Motivational Differences in Aiming for Wide or Narrow Goals

by

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A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Applied Science
in
Management Sciences

Waterloo, Ontario, Canada, 2014

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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ABSTRACT

Goal setting theory has consistently found that high and specific goals lead to better performance than low and vague goals do. However, the independent effect of each of these two dimensions, difficulty and specificity, on performance is less clear. Although goal difficulty has been shown to affect performance level independent of goal specificity, evidence for an independent effect of goal specificity is mixed. In the current research, we introduce a moderator, regulatory focus, of the relationship between goal specificity and performance level. Specifically, we hypothesized that people in a promotion focus would be more motivated by aiming for wider goals that have a higher possibility of success and therefore fit an eager-approach strategy, while people in a prevention focus would be more motivated by aiming for narrower goals that have a small range of acceptable outcomes and therefore fit a vigilant-avoidance strategy. We examined this hypothesis with different hypothetical scenarios that manipulated goal width (wide versus narrow) with numerical ranges (Study 1) and visually with a bar graph (Study 2), and with different behavioural tasks that manipulated goal width in a saving strategies task (Study 3) and an anagram task (Study 4a, 4b). The findings revealed promising trends that were consistent with our hypothesis across all studies.

ACKNOWLEDGEMENT

This thesis would not have been possible without the contributions, assistance, support, and encouragement of many persons. To each of the following, I give my deepest thanks.

- To Professor Vanessa Bohns, my supervisor and mentor, for her encouragement, advice, support, patience, and more;

- To Professor Abigail Scholer and Professor Selcuk Onay for their generous comments and suggestions;

- To Saul Cai for his loving support and encouragement.

Most of all, I owe immense thanks to my parents for generously putting up with me for so many years. This thesis is dedicated, with love, to them.

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CHAPTER ONE

Introduction

1.1 General Background

Imagine for a moment that you are back to your first driving class. You are driving on a local road and your instructor reminds you to keep your speed between 49km/h and 51 km/h, so you constantly check the digital speedometer and are very vigilant to avoid your speed falling below 49km/h or going over 51km/h. Now back to today, you're an experienced driver. You don't limit your speed narrowly as your instructor did in your first class. Rather, you usually keep your speed in a wider range (e.g., between 45km/h to 55km/h), in which you're comfortable and eager to drive.

Similar situations happen all the time. When you're buying your first house with a budget of $250,000, but don't want to go over $280,000, you have to be careful with your search price and be vigilant to any extra costs. However, with a less tight budget, you would likely have more opportunities available for finding the perfect house, and would probably enjoy the house hunting experience more than with a tight, limited budget. Clearly, how tightly people set a goal (e.g., a budget) influences how they pursue that goal. In this article, we explore how regulatory focus interacts with goal width to influence people's motivation for goal achievement.

A goal is defined as an aim of an action or a task that someone wants to accomplish (Locke, Shaw, Saari, & Latham, 1981). It serves both directive and motivational functions. For the directive function, a goal directs effort and attention towards goal-related stimuli and activities, and away from unrelated ones. For the motivational function, a goal serves as an energizer so that difficult goals lead to greater effort than

low goals do. Numerous studies have demonstrated that, compared with a vague goal or no goal at all, people perform better both individually and collectively when they have a goal (e.g., Wyatt, Frost, & Stock, 1934; Ivancevich, 1976; Latham & Yukl, 1975; Locke & Latham, 1990). More precisely, a specific and high goal leads to better performance than a specific and easy goal or a vague goal (Locke & Latham, 1990). Further research has also examined and suggested the effects of related variables on the relationship between goal setting and performance, such as feedback, incentives, satisfaction, and self-efficacy (e.g., Erez, 1977; Latham, Mitchell, & Dossett, 1978; Locke, Cartledge, & Knerr, 1970; Elliot & Harackiewicz, 1994; Pritchard, Jones, Roth, Stuebing, & Ekeberg, 1988). For example, it has been shown that the highest level of performance was associated with the combination of difficult and specific goal and specific feedback in a stimulating stock market investment (Earley, Northcraft, Lee, & Lituchy, 1990).

More recently, researchers have been interested in the independent effects of each of these two dimensions in goal setting, goal difficulty and goal specificity, which have not been studied as much as these two variables together. There has been clear support for an independent relationship between goal difficulty and performance level (e.g., Locke, 1967; Garland, 1982). That is, the more difficult a goal is, while remaining attainable, the higher individual performance tends to be. However, evidence for the independent effect of goal specificity has been mixed. Some studies have revealed a positive relationship between goal specificity and performance level, while others have showed a negative relationship. Previously unconsidered moderators, such as regulatory focus, may help to explain these mixed results.

This previous research suggests that the link between goal setting and performance

is robust. However, less is known about how self-regulatory processes may influence the relationship between goal setting and performance. For example, does setting a more or less specific goal differentially affect the performance of people with different self-regulatory orientations? In the current research, we are especially interested in the motivational effects of goals with varying widths (i.e., narrow versus wide goals) on individuals in different regulatory foci. In the following sections, we will review research on goal-setting and regulatory focus theory, and present our current research combining these two research areas.

1.2 Research on Goal Setting

Previous research has found that setting a goal boosts individual performance. In goal-setting theory, Locke and Latham (1990) suggest a linear relationship between goal difficulty and task performance. That is, high (or difficult), but attainable, goals lead to higher performance than do low (i.e., easy) goals. For example, Latham and Yukl (1976) showed that, regardless of the goal origin (i.e., in both assigned and participative goal-setting), typists had significantly higher productivity with a goal than without one. Moreover, individuals with specific, difficult goals outperform those with vague goals (i.e., do your best). These core results have been replicated in both laboratory experiments and field studies (e.g., Locke, Shaw, Saari, & Latham, 1981; Mento, Steel, & Karren, 1987; Tubbs, 1986; Locke & Latham, 1990; Locke & Latham, 2002).

In studies of goal-setting theory, it has been found that only goal difficulty, isolated from goal specificity, is positively related to goal performance. Goal difficulty is usually referred to the likelihood a goal could be reached. Thus, a goal that only 20% of people

could reach is more difficult than a goal that 90% of people could reach. For example, getting a grade of 90% in an exam is more difficult than getting a 20%. That is said, goal difficulty is usually highly correlated to the actual performance level to be attained. Therefore, it is obvious that the more difficult a goal is, the higher the performance is, given sufficient skills, which has been found in previous studies (e.g., Lock, 1967, 1982).

However, the link between goal specificity and performance level is less straightforward. Locke and colleagues (1989) pointed out that goal specificity, isolated from goal difficulty, influenced the variability of performance outcomes, but not performance level. They argued that vague goals can be interpreted in more than one way and may therefore lead to unclear expectations; yet, as specificity increases, expectations are clearer and the number of outcomes individuals should aim for decreases. Thus, variability of performance decreases. However, there was only one range manipulation in this particular study, which might restrict the main effect of goal specificity on performance. Furthermore, other studies have revealed mixed results on performance with specific and general goals. For example, Earley and Perry (1987) demonstrated that specific goals boosted performance significantly more than general goals did in some tasks (their "listing uses" and "correlation" tasks), but they found that general goals led to significantly higher performance than specific goals did in another task (their "alphabetical listing uses" task). So, does goal specificity influence task performance? The following argument highlights the necessity of reconsidering this question.

Prior research has suggested that individuals tend to construe goals as ranges. Even though specific, or target, goals (e.g., to save $50 per week) have been shown to be helpful in enhancing task performance by reducing goal ambiguity (Locke et al., 1989),

individuals tend to specify a *range* of acceptable outcomes, instead of having one single outcome, as the marker of successful goal achievement. For example, individuals may have three levels of aspiration, including the minimum outcome she or he expects to reach, the actual outcome she or he expects to reach, and the maximum outcome she or he expects to reach ideally (Preston & Bayton, 1941). In other words, individuals habitually identify a range of acceptable outcomes that would constitute success in a given situation.

For example, imagine someone's actual goal is to save $50 per week for a vacation. An individual typically will translate this goal into a range. That is, she or he will also have a minimal and a maximal (or ideal) goal in mind. Specifically, this individual may ideally aim to save $60 per week, while simultaneously ensuring that she or he saves at least $40 each week. How might the distance between the upper and lower boundaries of this goal influence the individual's ultimate goal achievement? In other words, how might different goal widths motivate individuals differently? Specifically, both a savings goal with a narrow range between $45 and $55 and a wide range between $40 and $60 might count as success to an individual. In each of these examples, the target goal (or midpoint), which is $50, is held constant. Yet, the narrowness and wideness of these goals could have crucial motivational implications for the process of successful goal achievement. While narrower goals indicate a short distance between two boundaries, which makes people anticipate potential failure and triggers vigilance, wider goals have a higher likelihood of achieving success, which means that it is easier for individuals to anticipate success. Thus, pursuing a narrow goal requires vigilance to avoid a large number of undesirable (or negative) possible outcomes, whereas, attaining a wide goal

requires eagerness to hit the large number of desirable (or positive) outcomes.

Given this argument, goal specificity may influence individual performance level by highlighting different motivational factors. Specifically, individuals who are more sensitive to eagerness may be more motivated by wide goals while individuals who are more sensitive to vigilance may be more motivated by narrow goals. In the next section, we will introduce a variable, regulatory focus, which identifies individuals who are more or less sensitive to eagerness versus vigilance and explore regulatory focus as a moderator of the relationship between goal specificity and performance.

1.3 Regulatory Focus Theory

In regulatory focus theory, Higgins (1997) proposed that individuals are motivated not only to approach pleasure and avoid pain, but also to do so in different ways. For example, an individual wants to do well on the next exam. He or she could achieve this goal by either studying harder before the exam or by not missing any lectures. One of these strategies involves doing everything it takes to achieve the desired end, while the other strategy involves ensuring that nothing is missed that could help achieve the desired end. Higgins described two systems that reflect these different motivational orientations, which he refers to as regulatory foci. Individuals in a promotion focus are concerned with achievement and advancements (i.e., achieving one's hopes and aspirations), and are sensitive to gain/non-gain information. In contrast, individuals in a prevention focus are concerned with security and responsibilities (i.e., fulfilling one's duties and oughts), and are sensitive to loss/non-loss information (Higgins et al., 2001; Molden, Lee & Higgins, 2008; Scholer & Higgins, 2010). Accordingly, individuals in a promotion focus prefer to

employ eagerness-approach strategic means in goal-directed action, i.e., doing everything it takes to achieve a goal, whereas those in a prevention focus are inclined towards vigilance-avoidance strategic means in goal pursuit, i.e., ensuring that nothing is overlooked that could help achieve a goal (Förster, Higgins, & Idson, 1998; Higgins, Roney, Crowe & Hymes, 1994; Shah, Higgins, & Friedman, 1998). More specifically, those in promotion focus would want to ensure hits (i.e., match of desired end-states) and ensure against error of omission, whereas those in prevention focus would want to ensure correct objections and be vigilant to error of commission. For example, in a signal detection task, participants in promotion focus responded as many "yes" as possible to make sure that they recognize every correct answer. However, those in prevention focus were more vigilant and thus, took longer response time to make sure that they did not say "yes" to a wrong object (Crowe & Higgins, 1997).

Although these two regulatory foci are considered orthogonal dimensions, individuals are driven predominately by either promotion or prevention. Thus, they display either a predominantly promotion or a predominantly prevention motivational orientation chronically. Moreover, these two motivational inclinations can also be activated in a given situation by priming information related to concerns of each regulatory focus (e.g., Bohns & Higgins, 2011; Scholer, Zou, Fujita, Stroessner, & Higgins, 2010). Specifically speaking, a promotion focus can be induced by focusing an individual on his or her aspirations and achievements, while a prevention focus can be triggered by focusing an individual on his or her duties and responsibilities.

When pursuing goals in a strategic manner that sustains their regulatory focus (i.e., eagerly if individuals are in a promotion focus, and vigilantly if they are in a prevention

focus), individuals experience *regulatory fit* (Higgins, 2000; 2005). Regulatory fit has been showed to increase motivational intensity (Shah, Higgins, & Friedman, 1998). Specifically, prior research has demonstrated that, when experiencing regulatory fit, individuals are more motivated by a task, more engaged in the task, perform better in the task, and "feel right" about the task (Freitas & Higgins, 2002; Higgins et al., 2003; Lee & Aaker, 2004).

In a set of studies, for example, Higgins and colleagues (2003) measured participants' chronic regulatory focus and told participants that, in addition to their compensation of participation, they could choose a mug or a pen. The strategy to decide which one to choose was framed in either an eager or a vigilant manner. Specifically, some participants were told to think about what they could *gain* by choosing the mug and what they could *gain* by choosing the pen, which was an eager strategy; other participants were told to think about what they could *lose* by choosing the pen and what they could *lose* by choosing the mug, which was a vigilant strategy. Following this manipulation, participants were asked to assess and offer a price of the chosen mug. (Consistent with their pretesting results, almost every participant preferred the mug over the pen). Participants offered a higher price when they experienced regulatory fit than when they were in a non-fit condition. That is, those who were chronically promotion-focused gave a significantly higher price when they made their decision using an eager strategy than when using a vigilant strategy, while those who were chronically prevention-focused gave a significantly higher price when they made their decision using a vigilant strategy than when using an eager strategy. The motivational effects of regulatory fit have since been shown in numerous other domains (e.g., Avnet & Higgins, 2003; Bohns et al., 2013;

Cesario, Grant & Higgins, 2004; Cesario & Higgins, 2008, Freitas & Higgins, 2002).

In sum, experiencing regulatory fit enhances motivation and evaluative reactions. In the current research, we further hypothesized that individuals would experience regulatory fit when individuals in a promotion focus were given wider goals and when individuals in a prevention focus were presented with narrower goals.

1.4 Current Research

In the present research, we are exploring one main question. Do wide and narrow goals motivate individuals with different motivational orientations differently? As mentioned above, a wider goal range highlights more acceptable outcomes and thus indicates a higher chance of success, which promotes eagerness. In contrast, a narrower goal range consists of much fewer acceptable outcomes, which orients individuals towards vigilance. According to regulatory focus theory, promotion-focused individuals prefer to use eager means and prevention-focus individuals prefer to use vigilant means. Thus, we hypothesize that individuals in a promotion focus will be more motivated by wider goals, whereas those with prevention focus will be more motivated by narrower goals.

Moreover, given that individuals experience *regulatory fit* when the strategic manners sustains their motivational orientation, we further hypothesized that individuals in a promotion focus (vs. prevention focus) experience a "fit" when they perform with a wide goal (vs. a narrow goal). Specifically, wider goals should sustain the preferred strategic means of promotion-focused individuals, so they should "feel right" about pursuing wider goals. On the contrary, individuals in a prevention focus should be more

engaged in and perform better with narrower goals.

In Study 1 and Study 2, we tested our main question by having participants in different regulatory foci imagine individual hypothetical scenarios with wider or narrower goals presented verbally or visually. Participants self-reported how motivated they were by those presented goals. In Study 3 and Study 4, instead of imagining different scenarios, participants in different regulatory foci performed actual behavioral tasks (a saving strategies task in Study 3 and an anagram task in Study 4) with wider or narrower goals given. Their performance was measured to examine our main question. Specifically, we predicted that participants in a promotion focus would generate more saving strategies in Study 3 and more anagram solutions in Study 4 with a wide goal than with a narrow goal, and the reverse would be true for those in a prevention focus. Further, we explored their regulatory fit experience in Study 3 and Study 4 by asking whether participants "felt a good fit" in the task with the given goal on different scales. In all four studies, participants' regulatory focus was manipulated using a standard procedure.

CHAPTER TWO

Study 1: Goal Scenarios

In Study 1, we tested whether wider goals were more motivating to individuals in a promotion focus then narrower goals were, and whether narrower goals were more motivating to those in a prevention focus by having participants imagine different goal-related scenarios, e.g., scenarios involving saving, studying, eating fruits and vegetables, and internet surfing. Using an established priming paradigm, participants were situationally induced to be either promotion focus or prevention focus, and then were presented with different scenarios describing either wider goals or narrower goals. Then they rated how motivating they found these goals on different scales. We predicted that promotion-induced participants would rate wider goals to be more motivating, whereas prevention-induced participants would consider narrower goals to be more motivating.

2.1 Method

Participants

Eighty-one (M_{age} = 37.56, SD_{age} = 14.34; 41 women) adult participants were recruited on Amazon Mechanical Turk and were paid $0.50 to complete a 10-minute online study.

Procedure

This study was a 2 (promotion focus vs. prevention focus) × 2 (wide goals vs. narrow goals) between-subject design. Participants were randomly induced to be in either a promotion focus by writing a brief essay about their hopes and aspirations or a prevention focus by describing their duties and responsibilities, as done in numerous previous studies (e.g., Bohns & Higgins, 2011; Cesario et al., 2004; Gu, Bohns, &

Leonardelli, 2013; Higgins, Roney, Crowe, & Hymes, 1994). After writing this brief essay, they were asked to imagine six different scenarios with either all wider goals (e.g., imagine your goal is to save between $1,500 and $3,500) or all narrower goals (e.g., imagine your goal is to save between $2,400 and $2,600; see Appendix A for complete scenarios). In each scenario, participants rated how motivated, confident, and enthusiastic they would be to achieve the goal and how satisfied they would feel when they achieved the goal on 7-point Likert scales, as *1*=not at all and *7*=extremely. Among those scales, our primary measure was the degree to which participants were motivated to achieve the goal. At the end of the study, participants provided basic demographic information.

2.2 Results and discussions

The data was collapsed across the six scenarios, and a 2 (regulatory focus: promotion focus vs. prevention focus) × 2 (goal width: wide goals vs. narrow goals) ANOVA with average motivation score as the dependent variable was conducted. A marginally significant interaction effect was found, $F(1,77) = 3.54$, $p = .064$. As we hypothesized, participants in the promotion manipulation reported higher motivation when they were presented with wider goals ($M = 4.92$, $SD = .76$) than narrower goals ($M = 4.72$, $SD = .98$), and prevention-induced participants were more motivated by narrower goals ($M = 4.79$, $SD = .92$) than wider goals ($M = 4.22$, $SD = .99$). There were no significant main effects, $F(1,77) = 2.38$, $p < .366$.

We further conducted similar 2 (regulatory focus: promotion focus vs. prevention focus) × 2 (goal width: wide goals vs. narrow goals) ANOVAs with motivation score as the dependent variable for each individual scenario. The only significant interaction effect was found in the "saving for a computer" scenario, $F(1,77) = 7.44$, $p = .008$ (Figure

1). Specifically, promotion-induced participants reported higher motivation scores when they were presented with a wide goal (M = 5.67, SD = 1.20) than with a narrow goal (M = 5.00, SD = 1.57), F (1, 37) = 2.26, p = .142; in contrast, for prevention-induced participants, they were more motivated by narrower goals (M = 5.58, SD = 0.97) than by wider goals (M = 4.61, SD = 1.65), F (1, 40) = 5.71, p = .022. Although the interactions in each of the other scenarios were not significant, $p < .922$, they all showed trends in the predicted direction. No significant main effects were found in all scenarios, $p < .989$.

These results, though not all significant, showed patterns that were aligned with our prediction. However, simply presenting those goals in a narrative way might not have effectively highlighted the goal widths for participants, which could be why the effects were not significant. We posited that presenting goals with different widths visually, however, might better emphasize the higher likelihood of success in the wider goal condition and the requirement of extra vigilance to avoid failure in the narrower goal condition. Therefore, our prediction may be more strongly revealed if participants were to see a visual presentation of those goals with different widths. To test if visual presentation would strengthen our hypotheses, in the next study, we had participants imagine similar scenarios to the previous study, but instead of presenting the wide or narrow goals narratively, we presented them in a bar graph.

CHAPTER THREE

Study 2: Visual Goal Presentation

Given that our previous results showed patterns that were consistent with our prediction, we tried to enhance those effects by presenting goals with different widths in bar graphs, which highlighted the widths more saliently. Similarly, we hypothesized that, when presented wider goals in bar graphs, participants in a promotion focus would report higher motivation than when presented narrower goals and the reverse would hold true for those in a prevention focus.

3.1 Method

Participants

Eighty-eight (M_{age} = 32.76, SD_{age} = 12.49; 37 women) adult participants were recruited on Amazon Mechanical Turk and were paid $0.50 to complete a 10-minute online study.

Procedure

This study was a 2 (promotion focus vs. prevention focus) × 2 (wide goals vs. narrow goals) between-subject design. Participants were randomly manipulated to be either promotion-focused or prevention-focused, as done in Study 1. Then, they were shown different hypothetical scenarios with manipulated goal widths presented in bar graphs (see Appendix B for complete scenarios). In each scenario, participants rated how motivated, passionate, and enthusiastic they would be to achieve the goal and how satisfied they would feel when they achieved the goal on 7-point Likert scales, as *1* = not at all and *7* = extremely. Among those scales, our primary measure was the degree to

which participants were motivated to achieve the goal. At the end of the study, participants provided basic demographic information.

3.2 Results and discussions

A 2 (regulatory focus: promotion focus vs. prevention focus) × 2 (goal width: wide goals vs. narrow goals) ANOVA with motivation score as dependent variable was conducted for each individual scenario. Only a main effect of regulatory focus condition was found in the fruit scenario, F (1,84) = 4.09, p = .046. That is, promotion-focused participants reported higher motivation (M = 5.44, SD = 1.45) than those in prevention focus did (M = 4.76, SD = 1.60). No other significant interaction effects or significant main effects were found in any scenarios, F (1, 84) < 1.64, p < .933.

No significant effects were found in other questions (i.e., how passionate, and enthusiastic they would be to achieve the goal and how satisfied they would feel when they achieved the goal), either, F (1, 84) < 2.38, p < .952.

The findings did not reveal any of the interaction effects we expected, so presenting visual representations of different goal widths did not seem to highlight the motivational implications of wider and narrow goals. To further examine our hypotheses, we decided to explore whether using actual behavioural tasks would better reveal our predicted interaction in the following two studies.

CHAPTER FOUR

Study 3: Saving Strategies Task

Instead of having participants imagine hypothetical scenarios, in Study 3 we presented participants with an actual behavioural task. In this task, participants were told to write down a savings goal they had currently, which we hypothesized would get them more engaged in the task, and to list a number of strategies they could use to save money for their goal. In addition to having participants rate how *motivated* they were to achieve goals with different widths, we further examined whether setting goals in a way that sustains an individual's motivational orientation would boost *performance*, which was assessed by the number of strategies they generated in the task.

4.1 Method

Participants

Ninety-one (M_{age} = 27.25, SD_{age} = 7.96; 25 women) adult participants were recruited on Amazon Mechanical Turk and were paid $0.50 to complete a 10-minute online study.

Procedure

This study was a 2 (promotion focus vs. prevention focus) × 2 (wide goal vs. narrow goal) between-subject design. As in the previous studies, participants were first randomly assigned to either a promotion focus or a prevention focus condition in which they wrote a brief essay describing their current hopes and aspirations or current duties and obligations, respectively. Then they performed a saving strategies task, adapted from Study 2 done by Locke, Chah, Harrison, and Lustgarten (1989). Participants were told to think of a current savings goal they had and write the goal down. They were then asked to

list strategies they could use to achieve the goal they just wrote down. In the wide goal condition, participants were told to come up with a "medium" number of strategies for saving up the money. In the narrow goal condition, they were told to come up with 3 to 5 strategies. The two conditions were run separately. The wide goal condition was run first so that we had an idea of how many strategies participants would write when given the instruction of coming up with a medium number of strategies. The goal range in the narrow goal condition was set based on the data collected in the wide goal condition. The number of strategies participants wrote down was the primary dependent variable in this study. In addition, we asked participants to rate how they felt about the goal (i.e., How motivated are you to achieve this goal?). Last, basic demographic data was collected.

4.2 Results and discussions

Number of strategies

A 2 (promotion focus vs. prevention focus) × 2 (wide goal vs. narrow goal) ANOVA was conducted to test if promotion-induced participants wrote down more strategies when they were given a wide goal than when they were given a narrow goal, and if those in the prevention condition generated more strategies when a given narrow goal than when given a wide goal. The results supported our hypothesis. A significant interaction effect was found, F (1,87) = 10.60, p = .002 (Figure 2). That is, promotion-induced participants performed significantly better, that is, came up with more strategies, when given a wide goal (M = 4.47, SD = 1.46) than when given a narrow goal (M = 3.31, SD = 0.70), F (1, 44)= 8.88, p = .005, whereas those who were induced as prevention focus performed better with a narrow goal (M = 3.63, SD = 0.84) than with a wide goal (M = 3.28, SD = 0.83), F (1, 43) = 1.92, p = .173. The main effect of goal condition and

the main effect of regulatory focus condition were both marginally significant, F (1, 87)= 3.01, p = .086 and F (1, 87)= 3.55, p= .063, respectively. Specifically, participants generated more saving strategies with a wide goal (M = 4.02, SD = 1.38) than with a narrow goal (M = 3.51, SD = 0.80). Moreover, promotion-induced participants came up with more strategies (M = 4.07, SD = 1.36) than those in a prevention focus (M = 3.49, SD = 0.84).

Motivation scores

Another 2 (promotion focus vs. prevention focus) × 2 (wide goal vs. narrow goal) ANOVA was conducted to examine if participants in the promotion condition were more motivated by the wide goal than by the narrow goal, and the reverse was true for prevention-induced participants. No significant interaction effect was found on this dependent variable, F (1, 87)= .002, p = .967. When we controlled the extent to which the goal was important for participants to achieve, however, the interaction was in the same direction as we predicted (i.e., those in promotion focus condition reported the wide goal to be more motivating, and those in the prevention focus condition were more motivated by the narrow goal), F (1, 86) = 1.38, p = .243. Therefore, it is possible that the interaction would be enhanced if participants were told to think of important saving goals in their life.

Our findings thus far show some evidence supporting the prediction that individuals in a promotion focus (vs. a prevention focus) are more motivated by wide goals than narrow goals, and that their performance increases when there is a "fit" between their motivational orientation and goal width. Given that participants reported their motivation scores after doing the strategies task, one criticism of this study is the extent to which

participants' reports of how they were motivated to achieve the goal might have been biased by their performance in the task, which could be another reason why we didn't find the interaction effect for their motivation scores. In the next study, we asked participants to answer those self-report questions before actually doing the task, and the goals were reiterated after those questions so that participants were reminded of the goal before they started the task. Moreover, to align with previous studies (e.g., Locke and Latham, 1990), we changed the wide goal condition in the next study to ask participants to "do your best", which was compared to specific goals in previous studies. Further, there has been controversy regarding whether the effects of self-set goals differ from those of assigned goals (e.g., Latham, Michelle, & Dossett, 1978; Latham & Saari, 1979; Latham, Steele, Saari, 1982). In the next study, we were also interested in how self-set goals might influence participants' performance.

CHAPTER FIVE

Study 4a: Anagram Task with Vague Goal or Self-set Range Goal

To address the concerns mentioned above, we had participants perform an anagram task with different goals to test our hypotheses. In this study, we compared a more abstract goal (i.e., do your best) than the wide goal in Study 3 with a concrete range goal set by participants themselves to boost engagement. Performance was measured as the number of words each participant generated in their experimental trials. Moreover, follow-up questions were asked to assess participants' motivation and regulatory fit experience.

5.1 Method

Participants

Ninety-five (M_{age} = 36.35, SD_{age} = 12.71; 54 women) adult participants were recruited on Amazon Mechanical Turk and were paid $0.50 to complete a 10-minute online study. One participant set a goal range more than 3 standard deviations from the mean and thus was excluded. Ninety-four participants were retained for later analyses.

Procedure

Participants were asked to perform an anagram task in this study. They first finished a 30-second practice session to get familiar with the task and get a sense of their performance in the task. After they finished the practice session, participants were randomly induced to be either promotion- or prevention-focused in the same way as our previous studies. Then participants were randomly presented with a vague goal (i.e., "Do your best") or an instruction to set their own goal in a range form (i.e., "I will generate between X and Y words"). Before starting the actual task, participants were asked to rate

how they felt about the goal (i.e., "How motivating does this goal sound to you?") to get a more accurate self-report motivation score, and were reminded of their goal before starting the experimental session. In the experimental session, they were presented with seven letters and had 5 minutes to do the task. Our primary performance measure was the number of solutions (words) participants generated from these seven letters. At the end of the study, the same questions regarding motivation were asked again, and basic demographic data was collected.

5.2 Results and discussions

Number of words

A 2 (promotion focus vs. prevention focus) × 2 (vague goal vs. self-set narrow goal) ANOVA was conducted to examine if participants in a promotion focus generated more words with the "do your best" goal while those in a prevention focus generated more words with the self-set narrow goal. Although the interaction effect was not significant, F (1, 90) = .78, p = .380, the result showed a trend in our predicted direction. That is, promotion-induced participants generated more words with the "do your best" goal (M = 23.80, SD = 9.54) than with the narrow goal (M = 21.92, SD = 10.05), F (1, 48) = 0.46, p = .501, whereas those with prevention focus did better with the narrow goal (M = 21.60, SD = 9.87) than with the "do your best" goal (M = 19.79, SD = 11.05), F (1, 42) = 0.33, p = .570.

Goal width in self-set condition

We calculated the width of goals set by participants themselves. The goal width is the difference between the upper bound and the lower bound set by the participants. For example, if a participant set a goal range between 20 and 30, the goal width would be

calculated as 10. An independent-samples T-test was conducted. No significant difference was found between the goal widths set by participants in promotion focus and those in prevention focus, F (1, 48) = 0.12, p = .728.

Pre-task and post-task questions

Participants were asked how motivating the goal was before actually doing the task. The result of this question showed the same pattern as we predicted; however, the interaction effect was not significant, F (1, 90) = 0.50, p = .480. There were no main effects, F (1, 90) < 2.59, p < .988. When the same question was asked after they finished the task, both promotion-induced and prevention-induced participants reported slightly higher scores in the self-set narrow goal condition, which was consistent with what we found in Study 3. Thus, it is possible that how participants performed influenced how motivated they felt about the goal.

To explore whether they experienced regulatory fit, participants were also asked to what extent they agreed with statements about "feeling right," as done in previous studies (e.g., Cesario, Grant, & Higgins, 2004; Appendix C). When presented with a "do your best" goal (vs. a self-set narrow goal), promotion-induced (vs. prevention-induced) participants felt that doing the task was a "good fit," F(1,90) = 4.178, p = .044 (Figure 3), and "felt right," F(1,90) = 5.198, p = .025 (Figure 4). Promotion-induced (vs. prevention-induced) participants also reported that they enjoyed the task more when presented with a "do your best" goal (vs. self-set narrow goal), F(1,90) = 5.354, p = .023 (Figure 5), and that they were more engaged in the task, F(1,90) = 4.636, p = .034 (Figure 6). These results strongly supported our hypothesis that individuals with promotion focus

experience regulatory fit with wide goals, whereas prevention-focus individuals experience regulatory fit with narrow goals.

To be more consistent with our previous studies, we conducted another study using the same design but with two different conditions in study 4b.

CHAPTER SIX

Study 4b: Anagram Task with Assigned Wide Goal or Narrow Goal

In this study, we used the same paradigm as in the previous study, but with two different goal conditions. To be more consistent with our studies 1, 2, and 3, participants were assigned either a wide goal (i.e., to come up with 20-30 words) or a narrow goal (i.e., to come up with 24-26 words). Similar to Study 4a, performance was measured as the number of words each participant generated in their experimental trials, and follow-up questions related to regulatory fit were asked.

6.1 Method

Participants

A hundred and one (M_{age} = 34.31, SD_{age} = 11.82; 52 women) adult participants were recruited on Amazon Mechanical Turk and were paid $0.50 to complete a 10-minute online study.

Procedure

Similar to Study 4a, participants were told to perform an anagram task in this study, including a 30-second practice session and a 5-minute experimental session. After they finished the practice session, participants were randomly assigned to either a promotion or a prevention focus induction condition. Then participants were randomly presented with an assigned wide goal (i.e., to come up with 20-30 words) or an assigned narrow goal (i.e., to come up with 24-26 words). The same pre- and post-task questions from Study 4a were asked and basic demographic data was collected. That is, participants reported their motivation both before and after they did the task and their regulatory fit

experience after the task. Again, number of solutions (words generated) to the anagram task was our primary performance variable.

6.2 Results and discussions

Number of words

A 2 (promotion focus vs. prevention focus) × 2 (wide goal vs. narrow goal) ANOVA was conducted with the number of words participants generated as the dependent variable. No significant effects were found, F (1, 97) < 0.09, p < .798. However, the interaction effect showed a trend in the predicted direction. That is, promotion-induced participants generated more words when presented with a wide goal (M = 24.43; SD = 9.21) than with a narrow goal (M = 23.00; SD = 6.90); the reverse holds for those in a prevention focus (M = 22.92, SD = 8.31 with a wide goal; M = 25.33; SD = 7.92 with a narrow goal).

Pre-task and post-task questions

No significant interaction effects were found on the self-report dependent variables (i.e., how motivating the goal sounds, how motivated you were to achieve the goal, doing this task felt like a good fit, I enjoyed the task, and I felt engaged in the task). However, post-task motivation scores, the extent to which participants enjoyed the task and felt right about doing the task revealed patterns that were consistent with our prediction. That is, while promotion-focused participants reported higher motivation (M = 6.14; SD = 1.11), higher enjoyment (M = 5.38; SD = 1.63), and felt more right (M = 5.05; SD = 1.53) with the wide goal than with the narrow goal (M = 6.06, 5.06, and 4.68; SD = 1.24, 1.65, and 1.76, respectively), those in a prevention focus were more motivated by the narrow goal (M = 6.21; SD = 1.14) than by the wide goal (M = 5.72; SD = 1.17), and they felt

more right (M = 5.13; SD = 1.62) and enjoyed the task more (M = 5.46; SD = 1.56) with the narrow goal than with the wide goal (M = 5.04 and 5.28; SD = 1.31 and 1.60, respectively).

Compared to the two conditions in Study 4a, the wide goal and narrow goal conditions in this study revealed smaller effects. One reason for this difference may be that the wide goal used in the current study was much more concrete than the "do your best" goal in Study 4a. Previous studies have demonstrated that abstraction is more aligned with a promotion focus whereas concreteness is more aligned with a prevention focus (e.g., Förster & Higgins, 2005; Semin, Higgins, de Montes, & Estourget, 2005), which could be the reason why the significant interactions found on the "fit"-related questions in Study 4a could not be replicated in Study 4b.

CHAPTER SEVEN

General Discussion

7.1 Thesis summary

In the current research, we were interested in the motivational influences of wider and narrower goals on individuals with different regulatory foci. Specifically, we hypothesized that individuals in a promotion focus would be more motivated by wider goals, as wider goals have higher opportunities for success, which makes people eager to achieve and promotes more self-direction. On the other hand, we predicted that individuals in a prevention focus would be more motivated by narrower goals, as a small number of acceptable outcomes makes people vigilant to avoid failing to achieve those outcomes. Furthermore, we hypothesized that individuals in a promotion focus (vs. in a prevention focus) would experience *regulatory fit* when aiming for wider goals (vs. narrower goals).

To examine the first hypothesis, we manipulated participants to be either promotion focus or prevention focus by having them describe their hopes and aspirations, or their duties and obligations, respectively. Then participants were told to imagine different scenarios with wide or narrow goals that were presented verbally (Study 1) or visually (Study 2), and were asked to reflect on how motivating these goals were. Although only a few of the scenarios showed significant interaction effects, all of them revealed trends in our predicted direction. That is, while individuals in a promotion focus reported wider goals to be more motivating, those in a prevention focus reported higher motivation in response to narrower goals. We believed that one explanation of these weak results may have been that participants were only presented with hypothetical scenarios in these two

studies. Therefore, we conducted Studies 3 and 4, which employed behavioural tasks that we believed would be more engaging for participants.

In Study 3, we used the same manipulation to induce participants to be either promotion focus or prevention focus. Then participants were asked to describe a current savings goal they had and to write down a certain number of strategies that could help them save up the money. The number of strategies they were instructed to write down was framed as either a vague goal (i.e., a "medium" number of strategies) or a narrow goal (i.e., 3 to 5 strategies). Our hypothesis was strongly supported. Participants in a promotion focus generated more saving strategies when assigned a vague goal than when assigned a narrow goal. The reverse was true for those in a prevention focus.

To further examine our hypotheses, we employed a different behavioural task, an anagram task, in Studies 4a and 4b. Each participant had a 30-second practice session to get familiar with the task. Then participants' regulatory orientations were manipulated in the same way as in our other studies. In Study 4a, participants were either assigned a vague goal (i.e., do your best) or asked to set their own goal in the form of a range. Although the predicted interaction in this study was not significant, it still showed a trend in our predicted direction. Moreover, participants experienced a "fit" when they were pursuing their preferred goals (i.e., vague goals for promotion focus, and narrow goals for prevention focus). Participants in a promotion focus reported a "good fit" and enjoyed the task more when given a vague goal than when given a narrow goal. The reverse was true for those in a prevention focus.

In Study 4b, similar procedures were conducted. The only difference was that participants were assigned either a wide goal (i.e., to come up with 20-30 words) or a

narrow goal (i.e., to come up with 24-26 words). Participants in a promotion focus generated more words when they were presented with wide goals than when given narrow goals, and those in a prevention focus generated more words with the narrow goal than with the wider goal. However, this interaction was not significant. One reason we did not replicate the significant interaction on our primary dependent variable (i.e., number of words) in Study 4b may be that the wider goal in Study 4b did not highlight the abstractness as much as the "do your best" goal did in Study 4a. It has been demonstrated that abstractness is more aligned with promotion focus (e.g., Förster & Higgins, 2005; Semin, Higgins, de Montes, & Estourget, 2005) and, thus, might promote motivation. Not surprisingly, the interaction effects in "fit"-related questions were attenuated due to lack of abstractness in wide goal condition.

Overall, the current research has revealed promising trends supporting our hypotheses that individuals in promotion focus (vs. in prevention focus) would be more motivated by wider goals (vs. narrower goals) and that when participants were provided with goals of their preferred widths, they would report a "good fit" and more engagement in the tasks. Mixed results in current research may be due to a couple of limitations, which will be discussed in the following section.

7.2 Theoretical contributions

In the goal setting literature, researchers have intensively studied the effect on task performance of the combination of goal difficulty and specificity. However, less is known about the independent effect of each of these two dimensions (i.e., the effect of goal difficulty, and the effect of goal specificity). Previous research has revealed that goal difficulty alone is positively correlated with performance level (e.g., Locke, Shaw, Saari,

& Latham, 1981; Locke & Latham, 1990, 2002). However, the evidence for the independent effect of goal specificity is debatable. On one hand, Locke and colleagues (1989) have demonstrated that goal specificity affects the variability of performance, but not the level of performance. That is, the less specific a goal is, the more variable are the outcomes considered by someone to be "acceptable." On the other hand, some studies have shown that goal specificity alone does in fact influence performance level, but even this evidence is mixed. For example, Earley and Perry (1987) have found evidence supporting both beneficial and detrimental effects of specific goals on performance level.

In the current research, we proposed a moderator that might be able to explain the mixed findings for goal specificity: regulatory focus. Our research has shown promising evidence that the link between goal specificity and performance level may be moderated by individual regulatory focus. That is, while individuals in promotion focus are more motivated by aiming for wide goals (e.g., saving $40-$60 per week), those in prevention focus are more motivated by narrow goals (e.g., saving $48-$52 per week).

This research also provided evidence showing that regulatory focus affects how individuals interpret goals with varying widths and thus influences their motivation to pursue the goals. Regulatory focus theory has suggested that different regulatory foci do not affect which type of goals to pursue in terms of goal content. However, our research suggests that individuals in different regulatory foci may differentially value goals with varying widths. There may be different motivational implications of wide and narrow goals from the perspectives of promotion-focused and prevention-focused individuals.

Further, we have demonstrated some evidence of the mechanism explaining this finding, namely that pursuing goals with preferable widths promotes regulatory fit for

individuals in different regulatory foci. That is, promotion-focused individuals feel more engaged and more enjoyment pursuing wide goals, whereas prevention-focused individuals are more engaged and feel more enjoyment pursuing narrow goals.

7.3 Limitations and future directions

In the current research, we set different goals for participants to imagine or to achieve. Although our main focus in the current research is on the varying widths of goals, some other goal dimensions, like goal content, might be more or less compatible with a particular regulatory focus. For example, in some of our studies, participants were told to save up a certain amount of money, which might be more compatible with a promotion focus because saving up money to buy something could be interpreted as gain or non-gain. In contrast, some goals might be more compatible with a prevention focus. The weight loss scenario in Study 2, for example, might have highlighted loss and non-loss information, which would be more congruent with a prevention focus. That might explain why the results in that study showed that participants reported higher motivation with the narrow goal than with the wider goal, regardless of their regulatory foci. Therefore, one limitation in the current research is that we did not control for goal content, which may have been related to regulatory focus. In future studies, researchers could set the content of assigned goals to be neutral to avoid any confounding effect of goal type.

Moreover, another limitation could stem from the compatibility between chronic and situational regulatory foci. In the current research, we manipulated participants' regulatory foci, instead of measuring their chronic regulatory foci. It might be interesting to ask what happens if an individual's situational regulatory focus is not compatible with one's chronic regulatory focus. Specifically, are there any detrimental effects when an

individual is induced to a regulatory focus orientation that is opposed to his or her chronic one (i.e., if chronically promotion-focused individuals were induced to be prevention focus, and prevention-focused individuals were induced to be promotion focus). Although previous research has not found notable interaction effects between chronic and situational regulatory focus on motivation and performance level, cognitive resources might be depleted when one's situational regulatory focus does not fit one's chronic regulatory focus (Lisjak, Molden, & Lee, 2012). Therefore, future research might examine any cognitive effects of this "non-fit" on motivation by measuring and manipulating participants' regulatory focus in the same task.

7.4 Conclusion

In sum, the current research provided some exploratory insights of the moderating effect of regulatory focus on the relationship between goal specificity and performance level. Theoretically, on one hand, the current research highlights the need of examining how goal specificity, isolated from goal difficulty, might influence performance level, and the value of pursuing goals with preferable widths for individuals in different regulatory foci. On the other hand, the current research reveals practical implications in organizational environment (e.g., improving productivity) and personal goal pursuit (e.g., savings goals). For example, financial advisors could suggest more or less specific savings goals to clients in different motivational orientations to promote clients' engagement and motivation to save. Further, given the limitations and future directions we suggested, it might be worth trying different paradigms or methodologies to re-examine our hypotheses.

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Appendix A. Complete scenarios in Study 1.

Scenario 1: Imagine that you are saving up to buy a computer.

- Wide goal condition: Your goal is to save between $1,500 and $3,500,
- Narrow goal condition: Your goal is to save between $2,400 and $2,600.

Scenario 2: Imagine that you are beginning to save for retirement.

- Wide goal condition: Your goal is to put aside between $100 and $500 a month,
- Narrow goal condition: Your goal is to put aside between $200 and $400.

Scenario 3: Imagine that you are trying to get a certification that will allow you to take on new job responsibilities.

- Wide goal condition: Your goal is to study between 6 and 14 hours a week,
- Narrow goal condition: Your goal is to study between 8 and 12 hours a week.

Scenario 4: Imagine that you are trying to keep up more with global affairs.

- Wide goal condition: Your goal is to read current events in the newspaper between 3 and 7 days a week,
- Narrow goal condition: Your goal is to read current events in the newspaper between 4 and 6 days a week.

Scenario 5: Imagine that you are trying to limit the amount of time you spend surfing the Internet.

- Wide goal condition: Your goal is to surf the web between 0.5 and 3.5 hours a day,
- Narrow goal condition: Your goal is to surf the web between 1 and 2 hours a day.

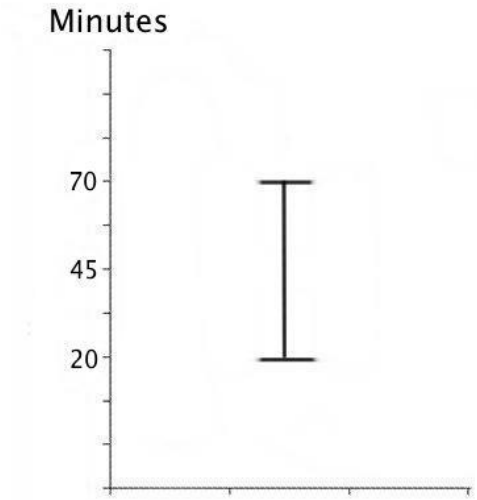
Scenario 6: Imagine that you are trying to add more fruits to your diet.

- Wide goal condition: Your goal is to eat between 1 and 6 fruits a day,
- Narrow goal condition: Your goal is to eat between 3 and 4 fruits a day.

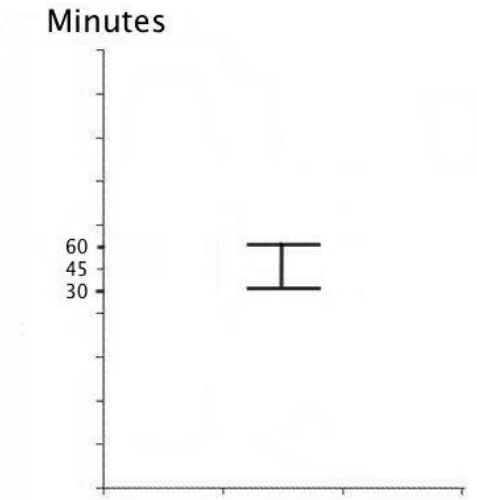
Appendix B. Goal widths presented in bar graphs in Study 2.

Scenario 1: Imagine that your New Year's resolution is to read more. Starting in January, your goal is to read for the range of time indicated below every day.

Wide goal condition

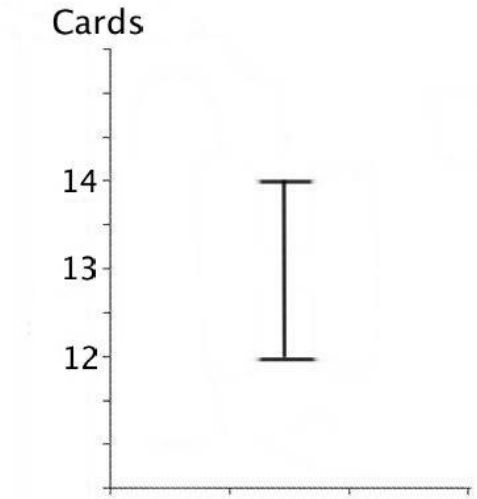


Narrow goal condition

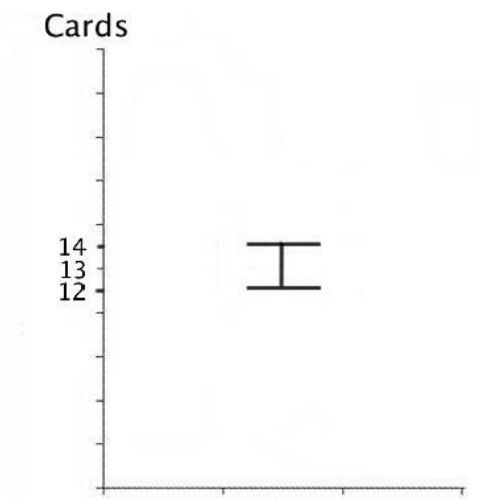


Scenario 2: Imagine that you are saving up to treat your significant other to a New Year's Eve dinner. Your goal is to save up to the range of money indicated below.

Wide goal condition

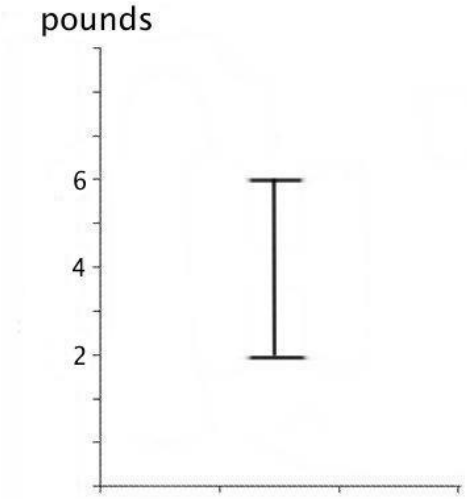


Narrow goal condition

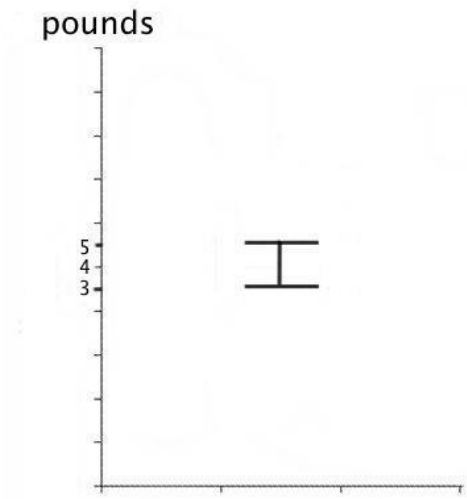


Scenario 3: Imagine that your New Year's resolution is to lose some weight starting January 1. Your weight loss goal is the range indicated below (in pounds).

Wide goal condition

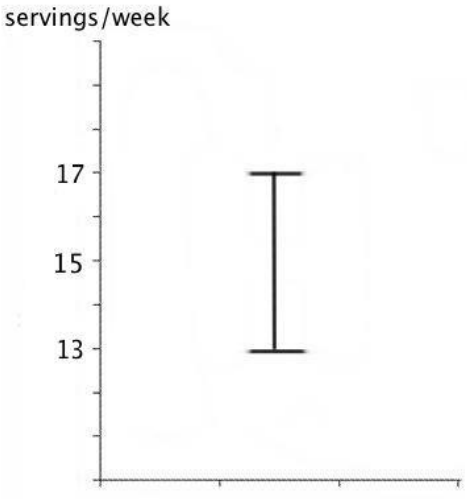


Narrow goal condition

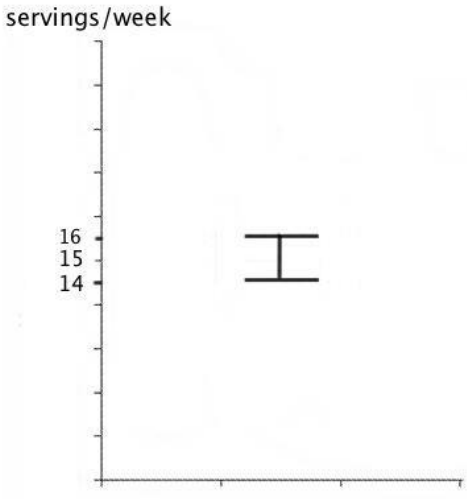


Scenario 4: Imagine that your New Year's resolution is to eat more fruits and veggies. Starting in January, your goal will be to eat within the below range of fruits and veggies every week.

Wide goal condition



Narrow goal condition



Appendix C. Regulatory fit questions in Study 3 and Study 4.

- Doing this task felt like a good fit.
- I felt engaged in the task.
- I enjoyed this task.
- Doing this task felt "right."

Appendix D. Figures

Figure 1. Participants' self-reported motivation scores in computer scenario of Study 1.

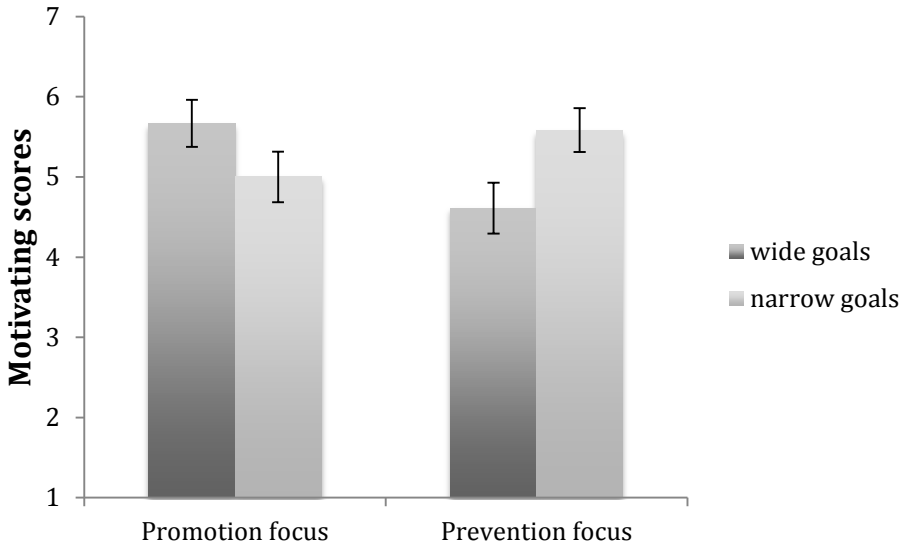


Figure 2. Number of strategies generated in Study 3.

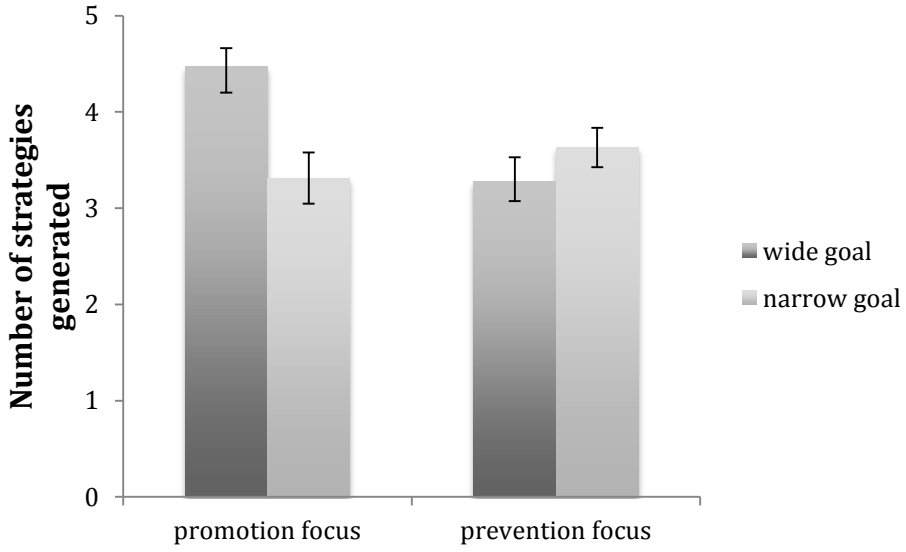


Figure 3. “Good fit” question in Study 4a anagram task with vague or self-set narrow goal.

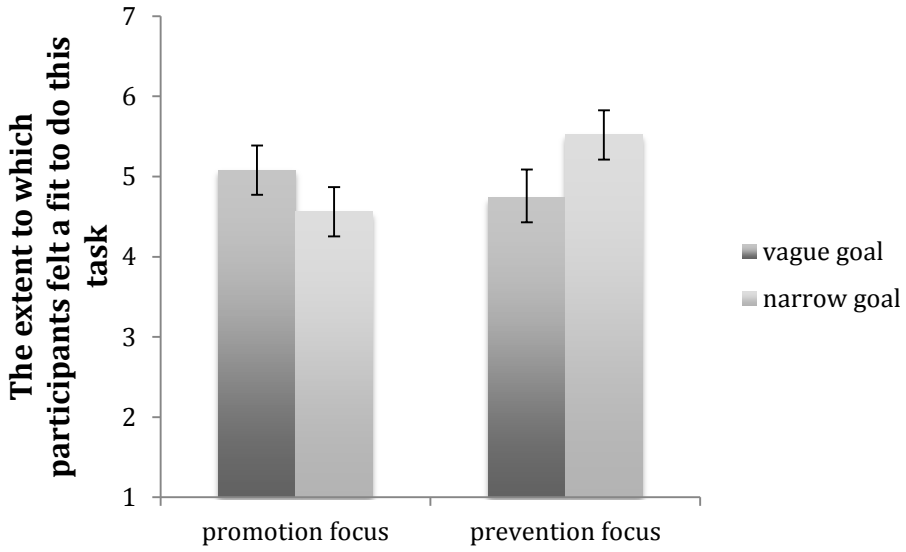


Figure 4. “Felt right” question in Study 4a anagram task with vague or self-set narrow goal.

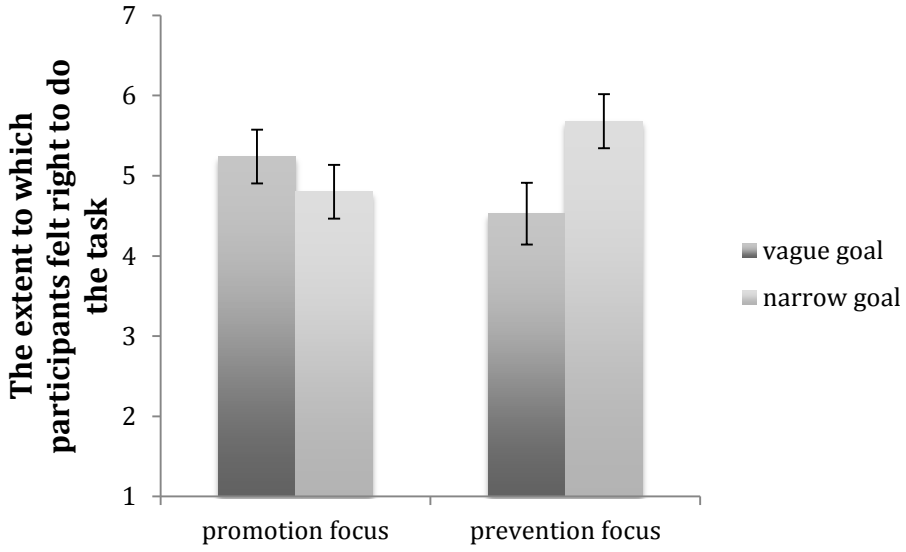


Figure 5. How much participants enjoyed the anagram task in Study 4a with a vague or self-set narrow goal.

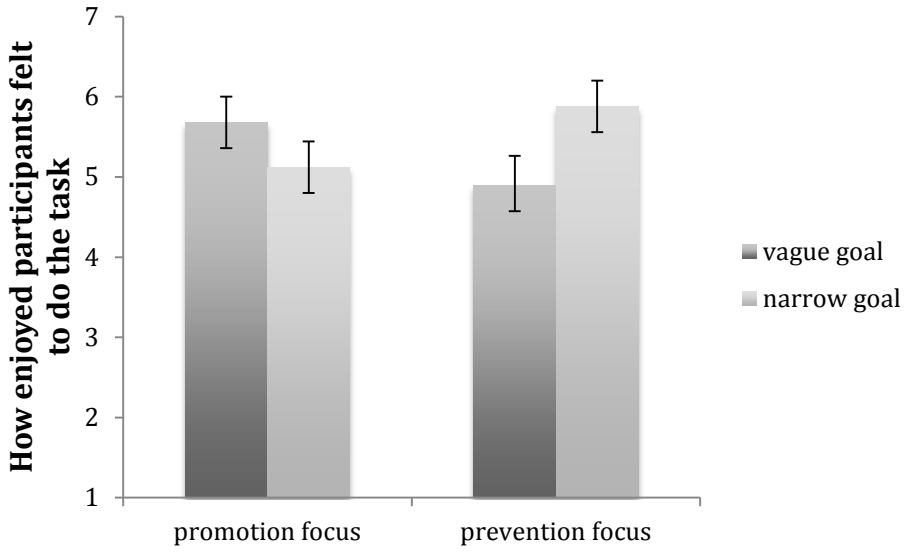


Figure 6. How engaged participants were while performing the anagram task in Study 4a with a vague or self-set narrow goal.