fishbach, & Kruglanski, 2011). For example, walking to the grocery store (means) may serve the goal of getting groceries as well as the goal of exercising. Links between goals and means are typically facilitative, such that cognitively activating a goal also activates the means that serve it, and vice versa (Kruglanski et al., 2002; Shah & Kruglanski, 2003). There can also be inhibitory links between a goal and other goals, or between a means and other means (Shah et al., 2002). Finally, these links between goals and means can serve to transfer various motivational properties; for example, goals with high commitment may transfer this high commitment to the means underneath it (Fishbach, Shah, & Kruglanski, 2004; Kruglanski et al., 2002).

In light of a hierarchical goal model where goals can be linked to multiple means, it is relevant to ask what exactly “persistence” on a goal entails. On the one hand, it could involve using the same means to achieve the same goal; however, it could also involve substituting one means for another to achieve the same goal. Under which circumstances a particular means will be selected will depend on its relative activation, the strength of the link between the goal and the

means, the expectancy that the means will lead to attainment, and whether or not the means can fulfill other goals at the same time (Köpetz et al., 2011; Kruglanski et al., 2002).

With the principles above in mind, then, the full fungibility model can be conceptualized as in Figure 2. In the promotion system, ideals are generally substitutable for each other. Thus, after failure at a goal, a promotion-focused individual should be free to substitute the failed ideal with another ideal that may offer success instead. In the prevention system, however, duties are not substitutable for each other. For this reason, a prevention-focused individual does not benefit from substituting one duty for another. If no viable (or salient) alternate means exist for that duty, the individual should simply persist on that same goal using the same means. However, if alternate means exist that would achieve the same duty, prevention-focused individuals should have somewhat more flexibility in determining the best course of action. If another means offers similar or better prospect of fulfilling the duty, they should prefer to switch to that means. If the current means still offers the best chance of achieving success, however, they should prefer to persist on the same means.

Panel A:



Panel B:

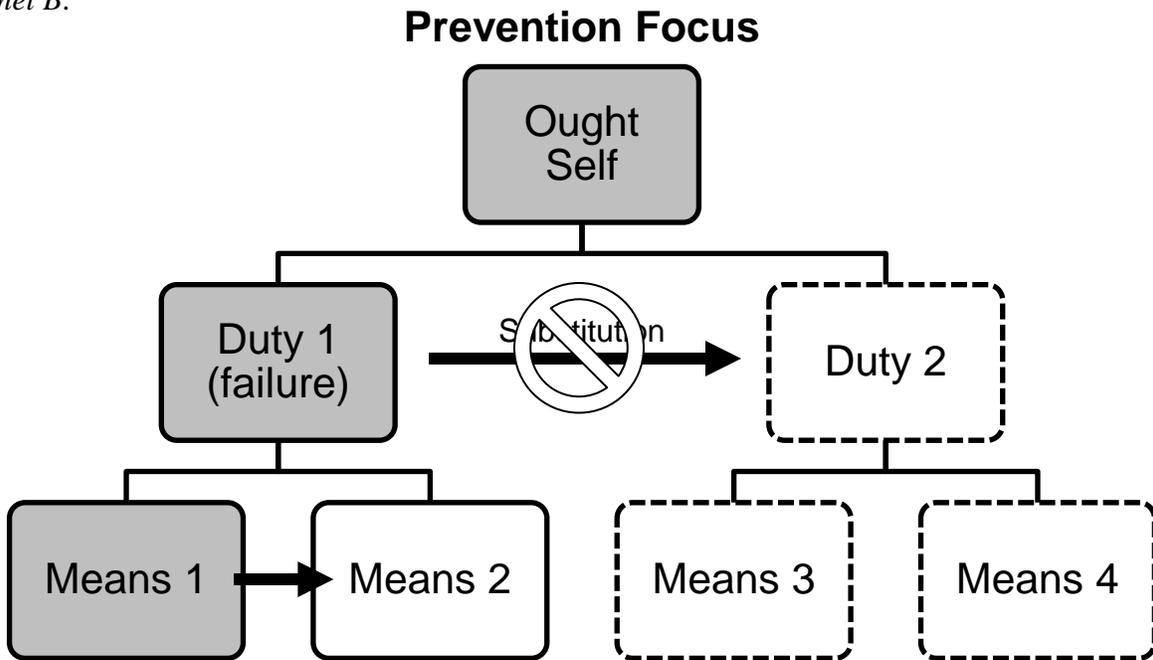


Figure 2. Goal fungibility model for promotion focus (panel A) and prevention focus (panel B), demonstrating what shifts in goal pursuit occur after failure. Arrows represent substitution of one goal or means for another.

## **Premises and Predictions of the Goal Fungibility Model**

Now that all of the components of the goal fungibility model have been presented, the separate premises and predictions of the model can be made more explicit.

### **Premises.**

1. Promotion-focused individuals are more likely to construe goals as ideals, and prevention-focused individuals are more likely to construe goals as duties (Higgins, 1997).
2. “Idealness” and “oughtness” are passed downward from goals to their means (Kruglanski et al., 2002), though goals should be construed more strongly as ideals or duties than the lower-order means associated with them.
3. Duties are less fungible than ideals, and the more a goal is construed as a duty, the less it can be substituted for another goal (Shah et al., 2002; Shah & Higgins, 1997).
4. Goals that are less fungible will result in more persistence on that goal (Förster et al., 2001; Shah et al., 2002; Shah & Higgins, 1997).

### **Predictions.**

5. After failure, prevention-focused (vs. promotion-focused) people should be less likely to switch to alternative goals, instead preferring to spend longer persisting on the failed goal.
6. When prevention-focused (vs. promotion-focused) people do adjust their goal pursuit after failure, they should be more likely to switch goals at a lower level (means level) rather than a higher level.<sup>2</sup>

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<sup>2</sup> Although this thesis is intended to focus on goal failure, the goal fungibility model also has implications for what occurs after goal success. While some goals offer no additional benefit to continuing after they have been achieved (e.g., completing one’s tax return), other goals can provide opportunities for further success (e.g., earning

## Tests of the Model

There are numerous ways that one could go about testing this model. The two central issues regarding concrete tests are how to measure goal substitution, means substitution, and means persistence; and how to measure or manipulate regulatory focus.

Strategies of persistence and substitution could be chosen on a relatively conscious level, which would make measurement relatively easy. Inducing failure on a task and then giving participants a choice between continuing to work on the task (persistence), working on a related task (means substitution), or working on an unrelated task (goal substitution) would offer a simple measurement of these strategies. However, it would be important to select related and unrelated tasks according to what goal(s) participants could plausibly be working toward when pursuing these tasks. Such goals are not always straight-forward or obvious. Inducing a goal such as “achievement” by making it salient in the context would provide some additional control over the situation, even though participants could still work on a task for multiple reasons (e.g., to please the experimenter, to feel competent, to challenge oneself). In short, though, the greater control that can be placed on the goal content, the better.

However, it is also possible that choices between these strategies could be overlearned to the point of becoming relatively automatic, such that individuals may not typically make a conscious choice of which strategy to use (see Shah et al., 2002). In this case, goal shielding may offer an interesting way to test the model. Since duties have been shown to automatically inhibit

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commission on a sale). However, given that prevention-focused individuals are trying to reach a neutral state of non-loss, once success at a particular duty is achieved there is little incentive to keep pushing further. Thus, I would expect that after success, prevention-focused people should instead be more likely to switch goals, in order to attend to other duties that have not yet been fulfilled. Promotion-focused individuals, however, may be more inclined to view success on a particular goal as a signal that further gains can be made with that goal. Therefore, it might generally be the case that promotion-focused people would instead shield a successful goal more, in hopes of producing further gain. Goal shielding would inhibit alternative goals until success begins to wane on that goal. While reactions to goal progress are not the focus of this thesis, I believe the question of what occurs after goal success could offer fruitful exploration for future research.

other goals more strongly than ideals do (Shah et al., 2002), this could function as a way of decreasing the fungibility of duties at an implicit level. Thus, I would predict that prevention-focused individuals should show greater goal shielding of a focal goal after failure than do promotion-focused individuals. In this case, goal shielding should also mediate the effects of regulatory focus on the choice between persistence, means substitution, or goal substitution.

Finally, addressing how to measure or manipulate regulatory focus is also important. This has been done in many ways, some of which have been mentioned above in the discussion regarding differences in reactions to feedback as a result of regulatory focus. For the purposes of testing this model, how regulatory focus is measured or manipulated may depend on the questions one is attempting to answer. Measures of chronic regulatory focus (e.g., Higgins et al., 2001) may be more appropriate for assessing general tendencies to persist or substitute, whereas manipulating regulatory focus through the participants' mindset (e.g., Higgins et al., 1994) or through the framing of the task (e.g., Förster et al., 2001) may be more appropriate for investigating context-specific strategies and for testing the causal role of regulatory focus.

### **Potential Moderators**

The literature reviewed above provides insight into some other possible moderators of the effects predicted by the goal fungibility model. In particular, the self-regulation literature identifies goal commitment and self-efficacy as two important determinants of the likelihood for translating intentions into behaviour (Abraham et al., 1999; Ajzen, Czasch, & Flood, 2009; Wieber, Odenhal, & Gollwitzer, 2010). In addition, given the hierarchical nature of the goal fungibility model, level of construal may play an important role in shaping where individuals' attentional focus is placed along the hierarchy. As such, although other variables may also

moderate the effects predicted by the model, I will explore these three important moderators below.

**Goal commitment.** Goal commitment plays a very important role in determining whether goals are activated and pursued. As mentioned above, Shah et al. (2002) found that goal commitment moderated the goal shielding effect. Goals to which people were highly committed were shielded more than goals to which people were less committed, even on an implicit level. In addition to this, goal action itself can be construed as progress or as a symbol of commitment (Fishbach & Dhar, 2005), and to the extent that it is construed in commitment terms, it generally increases persistence on that goal. For example, after making progress on a goal, participants who focused on commitment to that goal were less likely to subsequently pursue inconsistent goals (Fishbach et al., 2010; Zhang et al., 2007). Progress and lack of progress also resulted in different effects on persistence depending on whether goal commitment was in question or not (Koo & Fishbach, 2008). When goal commitment was ambiguous, lack of progress led to disengagement from the goal. However, when commitment was not in question, lack of progress led to greater persistence on the goal.

In light of these results, it is likely that goal commitment will influence whether persistence or substitution occurs after failure. Goal commitment should primarily serve to increase persistence toward that goal by decreasing the extent to which the goal is perceived to be substitutable for other goals. Given the research on goal shielding, I expect that commitment should disproportionately influence promotion-focused individuals, since their goals will typically be less shielded than the goals of prevention-focused individuals. Thus, when highly committed to an ideal, individuals should be more likely to persist, and less likely to substitute

for another ideal, than when less committed to an ideal. In other words, goal commitment should reduce the fungibility of goals, but especially ideals.<sup>3</sup>

**Self-efficacy.** Another variable that might play a moderating role is self-efficacy. The concept of perceived self-efficacy concerns judgments about how well one can carry out actions required to deal with a given situation (Bandura, 1982). Past research in this domain has shown that high self-efficacy can increase performance and persistence on academic goals (Lent, Brown, & Larkin, 1984; Multon, Brown, & Lent, 1991), and it has also been theorized to help maintain persistence in the midst of failure and obstacles (Bandura, 1977).

Given that self-efficacy is an important component of expectancy information (Olson, Roese, & Zanna, 1996), it seems as though it may play a role in the goal fungibility model as a moderator between failure and persistence. Under conditions where a focal goal has high value, it has previously been mentioned that expectancy information becomes less relevant for prevention-focused individuals (Shah & Higgins, 1997); thus, perceptions of self-efficacy toward a goal should have more of an influence on promotion-focused individuals.

What influence self-efficacy will have, however, may be a more complicated question. Recent research into self-efficacy has begun to find inconsistent effects depending on whether it is investigated at a between-person or within-person level (Beck & Schmidt, 2012; Richard, Diefendorff, & Martin, 2009; Schmidt & DeShon, 2009; Vancouver & Kendall, 2006; Vancouver, Thompson, Tischner, & Putka, 2002; Vancouver, Thompson, & Williams, 2001; Yeo & Neal, 2006). Despite these inconsistencies, in the case of failure the effects may be more

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<sup>3</sup> It may be that, due to the nature of ideals and duties I am describing here, individuals may generally be more highly committed to duties than to ideals. This may depend partially on how commitment is measured—questions regarding the consideration of alternative goals or the necessity of a goal may more precisely be measuring fungibility or strength of construal as a duty, respectively. However, apart from measurement concerns, duties may indeed inspire higher commitment. Regardless, I would predict that given an ideal and a duty with equal commitment, there should still be additional effects of regulatory focus on persistence over and above this, and that commitment should disproportionately increase the persistence toward ideals more than toward duties.

consistent. Schmidt and DeShon (2009) found that on a within-person level, self-efficacy was *negatively* related to subsequent performance after good prior performance and after goal success, but *positively* related to subsequent performance after poor prior performance and after goal failure. Thus, when failure occurs, the between- and within-person analyses of self-efficacy agree: higher self-efficacy should increase goal persistence, especially for promotion-focused individuals.

**Level of construal.** The goal fungibility model suggests that prevention-focused individuals may tend to become “locked in” to a particular goal, persisting at it until success is achieved. However, if expectancies for success on that goal are low, such a situation may be maladaptive in some cases. Given these concerns, one could ask if there are any factors that might lead prevention-focused individuals to perceive their duties as more fungible. One factor that may be able to do this is an individual’s level of construal.

Construal level theory (Trope & Liberman, 2010) draws a distinction between high-level and low-level construals of an object. Construing an object at a higher level leads to a more abstract representation, focusing on central features to create a more coherent structural representation. Conversely, construing an object at a lower level produces a more concrete representation, focusing on incidental features and resulting in a less coherent image. For instance, when watching some children play basketball, a low-level construal of the situation might describe them as “throwing the ball into the hoop;” a high-level construal might instead describe them as “having fun” or “getting exercise.”

Given the hierarchical nature of the goal fungibility model with higher- and lower-level goals and means, construal level is a plausible moderating factor. Goals that are higher up in a hierarchy (e.g., “be a good person”) are generally more abstract in nature than goals lower down

(e.g., “take care of friend’s cat while he is away”). Indeed, one way to prime high- or low-level construals is to ask participants to consider *why* they engage in an action vs. *how* they engage in the action, respectively (Fujita, Trope, Liberman, & Levin-Sagi, 2006). Given a set of goals in a hierarchical framework, such considerations make sense; superordinate goals serve to explain the *reasons* for a particular focal goal, whereas subordinate goals are typically *means* of carrying out that focal goal—which itself serves as the reasons for those subordinate goals, and so on. Thus, shifting one’s level of construal should serve to activate higher- or lower-order goal constructs, which may influence the activation and inhibition of other goals to which those goal constructs are connected. Such a mechanism forms the basis for action identification theory, which describes how attention moves up and down a goal hierarchy to perform effective maintenance of action (Vallacher & Wegner, 1987).

To see how construal level may influence perceived fungibility of goals, it is useful to discuss a recent study by Clark and Freitas (2012). In a series of experiments, they demonstrated that high-level construals led to greater perceived consonance between the subjective evaluations of two different goals. For example, when participants were asked to think about *how* they could improve their health (priming a low-level construal), their evaluations of how happy they were with their romantic relationships and with their level of social competence (getting along with other people) were unrelated. However, when participants were asked *why* improving their health could help them meet life goals (priming a high-level construal), there was a significant association between their evaluations of these two distinct domains. In another study, participants who thought about how exercise fulfilled life goals were actually more likely to perceive exercise as substitutable by other activities (an indicator of consonance between goals) than did those who thought about exercise and life goals separately. In other words, by linking

exercise to higher-level constructs, exercise was itself seen as more substitutable. These findings suggest that high-level construals can increase the sense of relation between one goal and another. Individuals who are at a low-level construal, then, should have decreased perceptions of these relationships.

Given these results, it seems as though pushing the level of construal upward may serve to override some of the effects of goal shielding and increase the perceptions of one goal being substitutable for another. Thus, I believe that a higher construal level should have more of an influence on prevention-focused individuals. Promotion-focused individuals see their ideal goals as more fungible in the first place, so a higher level of construal should have less of an impact for them. For prevention-focused individuals, however, pushing the level of construal upward may be able to counteract goal shielding to some extent, leading them to perceive their duties as more substitutable. By drawing attention to how these duties serve as means to higher-order goals, this should increase perceptions that getting to “0” is not dependent on this *particular* duty being fulfilled, but by fulfilling that higher-order goal through any number of means.

Unfortunately, the research by Clark and Freitas (2012) did not include a control group where level of construal was not manipulated, so it is difficult to know the direction of the effects. However, it seems plausible that the effects may work in both directions. Pushing the construal level upward (from where it would generally be on average) would serve to link a goal to important higher-level goals, which should increase consonance and substitutability. Lowering the construal level, on the other hand, may draw attention to *how* an action is being performed, placing individuals in a more implemental mindset (Gollwitzer, Heckhausen, & Steller, 1990) that increases goal shielding. Thus, pushing the level of construal downward should have more of an influence on promotion-focused individuals. Such a manipulation should serve to increase

goal shielding, decrease the sense of substitutability of a given course of action, and thus increase persistence on that particular goal after failure.

## **Implications for Other Research Areas**

In addition to the understanding the goal fungibility model provides for goal pursuit after failure, it also provides novel predictions and explanations for several other domains of research, both within and outside the motivation literature. Although space does not permit a full exploration of all of these domains, I will highlight three of them: self-control, mental accounting, and sacred values. Each of these three areas will be outlined below, and I will describe how the concept of goal fungibility may shed more light on these processes.

### **Self-Control**

Failure of self-control is a commonly experienced problem. Anyone who has tried to go on a diet or to exercise more regularly knows the pull of the temptation to eat another piece of cake or to sleep in instead of going to the gym. Thus, psychologists have tried to understand the nature of self-control, as well as how and when it fails (e.g., Baumeister & Heatherton, 1996; Baumeister, 2010; Fujita, 2011; Metcalfe & Mischel, 1999; Mischel, Shoda, & Rodriguez, 1989; Muraven & Slessareva, 2003; Muraven, Tice, & Baumeister, 1998; Trope & Fishbach, 2000).

Self-control is a special case of self-regulation. Many researchers in the field have characterized it as the effortful inhibition of impulses (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister & Heatherton, 1996; Hofmann, Friese, & Strack, 2009; Metcalfe & Mischel, 1999), and research on ego depletion has suggested that exerting self-control on one task leaves fewer resources that can be used to inhibit impulses on subsequent tasks (Baumeister et al., 1998). However, Fujita (2011) has convincingly argued that self-control is a broader construct that involves resolving a dual-motive conflict between abstract, distal motives and concrete, proximal motives. In the case of the dieter eyeing the piece of cake, the proximal motive is the delicious icing, whereas the distal motive is the concern for one's health or body

image. Success at self-control, then, would be to advance the distal motive over the proximal motive when the two are in conflict.

Several avenues of research have identified various ways of improving self-control, which also provide a better understanding of how self-control itself operates. For example, Muraven and Slessareva (2003) found that motivational incentives, such as money or believing a task would benefit others, were able to counteract the effects of ego depletion. Schmeichel and Vohs (2009) found that a self-affirmation task, where participants wrote about an important value they held, was also able to counteract ego depletion. In addition, they showed that this effect was due to the higher level of construal of the situation that the self-affirmation produced. The positive effects of high levels of construal on self-control have also been shown in other research (Fujita & Carnevale, 2012; Fujita et al., 2006), though it may not be effective for tasks where close attention to the environment is needed (McCrea, Liberman, Trope, & Sherman, 2008; Schmeichel, Vohs, & Duke, 2010). Finally, research has suggested that individual differences such as implicit theories about willpower may also influence self-control (Job, Dweck, & Walton, 2010). Thus, although initial theories about ego depletion have suggested that willpower is a limited resource (Baumeister et al., 1998), factors such as motivations, level of construal, and individual differences play at least some role in how resources are allocated toward self-control conflicts.

Despite this research on how self-control operates and the conditions under which it succeeds or fails, what is more relevant here is how people respond to self-control failure. In other words, what do people do *after* indulging themselves to the piece of cake? One study by Wallace and Baumeister (2010) found that success or failure feedback on one self-control task did not have any effect on a subsequent self-control task. However, they did note that

participants who rated their performance negatively (regardless of feedback) trended toward persisting longer on the second task.<sup>4</sup> Thus it is possible that some people may construe the experience of strong urges to give in to temptation as weakness of character or “failure,” despite having “succeeded” behaviourally by resisting the temptation (Wallace & Baumeister, 2010). In contrast to this, the phenomenon known as the “what-the-hell effect” has shown that an initial self-regulatory failure can lead to a chain of further failures (Cochran & Tesser, 1996; Polivy & Herman, 1985; Soman & Cheema, 2013). This would suggest that failure of self-control may instead lead to decreased persistence and even behaviour that counteracts the goal. Interestingly, research by Laurin and Scholer (2013) has shown that by reframing both goals involved in a self-control conflict at the same level (distal or proximal), this “what-the-hell effect” can be reduced. For instance, instead of construing a dieting conflict in terms of personal health (abstract, distal) versus delicious cake (concrete, proximal), it can be construed in terms of personal health versus occasional enjoyment of treats (abstract, proximal). This research suggests that framing a conflict in this horizontal fashion can reduce negative affect toward failure (Kille & Scholer, 2013) and increase balancing between the two goals instead of bingeing on one and abandoning the other (Laurin & Scholer, 2013).

In light of the research mentioned above, I believe that goal fungibility may also shed some light onto the variety of responses that result from self-control failure. Given the differences in the way that promotion- and prevention-focused individuals construe their goals, the distal goals that appear in a self-control conflict will be construed as ideals in the promotion system and duties in the prevention system. These goals, regardless of construal, are high up in

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<sup>4</sup> Although this correlation did not fall under the traditional threshold for significance ( $p = .17$ ), the small sample size of the study means that the statistical power for finding a significant effect here was low (55%). The magnitude of the correlation ( $r = -.32$ ) suggests that the effect may still be stable despite the lack of significance. Nevertheless, this effect should be interpreted with caution.

the goal hierarchy, and thus are likely to be important and close to the self-concept. After self-control failure, then, promotion-focused individuals may be more likely to shift goal pursuit toward other goals that can help bolster the self (e.g., self-affirmation). By substituting a new goal for the failed goal, they can reduce the sting of self-control failure by making gains elsewhere. Prevention-focused individuals, on the other hand, should be more likely to persist on that goal, putting more effort toward self-control in that domain.

It is clear that more work needs to be done with regard to individuals' responses to self-control failure. Researchers who study self-control should find these responses important, as failure in one task could result in continued self-control failures (for promotion-focused individuals who find other ways to make gains) or greater subsequent self-control (for prevention-focused individuals who “double down” and spend more effort on the task in order to succeed). It may also be relevant whether researchers measure subsequent self-control in the same domain or different domains. Although ego depletion research has typically used tasks in different domains (e.g., Baumeister et al., 1998) in order to provide evidence that willpower is a general, cross-domain resource (though for exceptions, see Converse & DeShon, 2009; Dewitte, Bruyneel, & Geyskens, 2009), this may have the unintended result of changing the motivational properties of the tasks. If prevention-focused individuals do not perceive the second task to make up for failure at the first task, they may not allocate additional resources to succeed at the second task. They may even devote *fewer* resources to the second task in order to conserve resources in case there is a second chance to correct the earlier failure. In short, more research needs to be done on responses to self-control failure, and goal fungibility offers a fruitful set of predictions to begin.

## **Mental Accounting**

A second area of research in which the goal fungibility model provides insight is that of mental accounting. The concept of mental accounting grew out of the behavioural economics and consumer decision-making literatures, and refers to the cognitive processes that individuals use to organize, evaluate, and keep track of financial outcomes (Thaler, 1999). Although in traditional economics, money is considered to be perfectly fungible (i.e., a dollar gained in one domain completely offsets a dollar lost in another domain), mental accounts do not quite follow this rule. Instead, mental accounting involves assigning outcomes to different accounts that do not necessarily substitute for each other, and these accounts can be modified by situational and contextual factors, such as how the outcomes are framed (Kahneman & Tversky, 1984; Thaler, 1999; Tversky & Kahneman, 1981).

As a classic example, Tversky and Kahneman (1981) pose two scenarios. In one, you decide to see a theatrical play with admission of \$10, and as you go to purchase the ticket, you realize you have lost a \$10 bill. In the second scenario, you have paid the admission price of \$10, but as you enter the theatre, you realize you have lost the ticket. When participants are given one of these scenarios, they report that they are much more likely to pay \$10 for a ticket in the first scenario than they are to pay \$10 to replace the ticket in the second scenario. Despite the same amount of money being lost and spent, the money appears to have been categorized into two separate accounts: “money for ticket expense” and “money in my pocket.” The \$10 deduction from two separate accounts thus feels different (presumably better) than all \$20 being deducted from one account (the ticket expense).

The degree to which a particular mental account is fungible has been shown to be influenced by the framing of the outcomes in terms of gains or losses (Tversky & Kahneman,

1981), the social relationships associated with the account (McGraw, Tetlock, & Kristel, 2003), the number of people experiencing the outcomes (DeKay & Kim, 2005), and other physical and temporal constraints (DeKay & Kim, 2005). Given these influences, it seems reasonable that regulatory focus might also influence the fungibility of mental accounts, which would mean that the goal fungibility model can offer some insight into the way that mental accounts are handled.

The goal fungibility model would suggest that accounts associated with duties (e.g., saving for retirement) should be less fungible than accounts associated with ideals (e.g., saving for a vacation). In a practical sense, this should mean that duty accounts should receive priority, with losses orienting attention toward reducing that loss, to bring the account “out of the red.” Ideal accounts, on the other hand, should be more fungible, such that gains in one account should compensate for lack of gains in another account. However, it also means that individuals with a chronic promotion or prevention focus should differ in the fungibility between their accounts, resulting in different strategies after failure. For instance, a promotion-focused person might respond to poor investments by working overtime at work, while a prevention-focused person may try to invest further to try to offset those losses.

On this note, goal fungibility offers the clearest predictions in the case of sunk costs. Research has found that people often spend more time and money on failing endeavours into which they have invested resources already (Arkes & Blumer, 1985; Brockner, 2013; Staw, 1976). Even as the chances for attaining success diminish, people will escalate their commitment, devoting additional resources to the failing course of action instead of choosing a new course. However, the goal fungibility model would suggest that such behaviour should be particularly evident for prevention-focused individuals. When experiencing failure, or when in a state of loss for a particular mental account, prevention-focused individuals should be much

more likely to escalate the resources they put toward that account. Indeed, there is some evidence that such individual differences exist for sunk costs; Molden and Hui (2011) found that prevention-focused individuals were more likely than promotion-focused individuals to recommit additional money to a failing investment, in the hopes of reversing their losses. This behaviour also corresponds with research in risky decision-making; prevention-focused individuals in a state of loss were shown to choose riskier options, provided that the option offered the possibility of eliminating the loss and returning them to the neutral “break-even” point (Scholer, Zou, Fujita, Stroessner, & Higgins, 2010). These results suggest that prevention focus may result in greater persistence on reducing sunk costs, whereas promotion focus may allow people to balance failing investments by “borrowing” gains from other accounts.

In summary, the goal fungibility model offers several interesting predictions in the domains of mental accounting and sunk costs. Given the important financial and political implications that can result from escalating commitment to sunk costs, more research into the individual differences influencing such decisions is important.

### **Sacred Values**

The final area of research to be discussed is research on sacred or protected values. Sacred values are values that are not perceived as negotiable; these values are implicitly or explicitly treated as possessing infinite importance, which rules out tradeoffs or comparisons with other (“secular”) values (Baron & Spranca, 1997; Ritov & Baron, 1999; Tetlock, Kristel, Elson, Green, & Lerner, 2000). While Sheikh, Ginges, Coman, and Atran (2012) have shown that holding sacred values is positively associated with participation in religious ritual (see also Conway & Gawronski, 2013), the term “sacred” refers to the inviolable nature of the value rather

than its connection with religion, and can thus just as easily include non-religious values such as the importance of equality or autonomy (Tetlock et al., 2000).

Sacred values have been linked to deontological moral reasoning (Baron & Spranca, 1997; Tanner, Medin, & Iliev, 2008), which provides a moral framework built on rules outlining one's moral obligations. This is in contrast to consequentialist or utilitarian reasoning, which bases moral decisions on comparisons between outcomes. The result of this connection with rule-based morality is that when individuals are asked to trade off sacred values (e.g., asking an environmentalist how much money they would accept to allow a rainforest to be destroyed), they may refuse to answer, or provide impossible responses such as "an infinite amount," because sacred values are insensitive to the quantity of outcomes (Baron & Spranca, 1997).

However, this outcome insensitivity clearly does not apply to all values; some values are non-negotiable, whereas for others comparisons of outcomes are easily and readily made. Hanselmann and Tanner (2008) found that being required to decide between two sacred values (tragic tradeoff) led to greater negative emotions and difficulty in making the decision than being required to decide between two secular values (routine tradeoff). Interestingly, they also found that choosing between a sacred and secular value (taboo tradeoff) led to moderately higher negative emotions than routine tradeoffs did, but actually made the decision process easier. By reducing the need to weigh alternatives, sacred values can provide a mental shortcut in decision-making. However, while this research sheds light onto how these decisions are made, it says little about the individual differences that may influence whether a value is seen as sacred or secular. The goal fungibility model may provide some of this insight.

The goal fungibility model would suggest that sacred values may reveal a difference between values framed as duties versus ideals. The fact that important duties are construed as

*necessities* by prevention-focused individuals (Shah & Higgins, 1997) provides a very clear parallel to sacred values. Baron and Spranca (1997) also identified “moral obligation” as a key characteristic of sacred values, which corresponds well with the prevention system. Prevention-focused individuals should thus be more likely than promotion-focused individuals to report values as being sacred, which may in fact generally assist them in decision-making, since sacred values can easily tip the balance in their favour when they are in conflict with other values. On the other hand, prevention-focused individuals should generally experience greater negative emotions when deciding between values, since a greater proportion of their values will preclude tradeoffs. Prevention-focused individuals should also experience greater difficulty making decisions involving tragic tradeoffs, where they would be forced to choose between obligations.

In addition to the differences in proportion of sacred values, the goal fungibility model predicts differences in behaviour after moral failure. Tetlock et al. (2000) argued that even to *contemplate* trading off a sacred value may be perceived as moral failure, and suggested that one way of correcting for that failure is to engage in “moral cleansing”—symbolic acts designed to reaffirm one’s values. What Tetlock and colleagues found was that individuals confronted with a taboo tradeoff (vs. a tragic tradeoff) were more likely to engage in moral cleansing, such as volunteering for an organ-donation campaign after being asked to decide between spending a large sum of money on a liver transplant for a sick child versus on other hospital expenses.

Tetlock et al. suggested that identity repair with regard to sacred values must occur in the same domain, unlike more domain-general coping strategies like self-affirmation (Sherman & Cohen, 2006). In general, they only tested moral cleansing in the same domain, though in one study they did find that individuals considering taboo tradeoffs endorsed moral cleansing *both* in the same and different domains (Tetlock et al., 2000, study 4). Nevertheless, the goal fungibility

model would suggest that prevention-focused individuals would need moral cleansing to occur in the same domain, as failure to fulfill one's moral obligations in one domain cannot be ameliorated by fulfilling an obligation in a different domain. Promotion-focused individuals, to the extent they have sacred values, should be able to engage in moral cleansing in alternate domains to a greater extent. They may also be able to use other strategies to achieve balance and erase the sting of failure (e.g., self-affirmation).

In summary, the goal fungibility model offers predictions in the area of sacred values, both in terms of an individual difference variable that explains tendencies to construe values as sacred, and also in terms of predicting responses to moral failure regarding sacred moral values. Given the relationship between sacred values and deontological reasoning, the model would also suggest that prevention-focused individuals should be more likely to endorse rule-based reasons for moral action and downplay outcome-based reasoning. Thus, the goal fungibility model offers fruitful avenues to explore for future research in these areas.

## Conclusion

This paper has outlined a model for explaining how individuals respond to goal failure. By drawing from research on regulatory focus, goal shielding, and hierarchical goal frameworks, it posits that prevention-focused individuals should be more likely to persist on a particular goal after failure, and prefer to switch means at a lower level than goals at a higher level. In contrast, promotion-focused individuals should be more likely to switch goals after failure, in the hopes of making gains that can substitute for the lack of gains made from the initial goal. It was suggested that these decisions between goals and means could operate at a conscious level, or at a more automatic level with the use of mechanisms such as goal shielding. Finally, the goal fungibility model was shown to offer novel insight and predictions into several other areas of research, including self-control, mental accounting, and sacred values. These are just a few examples of how the goal fungibility model can be applied more broadly.

By connecting behaviour after goal failure to a construct such as regulatory focus, the goal fungibility model goes beyond description and seeks to *explain* differences in persistence and substitution. The strength and explanatory power of this model thus rests, at least in part, on the strength of regulatory focus theory. Regulatory focus has been theorized to have its roots in childhood, with children learning from caregivers what sort of goals and outcomes are important and how to regulate their goals accordingly (Higgins, 1997). As such, strategies for dealing with goal failure might be learned in two different ways: first, they may be learned directly from caregivers; and second, they may also be learned indirectly through the development of the promotion and prevention systems, which in turn imply tendencies toward particular strategies. Although empirical research on the development of the regulatory focus systems is still relatively

sparse (Higgins & Silberman, 1998; Manian, Papadakis, Strauman, & Essex, 2006), the goal fungibility model has its roots in these systems, whatever their ultimate origins.

Finally, on a practical note, determining the responses to goal failure has important implications for helping individuals pursue the goals they find to be important. While flexibility in persistence and substitution may be adaptive, individuals who adopt one strategy too rigidly may find themselves unable to let go of a goal when they need to, or alternately unable to keep persisting on the goals they find important. By understanding the antecedent causes of these strategies, it may be possible to tailor situations and environments that are conducive to helping individuals achieve their goals. Goal fungibility is one attempt to increase this understanding.

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