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情緒調節策略與調控焦點的適配性

When the Means Justify the Ends: The Role of
Regulatory Fit in Emotion Regulation

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There is a time for everything, and a season for every activity under the heavens:

a time to be born and a time to die,

a time to plant and a time to uproot,

a time to kill and a time to heal,

a time to tear down and a time to build,

a time to weep and a time to laugh,

a time to mourn and a time to dance,

a time to scatter stones and a time to gather them,

a time to embrace and a time to refrain from embracing,

a time to search and a time to give up,

a time to keep and a time to throw away,

a time to tear and a time to mend,

a time to be silent and a time to speak,

a time to love and a time to hate,

a time for war and a time for peace.

What do workers gain from their toil? I have seen the burden God has laid on the human race. He has made everything beautiful in its time. He has also set eternity in

the human heart; yet no one can fathom what God has done from beginning to end. I know that there is nothing better for people than to be happy and to do good while they live. That each of them may eat and drink, and find satisfaction in all their toil—this is the gift of God. I know that everything God does will endure forever; nothing can be added to it and nothing taken from it. God does it so that people will fear him.

—*Ecclesiastes 3:1-14*



摘要

過去研究在評估情緒調節策略的成效時，主要是根據該策略是否能帶來較好的調節結果 (e.g., Gross & John, 2003)，卻忽略了使用策略背後的動機可能在其中扮演的調節角色。根據調控焦點適配理論 (Higgins, 2000)，當個體的動機傾向與其使用的策略具有適配性時，個體會具有較強的動機與較佳的表現。本研究欲將該理論應用在情緒調節的課題上，檢驗動機傾向 (促進型焦點與預防型焦點) 與情緒調節策略 (重新評估與表達壓抑) 之間是否具有適配性。首先，本研究假設促進型焦點與重新評估策略之間存在適配關係，而預防型焦點與表達壓抑策略之間存在適配關係。此外，相較於處於不適配狀態 (促進型焦點—表達壓抑; 預防型焦點—重新評估)，本研究預期個體在達到適配狀態 (促進型焦點—重新評估; 預防型焦點—表達壓抑) 時會產生較佳的情緒調節結果。研究一問卷調查的結果顯示，當個體的促進型動機傾向越高時，慣性使用重新評估作為情緒調節策略的程度也越高，而當個體的預防型動機傾向越高時，慣性使用表達壓抑作為情緒調節策略的程度也越高; 相反地，當個體的促進型動機傾向越高時，慣性使用表達壓抑作為情緒調節策略的程度也越低，而當個體的預防型動機傾向越高時，慣性使用重新評估作為情緒調節策略的程度也越低。研究二以實驗法操弄調控焦點與情緒調節策略。實驗結果顯示，在觀看引發害怕情緒的影片後，相較於不適配情境下的參與者，適配情境下的參與者有較高的情緒穩定度以及較少的自我調控資源耗損。最後，我們也針對本研究的貢獻與限制進行更深入的討論。

關鍵詞：情緒調節、表達壓抑、重新評估、調控焦點、促進型焦點、預防型焦點、
調控適配性、自我控制

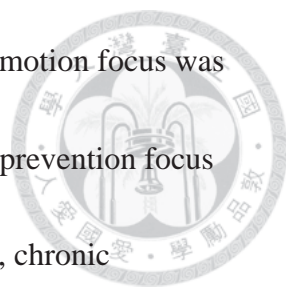
When the Means Justify the Ends: The Role of Regulatory Fit in Emotion Regulation



Hsiao-Tien Tsai

Abstract

Previous research tend to infer the effects of emotion regulation strategies primarily from the consequences they brought about, ignoring the role that motivational orientation in goal pursuit may play in moderating such consequences. According to regulatory fit theory (Higgins, 2000), regulatory fit occurs when there is fit between one's motivational orientation and one's strategy used in goal pursuit, which in turn leads to enhanced motivation and performance. Extending regulatory fit theory to the realm of emotion regulation, we examined relations of fit between motivational orientation in goal pursuit (i.e., promotion focus and prevention focus) and emotion regulation strategy (reappraisal and suppression). We hypothesized fit of promotion focus to reappraisal and of prevention focus to suppression. Furthermore, we expected better regulatory outcomes in the fit conditions (i.e., promotion—reappraisal and prevention—suppression) than in the non-fit conditions (i.e., promotion—suppression



and prevention – reappraisal). In Study 1, we found that chronic promotion focus was associated with greater habitual use of reappraisal, whereas chronic prevention focus was associated with greater habitual use of suppression. By contrast, chronic promotion focus was associated with lower habitual use of suppression, whereas chronic prevention focus was associated with lower habitual use of reappraisal. In Study 2, both regulatory focus and emotion regulation were manipulated in a laboratory setting. Results showed that individuals in the fit conditions showed greater emotional stability and lower self-regulatory resource depletion than those in the non-fit conditions after watching a fear-eliciting film. Contributions and limitations of the present study were discussed.

Keywords: emotion regulation, suppression, reappraisal, regulatory focus, promotion focus, prevention focus, regulatory fit, self-control

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1. Introduction

“Fear...and anger and pity and in general pleasure and pain, may be felt both too much and too little, and in both cases not well; but to feel them...with the right motive, and in the right way, is what is both intermediate and best, and this is characteristic of virtue.”

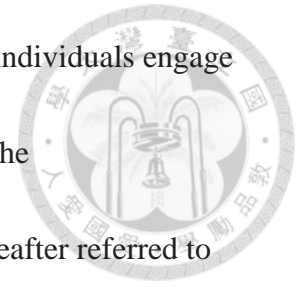
—Nicomachaen Ethics (Aristotle, trans. 1985)

The notion that emotions need to be regulated dates back to the ancient Greek times, when the well-known philosopher Aristotle described the characteristics of virtue in the Nocomachaen Ethics. To feel emotions with the right *motive* and by the right *means* is how Aristotle thought emotions should be regulated. However, Aristotle’s statement did not make clear what qualifies as the right motive or the right emotion regulation strategy in a given situation or context.

1.1 Emotion Regulation Strategies: Reappraisal and Suppression

In this article, we present a set of studies that attempted to address this issue via investigations into the interplay between motivation and emotion regulation strategy. In order to build on existing research on emotion regulation, we focused on two commonly studied emotion regulation strategies—*cognitive reappraisal* and *expressive suppression*. In the process model of emotion regulation (Gross, 1998), emotion regulatory acts may take place at different points in the emotion generative process. Cognitive reappraisal (hereafter referred to as reappraisal) is a form of

antecedent-focused strategy. Before the emotional response arises, individuals engage in cognitive change that allows them to alter how they think about the emotion-eliciting situation. In contrast, expressive suppression (hereafter referred to as suppression) is a form of response-focused strategy. After the emotional response has come under way, individuals can modulate it by inhibiting its outward behavioral expression.



Why reappraisal and suppression? Although there are many emotion strategies (e.g., distraction, rumination) that can be adopted at different points of time during the emotion generative process, reappraisal and suppression have received special attention in existing literature of emotion regulation for several reasons (John & Gross, 2004). First, reappraisal and suppression are commonly used in everyday life. Adaptive or maladaptive use of these strategies may not only impose immediate impacts on current emotional states, but the impacts may also aggregate along with time and become one of the major deterrents of long-term psychological adjustment. Second, reappraisal and suppression can be both assessed as individual differences and manipulated in laboratory settings, which enable researchers to probe research issues on a correlational/chronic and causal/situationally-induced basis. Finally, reappraisal and suppression are representative of emotion regulation strategies occur at antecedent-focused and response-focused stage, respectively. By studying these two

specific strategies, the most important element in the process model — the *timing* of exerting emotion regulatory efforts — is encompassed.

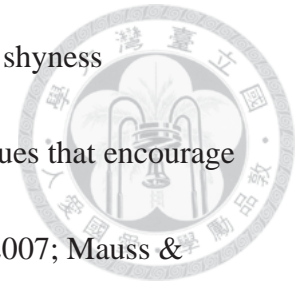


The ends justify the means: Reappraisal vs. suppression. Previous research

tended to justify the use of emotion regulation strategies by its ends — that is, the psychological consequences they brought about (e.g., Gross & John, 2003; Moore, Zoellner, & Mollenholt, 2008). In this regard, cognitive reappraisal has been documented as a more adaptive and effective strategy than suppression. Compared to suppression, for instance, reappraisal has been shown to be associated with better memory for past events, greater experience of positive emotions, better interpersonal functioning, higher psychological well-being, and fewer stress-related symptoms after trauma (Gross & John, 2003; Moore et al., 2008; Richards & Gross, 2000).

Despite a great body of research suggesting the relative benefits of reappraisal in comparison to suppression, increasing efforts have been devoted to identifying potential moderators of the link between emotion regulation and mental health outcomes. The notion that reappraisal is beneficial does not always hold. For example, it has been reported that reappraisal works less effectively among individuals low in habitual use of reappraisal (Mauss, Cook, Cheng, & Gross, 2007) and under high emotional intensity (Sheppes & Gross, 2011). On the other hand, recent findings suggest that the negative psychological outcomes associated with suppression may be

attenuated under some circumstances, such as individuals higher in shyness (Kennedy-Moore & Watson, 2001) and endorsement of cultural values that encourage the inhibition of emotional expression (e.g., Butler, Lee, & Gross, 2007; Mauss & Butler, 2010; Soto, Perez, Kim, Lee, & Minnick, 2011).



When the means justify the ends? Motivation in emotion regulation. A

research question remains nonetheless: Are there times when the *right* motives can justify the means, which in turn, justify the ends? That is, can the use of a particular emotion regulation strategy be justified through the adoption of a specific *motivational orientation*, such that the negative outcomes typically associated with the use of that strategy become weaker if the motivation is right? Chronically speaking, previous research has indicated that individuals with different personalities are motivated to experience trait-consistent emotions. For instance, neurotics prefer increasing level of worry, whereas extraverts prefer augmenting level of happiness when anticipating a demanding task (Tamir, 2005, 2009). Contextually speaking, individuals are also motivated to adopt different strategies depending on the specific goal or context. For example, with an instrumental goal in mind, participants not only showed preference for anger induction before playing a confrontational video game, but those in the anger condition also outperformed those in either the positive- or the neutral-emotion conditions (Tamir, Mitchell, & Gross, 2008). Other examples of

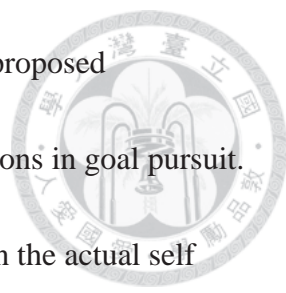
different strategic preferences based on context-specific goals are fear-increasing strategy preferred by an avoidance goal, rumination by a performance goal, and reappraisal by a learning goal (Rusk, Rothbaum, & Tamir, 2011; Tamir & Ford, 2009).



Based on the aforementioned evidence on motivation in emotion regulation, we can infer that reappraisal and suppression are more likely to be adopted under certain motivational orientations, whether the motivational orientation is chronic or situationally-induced. Moreover, once the goal is attained, the emotion regulation strategy used can be justified as good means. Therefore, the present study aimed to examine the role of motivation in emotion regulation by 1) finding the specific motivational orientation associated with two emotion regulation strategies (i.e., reappraisal and suppression), and 2) examining how the match or mismatch between motivational orientation and emotion regulation strategy may influence psychologically-related outcomes.

1.2 Motivational Orientations: Regulatory Focus

According to self-discrepancy theory (Higgins, 1987), there are three self representations imposed by oneself or by important others: the *actual self* (who one actually is), the *ideal self* (who one ideally would like to be), and the *ought self* (who one think one ought to be). Feelings of discomfort occur when there is discrepancy between the actual self and the ideal or the ought self. To eliminate the discomfort



feelings result from self-discrepancy, Higgins (1997, 1998) further proposed regulatory focus theory that distinguishes two motivational orientations in goal pursuit. Individuals with a *promotion focus* aim to minimize the gap between the actual self and the ideal self, so they tend to represent goals as ideals, such as hopes and aspirations; moreover, since they are motivated to fulfill needs of nurturance (e.g., nourishment), they are more sensitive to the presence or absence of positive outcomes (i.e., gains vs. non-gains). By contrast, individuals with a *prevention focus* aim to minimize the gap between the actual self and the ought self, so they tend to represent goals as oughts, such as duties and obligations; moreover, since they are motivated to satisfy needs of security (e.g., protection), they are more sensitive to the presence or absence of negative outcomes (i.e., non-losses vs. losses).

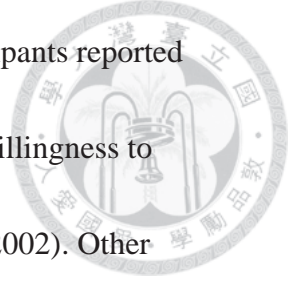
Distinct strategic preferences and emotional responses. Research indicates that regulatory focus is associated with distinct strategic preferences in goal pursuit. Promotion-focused individuals tend to show a preference for eagerness-to-approach strategies, which are geared toward approaching matches to desired end-states (i.e., the possibility for gains), whereas prevention-focused individuals tend to show a preference for vigilant-to-avoid strategies, which are geared toward avoiding mismatches to desired end-states (i.e., the possibility for losses) (Higgins, 1997, 1998). The difference in strategic preferences related to regulatory focus has been

demonstrated across a wide range of behavioral domains, including response biases (Lalwani, Shrum, & Chiu, 2009), commitment and trust (Molden & Finkel, 2010; Myer, Becker, & Vandenberghe, 2004), and risk taking (Scholer, Zou, Fujita, Stroessner, & Higgins, 2010).



In terms of emotional responses upon goal attainment, promotion-focused individuals tend to feel more cheerfulness — dejection emotions (e.g., happy — disappointed), where high intensity positive emotions and low intensity negative emotions are more likely to occur. On the other hand, prevention-focused individuals tend to feel more quiescence — agitation emotions (e.g., calm — tense), where low intensity positive emotions and high intensity negative emotions are more likely to occur (Higgins, Shah, & Friedman, 1997; Idson, Liberman, & Higgins, 2000).

Value from regulatory fit. Extending from the foundation of regulatory focus theory, Higgins (2000) proposed that when people pursue a goal with a strategy that sustains their motivational orientation — that is, when there is *regulatory fit* — benefits such as enhanced motivation and performance may occur. By contrast, when people pursue a goal with a strategy that goes against their motivational orientation, they will experience a lack of regulatory fit (aka. regulatory non-fit), which tends to undermine motivation and performance. For example, when an eagerness-to-approach strategy was adopted by participants with a promotion focus, or when a vigilant-to-avoid



strategy was adopted by participants with a prevention focus, participants reported higher task enjoyment, higher perceived task success, and greater willingness to repeat the task than those in the non-fit groups (Freitas & Higgins, 2002). Other benefits shown to accrue from regulatory fit include strong motivation (Higgins, 2000), task engagement (Higgins, 2006), success in soccer penalty-shooting (Plessner, Unkelbach, Memmert, Baltes, & Kolb, 2009), and less self-regulatory resource depletion (Hong & Lee, 2008).

1.3 The Link between Regulatory Focus and Emotion Regulation Strategies

Existing theory and research provide some evidence in support of the possible link between regulatory focus (i.e., promotion vs. prevention) and the two emotion regulation strategies of interest in this article (i.e., reappraisal vs. suppression).

Approach-based vs. avoidance-based strategies. First, reappraisal is an approach-based coping strategy that intervenes before an emotional response has fully unfolded (Gross & John, 2003). During reappraisal, individuals engage in active cognitive change and show a cardiovascular response pattern similar to the pattern of other active coping strategies (Mauss et al., 2007). For these reasons, we proposed that reappraisal resembles an eagerness-to-approach strategy befitting a promotion-focus orientation. Conversely, suppression has been characterized as an avoidant-based emotion regulation strategy that is applied after an emotional response

has risen (Gross & John, 2003). Because suppression is primarily used to avoid aversive inner emotional experiences (Kashdan, Barrios, Forsyth, & Steger, 2006) and to protect oneself from potential harm that may result from emotional expression (Butler et al., 2007), we proposed that suppression resembles a vigilance-to-avoid strategy befitting a prevention-focus orientation.

Maximal vs. minimal goals. Second, the oughts (i.e., duties and obligations) within a prevention-focus orientation function like *minimal goals* that one must attain (Brendl & Higgins, 1996; Idson et al., 2000). In the context of emotion regulation, a minimal goal may simply be to keep emotions under behavioral control. By inhibiting outward emotional expressive behavior, suppression may be akin to a prevention-focused strategy aimed at avoiding potential negative outcomes associated with emotional expression. Therefore, suppression may be compatible with a prevention-focus orientation. By contrast, the ideals (i.e., hopes and aspirations) within a promotion-focus orientation function like *maximal goals* that one hopes to attain. Individuals with maximal goals may not be satisfied with keeping one's cool on the surface; instead, they may actively adjust inner emotional states via cognitive change. Reappraisal is an emotion regulation strategy aimed at approaching potential positive outcomes by changing the way one thinks about the emotion-eliciting situation. Therefore, we proposed that reappraisal may be an emotion regulation

strategy that is compatible with a promotion-focus orientation.



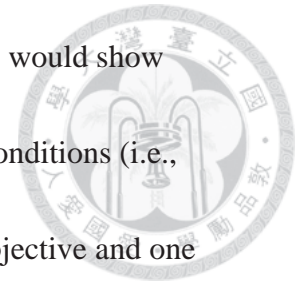
1.4 The Present Study

Based on the aforementioned evidence from past research, we hypothesized that reappraisal is an emotion regulation strategy that fits a promotion-focus orientation, whereas suppression is an emotion regulation strategy that fits a prevention-focus orientation. Moreover, we predicted that people would achieve better outcomes following emotion regulation in the fit conditions than in the non-fit conditions. To test these hypotheses, we conducted two studies, each using a different research design.

In Study 1, we examined individual differences in regulatory focus and whether they are associated with habitual use of reappraisal or suppression. Assuming that people tend to prefer and adopt emotion regulation strategies that fit their motivational orientation, we expected chronic promotion focus and chronic prevention focus to be positively correlated with habitual use of reappraisal and suppression, respectively. Moreover, assuming that people tend to be biased against regulatory non-fit, we expected chronic promotion focus and chronic prevention focus to be negatively correlated with habitual use of suppression and reappraisal, respectively.

In Study 2, we examined the link between regulatory focus and emotion regulation using an experimental research design. We predicted that participants in the

fit conditions (i.e., promotion–reappraisal; prevention–suppression) would show better outcomes after emotion regulation than those in the non-fit conditions (i.e., promotion–suppression; prevention–reappraisal). We chose one subjective and one objective outcome measure: self-report emotion stability (i.e., the degree to which positive emotions are experienced relative to negative emotions) and self-regulatory resource depletion (i.e., endurance shown during a hand-grip test, which is used to index performance of self-control) (e.g., Muraven & Baumeister, 2000). That is, individuals in the fit conditions were expected to show greater emotion stability and lower self-regulatory resource depletion than those in the non-fit conditions.

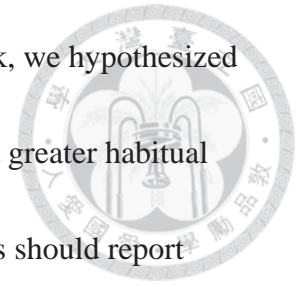


2. Study 1: Survey



The purpose of Study 1 was to examine the link between chronic regulatory focus and habitual use of two emotion regulation strategies (i.e., reappraisal and suppression). To measure individual differences in habitual use of reappraisal and suppression, the well-established Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was administered. We used the General Regulatory Focus Measure (GRFM; Lockwood, Jordan, & Kunda, 2002) as our measure of chronic regulatory focus. Two measures of chronic regulatory focus commonly appear in the literature: the GRFM and the Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001). Though theoretically identical, these two scales capture distinct aspects of regulatory focus (Summerville & Roese, 2008). The RFQ emphasizes the *self-guide* aspect of self-regulation, which characterizes promotion focus as guided by internal standards (i.e., ideals imposed by oneself) and prevention focus as guided by external or social standards (i.e., oughts imposed by parents/authority figures). The GRFM, however, emphasizes the *reference-point* aspect of self-regulation, which characterizes promotion focus as sensitive to the positive reference-point of a "gain" and prevention focus as sensitive to the negative reference-point of a "loss". Since the present study is more concerned with sensitivity to gain vs. loss rather than self- vs. other-imposed standards in self-regulation, we chose the GRFM as our measure of chronic regulatory

focus. Using regulatory fit theory (Higgins, 2000) as our framework, we hypothesized that: 1) individuals higher in chronic promotion focus should report greater habitual use of reappraisal, whereas those higher in chronic prevention focus should report greater habitual use of suppression; 2) individuals higher in chronic promotion focus should report lower habitual use of suppression, whereas those higher in chronic prevention focus should report lower habitual use of reappraisal.

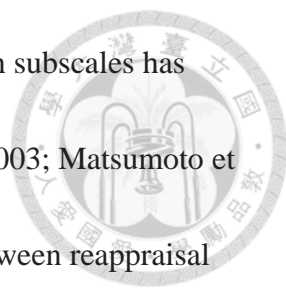


2.1 Method

Participants and procedure. Two hundred undergraduates from a large university in northern Taiwan participated in this study for extra course credit. The sample consisted of 105 men and 95 women, with a mean age of 20.19 years ($SD = 1.34$). All participants completed the measures in Mandarin Chinese¹.

Measures.

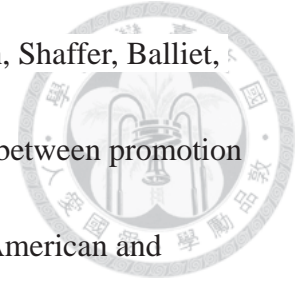
Emotion regulation. We used the 10-item Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) to assess participants' habitual use of *reappraisal* and *suppression*. Sample items include "I control my emotions by changing the way I think about the situation I'm in" for the Reappraisal subscale, and "I control my emotions by not expressing them" for the Suppression subscale. Each item was rated on a seven-point Likert-type scale (1 = *completely disagree*, 7 = *completely agree*). All items were averaged by subscale, with higher scores indicating greater use of the



emotion regulation strategy being assessed. Good reliability for both subscales has been demonstrated in more than 23 countries (e.g., Gross & John, 2003; Matsumoto et al., 2008). Previous research has indicated a positive correlation between reappraisal and suppression among cultures that emphasized maintenance of social order (e.g., collectivistic cultures), whereas a negative correlation or no correlation between reappraisal and suppression has been observed among cultures that value individual autonomy and egalitarianism (e.g., individualistic cultures) (Matsumoto et al., 2008; Gross & John, 2003). In addition, male participants tend to score higher on suppression (e.g., Gross & John). In the present study, the Reappraisal subscale score and the Suppression subscale score had an internal reliability (alpha) of .84 and .75, respectively.

Regulatory focus. We used the 18-item general regulatory focus measure (GRFM; Lockwood et al., 2002) to assess participants' chronic *promotion focus* and chronic *prevention focus*. Sample items include "I frequently imagine how I will achieve my hopes and aspirations" for the Promotion subscale, and "I frequently think about how I can prevent failures in my life" for the Prevention subscale. Each item was rated on a nine-point Likert-type scale (1 = *not at all true of me*, 9 = *very true of me*). All items were averaged by subscale, with higher scores indicating higher tendency toward the motivational orientation being assessed. Good reliability for both

subscales has been demonstrated in previous studies (e.g., Joireman, Shaffer, Balliet, & Strathman, 2012; Lockwood et al., 2002). A positive correlation between promotion focus and prevention focus has been reported both with European American and Taiwanese sample (e.g., Lockwood et al, 2002; Yang, 2010). In the present study, the Promotion Focus subscale and the Prevention Focus subscale had an internal reliability (alpha) of .83 and .76, respectively.

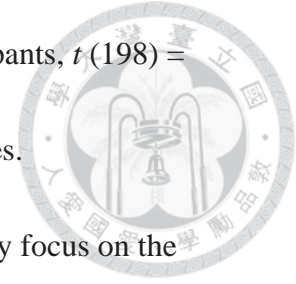


2.2 Result

Preliminary Analyses. Table 1 presents descriptives (mean, standard deviation, minimum, maximum, skewness, and kurtosis) of the main variables in this study. All variables were normally distributed of which skewness and kurtosis were not significantly deviated from zero. Table 2 presents zero-order correlations among the variables. Promotion focus was positively correlated with reappraisal ($r = .40, p < .001$), and prevention focus was positively correlated with suppression ($r = .36, p < .001$). Although promotion and prevention focus were negatively correlated with suppression ($r = -.13, p = .06$) and reappraisal ($r = -.10, p = .18$), respectively, the correlations failed to reach statistical significance. Promotion focus was marginally positively correlated to prevention focus ($r = .12, p = .09$), and reappraisal was marginally negatively correlated to suppression ($r = -.12, p = .08$). Age was unrelated to regulatory focus or to either of the two emotion regulation strategies. Because male

participants reported greater use of suppression than female participants, $t(198) =$

3.25, $p < .01$, we included gender as a covariate in the main analyses.



Main Analyses. To account for the influence of one regulatory focus on the other, we included both promotion focus and prevention focus as predictors in the same regression model. The first regression examined reappraisal as the outcome, and the second regression examined suppression as the outcome (see Table 3). In step 1, gender (male = 1, female = 0) were entered into the regression as covariates. In step 2, promotion focus and prevention focus were entered as predictors. Results from multiple regression analyses provided evidence in support of the fit hypothesis, as well as the unfit hypothesis. Promotion focus and prevention focus predicted greater use of reappraisal ($\beta = .41, p < .001$) and suppression ($\beta = .36, p < .001$), respectively. Moreover, promotion focus and prevention focus predicted lower use of suppression ($\beta = -.16, p = .02$) and reappraisal ($\beta = -.14, p = .03$), respectively.

2.3 Summary and Discussion

Results from Study 1 indicated a fit relationship between chronic promotion focus and reappraisal and between chronic prevention focus and suppression as we hypothesized. When partialing out the influence of the other regulatory focus, individuals higher in promotion focus reported greater habitual use of reappraisal, whereas individuals higher in prevention focus reported greater habitual use of

suppression. The reverse pattern was also found in support of the non-fit hypothesis.

When controlling the other regulatory focus, individuals higher in promotion focus reported lower habitual use of suppression, whereas individuals higher in prevention focus reported lower habitual use of reappraisal.

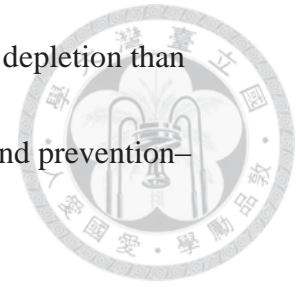
As promising as the results from Study 1 may appear, there are two major limitations worth noting. First, due to the correlational nature of our data, we were unable to draw any causal inferences. Although it is reasonable to argue that motivational orientation may propel people to adopt a particular emotion regulation strategy, it is still possible to argue in the opposite direction: that is, habitual use of a particular emotion regulation strategy may shape people's motivational orientation in goal pursuit. Second, the potential benefits from regulatory fit, such as better outcomes following emotion regulation, were not examined in this study. To address these issues, we conducted an experiment in Study 2 by 1) manipulating regulatory focus and emotion regulation strategies in a laboratory setting, and 2) comparing emotion regulation outcomes (i.e., emotion stability and self-regulatory resource depletion) between the fit and the non-fit conditions after a negative emotional state was induced by film.

3. Study 2: Experiment



In study 2, we primed distinct regulatory focus by asking participants to describe either their ideals or oughts in an essay (Freita & Higgins, 2002). Moreover, emotion regulation strategies were manipulated by giving different instructions to each group (Gross, 1998) before playing a fear-inducing film in a laboratory setting. Emotion regulation outcomes were evaluated by participants' *emotional stability* and *self-regulatory resource depletion*. Participants self-reported fear-related emotions (i.e., calmness, relaxation, fear, and agitation) immediately after watching the fear-inducing film, and emotion stability was indexed by the level of positive emotions experienced relative to negative emotions (by subtracting participants' level of fear and agitation from their level of calmness and relaxation). In addition to self-reported emotional states, an objective measure—handgrip performance—was employed to assess self-regulatory resources that remained after emotion regulation. The handgrip test is the most widely-used task for measuring self-regulatory resources (i.e., self-control) and has demonstrated high sensitivity in previous studies (e.g., Hong & Lee, 2008; Muraven & Baumeister, 2000). Self-regulatory resource depletion was indexed by how long (in seconds) participants can squeeze a handgrip holding a 75 × 20 × 5mm plastic pencil lead box in-between. We predicted that participants in the fit conditions (i.e., promotion–reappraisal and prevention–suppression) would

show greater emotional stability and lower self-regulatory resource depletion than participants in the non-fit conditions (i.e., promotion–suppression and prevention–reappraisal).

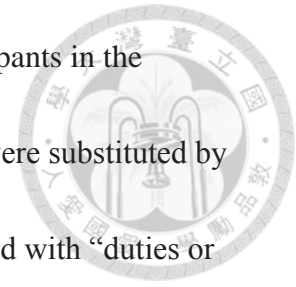


3.1 Method

Participants. Seventy-six undergraduates (mean age = 19.92 years, $SD = 1.36$; 55.3 % men, 44.7 % women) from a large university in northern Taiwan participated in this study for extra course credit. One participant who terminated the experiment prematurely was excluded from the current analysis.

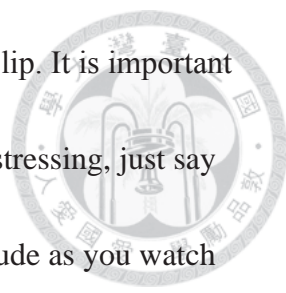
Procedure. Participants were randomly assigned to one of four conditions based on a 2 (regulatory focus: promotion vs. prevention) \times 2 (emotion regulation: reappraisal vs. suppression) between-subjects design. At the beginning of the experimental session, participants were informed that the purpose of this experiment was to examine the relationship between personality and task performance. After completing a pretest questionnaire containing measures of chronic regulatory focus (i.e., promotion and prevention) and habitual use of reappraisal and suppression, participants spent ten minutes writing an essay that was supposedly designed to assess their personality. Participants in the promotion focus group received the following instructions (Freita & Higgins, 2002): “Please think about something you *ideally* would like to do. In other words, please write down two *hopes* or *aspirations* you

currently have, and explain why." In the instruction given to participants in the prevention focus group, the words "you ideally would like to do" were substituted by "you think you should do", and "hopes or aspirations" were replaced with "duties or obligations".



Once they completed the essay, participants were asked if they were willing to participate in an "unrelated pilot study" (to avoid social desirability to keep cool or to exaggerate emotional responses), in which they would be asked to watch two film clips and to rate the level of fear-related emotions (i.e., fear, agitation, calmness, and relaxation) they experienced afterwards on a five-point Likert scale (1 = *not at all*, 5 = *very strongly*). All participants agreed. Participants were first shown an emotionally neutral film (*beach waves*; Gross & Levenson, 1995) for one minute, and then immediately followed by a five-minute film clip (*The Silence of the Lamb*) that elicited fear. The emotionally neutral film was used to accustom participants to our experimental procedure (i.e., to follow instructions and watch films), so as to facilitate fear induction by the second film.

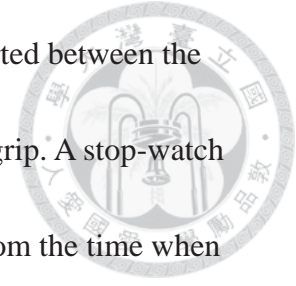
Before playing the neutral film, participants received the following instructions: "Now, we will be showing you a short film clip. It is important that you watch the film clip carefully, but if you find the film too distressing, just say *stop*." Before playing the fear-inducing film, participants in the reappraisal group received the



following instructions: “Now, we will be showing you a short film clip. It is important that you watch the film clip carefully, but if you find the film too distressing, just say *stop*. This time, please try to adopt a detached and unemotional attitude as you watch the film. In other words, as you watch the film clip, try to think about what you are seeing objectively, in terms of the technical aspects of the events you observe. Watch the film clip carefully, but please try to think about what you are seeing in such a way that you don't feel anything at all.” For the suppression group, the following instructions were given: “Now, we will be showing you a short film clip. It is important that you watch the film clip carefully, but if you find the film too distressing, just say *stop*. This time, if you have any feelings as you watch the film clip, please try your best not to let those feelings show. In other words, as you watch the film clip, try to behave in such a way that a person watching you would not know you were feeling anything. Watch the film clip carefully, but please try to behave so that someone watching you would not know that you are feeling anything at all.”

After the film session ended, participants completed a post-test questionnaire, which included manipulation check items (i.e., recalling the instructions given for the regulatory focus and emotional regulation manipulation), whether or not they had seen the fear-inducing film before the experiment, and demographics (e.g., age and gender). Next, participants performed the handgrip task, which involved squeezing a


handgrip for as long as possible. A plastic pencil lead box was inserted between the two handles, so it would fall off once participants relaxed the handgrip. A stop-watch was used to record the duration of the handgrip squeeze, starting from the time when the plastic material was held steadily to when it fell off. Finally, participants went through debriefing before leaving the experiment.



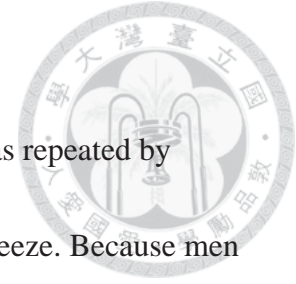
3.2 Result

Individual Differences and Manipulation Check. First, participants in the four conditions did not differ in chronic promotion focus, $F(3, 71) = 0.77$, $p = .52$, chronic prevention focus, $F(3, 71) = 2.22$, $p = .09$, habitual use of reappraisal, $F(3, 71) = 1.10$, $p = .35$, habitual use of suppression, $F(3, 71) = 0.59$, $p = .63$, age, $F(3, 71) = 0.80$, $p = .50$, and gender, $\chi^2(3, N = 75) = .76$, $p = .86$. Two participants failed to pass the manipulation check (one for regulatory focus and the other for emotion regulation), and five participants reported to have seen the fear-inducing film prior to the experiment. Since the pattern of results remained the same whether or not these participants were excluded, we kept these data in the following analyses. The fear induction by film was successful, where we observed a significant increase in level of fear, $t(74) = 7.23$, $p < .001$, and agitation, $t(74) = 8.89$, $p < .001$, and a significant decrease in level of calmness, $t(74) = -11.18$, $p < .001$, and relaxation, $t(74) = -10.31$, $p < .001$, in a serial of paired t-tests comparing pre-film and post-film fear-related

emotions (see Table 4).




Emotion Stability. Since the fear-related positive emotion score (by averaging calmness and relaxation) was highly correlated the fear-related negative emotion score (by averaging fear and agitation), $r = -.55, p < .001$, we computed an *emotion stability* score to index emotion regulation outcome by subtracting the negative emotion score from the positive emotion score². To test our hypothesis, we conducted a 2 (regulatory focus: promotion vs. prevention focus) \times 2 (emotion regulation strategy: reappraisal vs. suppression) ANOVA on emotion stability (see Table 4)^{3,4}. There were no main effects of regulatory focus, $F(1, 71) = 2.94, p = .09$, or emotion regulation strategy, $F(1, 71) = 0.002, p = .96$. As expected, the regulatory focus \times emotion regulation strategy interaction was significant, $F(1, 71) = 8.72, p = .004$. Follow-up analyses (see Figure 1) showed that the prevention-focused participants who engaged in suppression reported greater emotion stability after watching the fear-inducing film than the prevention-focused participants who engaged in reappraisal, $M_{\text{sup}} = 0.17, M_{\text{reap}} = -0.92, F(1, 71) = 4.45, p = .038$. The reverse pattern was found among the promotion-focused participants. Promotion-focused participants who engaged in reappraisal reported greater emotion stability after watching the fear-inducing film than promotion-focused participants who engaged in suppression, $M_{\text{reap}} = -0.47, M_{\text{sup}} = -1.53, F(1, 71) = 4.27, p = .042$.



Self-Regulatory Resource Depletion. The above analysis was repeated by substituting the outcome variable with duration of the handgrip squeeze. Because men performed better on the handgrip test than women, $F(1, 70) = 14.78, p < .001$, we included gender as covariate in the following analyses (see Table 6)⁴. There were no main effects of regulatory focus, $F(1, 70) = 0.57, p = .45$, or emotion regulation strategy, $F(1, 70) = 0.51, p = .48$. Again, the regulatory focus \times emotion regulation strategy interaction was significant, $F(1, 70) = 5.32, p = .024$. Follow-up analyses (see Figure 2) showed that prevention-focused participants who engaged in suppression were able to hold the handgrip for a longer period of time than the prevention-focused participants who engaged in reappraisal, $M_{\text{sup}} = 51.11, M_{\text{reap}} = 25.00, F(1, 70) = 4.52, p = .037$. Although the reverse pattern was found among the promotion-focused participants, $M_{\text{reap}} = 51.44, M_{\text{sup}} = 35.60$, the difference between those who engaged in suppression and those who engaged in reappraisal did not reach statistical significance, $F(1, 70) = 1.30, p = .26$.

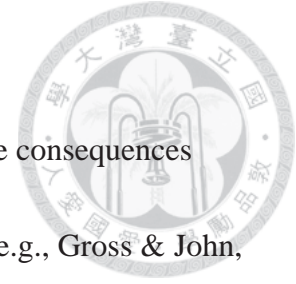
3.3 Summary and Discussion

Manipulating regulatory focus and emotion regulation strategy in study 2, we found that participants who experienced regulatory fit (i.e., promotion–reappraisal and prevention–suppression) showed greater emotion stability after watching a



fear-inducing film. Although the interaction effect was also found in self-regulatory depletion, the benefit of fit was observed only in the prevention-focused conditions but not in the promotion-focused conditions. One explanation for partial significance may be related to individual differences in handgrip endurance. Some research on self-regulatory resource depletion included pre-measure of handgrip endurance to control for dispositional differences on handgrip performance (e.g., Hong & Lee, 2008). Therefore, if a pre-measure was included, follow-up tests on handgrip performance might have reached statistical significance for participants in both the promotion and prevention focus conditions. If the pattern of results of handgrip performance remains the same even when pre-measure is included, another possible theoretical explanation is that promotion-focused individuals may be more flexible in strategy adoption than prevention-focused individuals. Previous research has indicated that promotion-focused individuals showed greater variation in repeating the same task (Smith, Wagaman, & Handley, 2009), and were more willing to give up prior decisions for new opportunities (Molden & Hui, 2011). Therefore, it is likely that the benefits from regulatory fit on the handgrip task performance are less observable among promotion-focused individuals than their prevention-focused counterparts.

4. General Discussion



Previous research on emotion regulation mainly focused on the consequences associated with the use of a particular emotion regulation strategy (e.g., Gross & John, 2003). Little is known about the role that motivational orientation may play in emotion regulation. To address this issue, the present study examined the link between motivational orientation in goal pursuit (i.e., promotion focus vs. prevention focus) and two forms of emotion regulation (i.e., reappraisal vs. suppression). Based on regulatory focus theory (Higgins, 1997, 1998), we hypothesized that reappraisal is an emotion regulation strategy that fits the promotion-focus orientation, whereas suppression is an emotion regulation strategy that fits the prevention-focus orientation. Moreover, we predicted that people would achieve better regulatory outcomes following emotion regulation in conditions of fit than in conditions of non-fit. In Study 1, individuals higher in chronic promotion focus reported greater habitual use of reappraisal, whereas those higher in chronic prevention focus reported greater habitual use of suppression. By contrast, individuals higher in chronic promotion focus reported lower habitual use of suppression, whereas those higher in chronic prevention focus reported lower habitual use of reappraisal. In Study 2, both regulatory focus and emotion regulatory strategies were manipulated, and the experimental data showed greater emotional stability and lower self-regulatory

resource depletion among individuals in the fit conditions (i.e., promotion-reappraisal and prevention-suppression) than those in the non-fit conditions (i.e., promotion-suppression and prevention-reappraisal).



4.1 Contributions and Implications

The present study contributes to the literature by being the first to examine the relation between regulatory focus and emotion regulation. Recent studies on motivation in emotion regulation (e.g., Tamir et al., 2008) have begun to investigate the notion that people may adopt different strategies based on personality traits or on context-specific goals. The present study extended the existing literature by connecting the well-established motivational principle (i.e., regulatory focus theory) – which can be both individual differences and situationally-induced motives – to individual preference for specific emotion regulation strategies (i.e., reappraisal and suppression). The present study not only emphasizes the moderating role that motivation may play in emotion regulation, but also highlights the fact that motivation goes beyond context-specificity that can chronically shape individuals' preference for emotion regulation strategy.

The most encouraging finding of the present study is that the beneficial effects of regulatory fit extend to the realm of emotion regulation. There are times when the means can justify the ends. As long as an emotion regulation strategy is compatible

with one's motivational orientation, the outcome it produces can be as good as other strategies, challenging the prevailing assumption that the emotion regulation strategy per se is the major determinant of the consequences associated with emotion regulation (e.g. Gross & John, 2003).



Finally, the present study used multi-research methods (i.e., survey and experiment) and adopted different measures to evaluate emotion regulation outcomes (i.e., self-report measure and objective handgrip test in Study 2), where there was converging evidence in support of our hypotheses. Although our results are relatively more convincing than depending solely on a single measure, future research is still encouraged to use more diverse measurement (e.g., physiological responding, fMRI) to replicate findings from the present study.

4.2 Limitations and Future Directions

Although our findings were promising, they need to be interpreted with several limitations in mind. First, our sample was comprised of college students. It is unknown whether the results from the present study can be generalized to other age groups. For example, increased ability to implement reappraisal and suppression has been found among older adults (Shiota & Levenson, 2009). Because positive emotion regulation outcomes may be mainly attributed to the ability to successfully regulate one's emotions, which tends to increase with age (Shiota & Levenson, 2009), it is

possible that the benefits of regulatory fit that we observed may not be as salient among older adults.



Second, typical goal-oriented emotion regulation is likely to vary across target emotions (Gross, 1998). The present study focused only on fear, a discrete negative emotion. The fit relationship may need to be fine-tuned across different types of emotions. For example, promotion focus tends to be associated with greater sensitivity to positive outcomes (Higgins, 1997, 1998). Thus in terms of up-regulating positive emotions, the advantage of fit involving promotion focus may be even greater compared to fit involving prevention focus.

Third, cultural variables have been shown to be an important moderator of the link between emotion regulation and psychologically-relevant outcomes (e.g., Butler et al., 2007; Mauss & Butler, 2010; Soto et al., 2011). Norms and goals tend to vary across cultural groups and across cultural contexts. For example, suppression is mainly used for self-protective reasons in individualistic cultures (Butler et al., 2007), whereas the same emotion regulation strategy is often adopted to maintain social harmony in collectivistic cultures (Leung, 1996). In addition, previous research has found an association between promotion focus and the independent self-construal, which is more prevalent in individualistic cultures, as well as an association between prevention focus and the interdependent self-construal, which is more prevalent in

collectivistic cultures (Lee, Aaker, & Gardner, 2000). It is possible that regulatory focus, emotion regulation strategy, and cultural context may all interact to influence individual outcomes. Specifically, from the perspective of cultural congruence (Fulmer et al., 2010), the fit combination of prevention – suppression may be more adaptive in collectivistic cultural contexts, whereas the promotion – reappraisal combination may be more adaptive in individualistic cultural contexts.

Fourth, although we took the first step towards understanding the association between regulatory fit and emotion regulation strategy, the long-term benefits and costs of regulatory fit on emotion regulation remain largely unknown. In terms of potential benefits, chronic motivational orientations may increase the frequency with which corresponding strategies are practiced over the long run, thereby reducing the self-control effort expended during emotion regulation and consequently alleviating fatigue and mental load (Baumeister & Heatherton, 1996). Moreover, the long-term benefits of “feeling right” may transfer to other life domains (Higgins, Idson, Freitas, Spiegel, & Molden, 2003), such as enhanced academic performance and better social functioning. However, the intuitive reaction to implement strategies befitting one’s orientation may also produce potential costs in the long run, such as lack of flexibility to adjust oneself to situational demands (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004). Therefore, future studies using the longitudinal research design are

needed to explore the potential long-term benefits and costs associated with regulatory fit, including value transfer and coping flexibility across a wide variety of life domains.



Finally, the effects of regulatory fit on persuasion have been indicated to be associated with the level of involvement with the target message (Avnet, Laufer, & Higgins, 2012). Under high involvement, the fit experience brings about a sense of confidence in one's evaluations, which in turn increases the persuasiveness of the message (i.e., evaluating positive message as more positive, and negative message as more negative); under low involvement, in contrast, the fit experience brings about good feelings toward the target, which increases the positive feelings toward target message regardless of message valence. In the context of emotion regulation, it will be interesting to investigate whether the level of involvement with the emotion-eliciting situation would affect the outcomes associated with emotion regulation. Under high involvement, fit may justify the implement of emotion regulation in the emotion-eliciting situation (i.e., evaluating the positive feelings as too positive and negative feelings too negative, which need to be regulated to the proper amount), which in turn increases the effectiveness of emotion regulation (e.g., quick recovery from emotional arousal or lower self-regulatory resource depletion); under low involvement, it is possible that fit brings about more positive feelings

toward the situation regardless of the valence of emotion (e.g., feel more calm or interesting after watching a fear- or amusement-eliciting film).



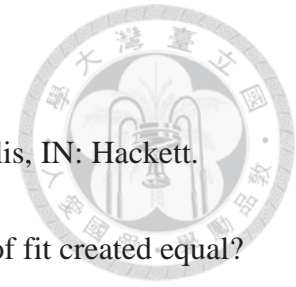
5. Conclusion



Previous research primarily evaluated the usefulness of an emotion regulation strategy by its accompanying psychological consequences. In this regard, reappraisal has been considered as a more adaptive and effective strategy than suppression. However, knowledge about the role motivation plays in emotion regulation is lacking. Therefore, the present study aimed to find specific motivational orientations that encourage the use of reappraisal and suppression, and to examine how the match and mismatch between motivational orientation and emotion regulation strategy may affect regulatory outcomes.

Findings from the present study underscore the need to revisit how the adaptiveness of emotion regulation should be determined. Even strategies typically considered maladaptive can be useful when applied for the right reasons. We hope that future research will explore the conditions (motivational or otherwise) under which a particular emotion regulation strategy may exert positive or negative effects on psychological adjustment.

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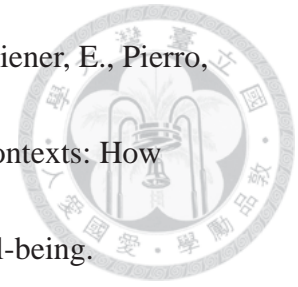
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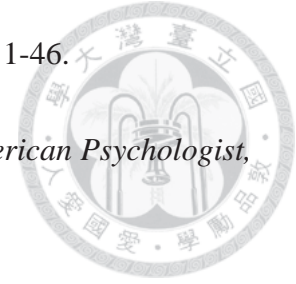
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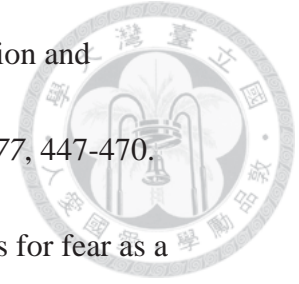
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Footnotes



¹ Mandarin Chinese is the official language used in Taiwan. We downloaded the Chinese version of the ERQ from the Stanford Psychophysiological Laboratory website (<http://spl.stanford.edu/>). The Chinese version of GRFM has been successfully used in previous study and demonstrated good internal reliability with Taiwanese sample (e.g., $\alpha_s = .75 - .85$; Yang, 2010).

² The pattern of results of two-way ANOVAs and subsequent post-hoc tests remained the same when the positive emotions and the negative emotions were analyzed separately.

³ The pattern of results of two-way ANOVAs and subsequent post-hoc tests remained the same when pre-film fear-related emotions were controlled.

⁴ The pattern of results of two-way ANOVAs and subsequent post-hoc tests remained the same when chronic regulatory focus, and habitual use of reappraisal and suppression were controlled.

Tables and Figures



Table 1

Descriptives of the Variables in Study 1

<i>N</i> = 200	<i>Mean</i>	<i>SD</i>	Minimum	Maximum	Skewness	Kurtosis
1. Promotion Focus	6.63	1.00	2.78	8.78	-0.37	0.43
2. Prevention Focus	5.69	1.12	2.78	8.22	-0.25	-0.14
3. Reappraisal	5.14	0.89	2.00	7.00	-0.23	0.31
4. Suppression	3.55	1.18	1.00	6.00	-0.18	-0.82
5. Age	20.19	1.34	18.00	25.00	0.63	0.04

Table 2

Correlations among the Variables in Study 1

<i>N</i> = 200	1	2	3	4	5
1. Promotion Focus	—				
2. Prevention Focus	.12 [†]	—			
3. Reappraisal	.40 ^{***}	-.10	—		
4. Suppression	-.13	.36 ^{***}	-.12 [†]	—	
5. Age	.03	.02	.03	-.05	—
6. Gender (male = 1)	-.10	.09	-.09	.23 ^{**}	-.06

[†]*p* < .10. ^{***}*p* < .001.

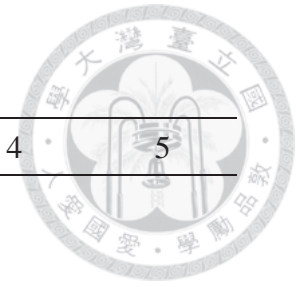


Table 3

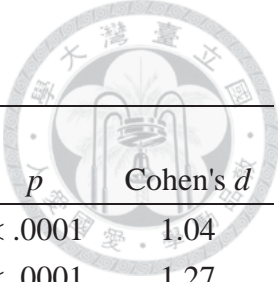
Coefficients (β) for Multiple Regression Analysis in Study 1

<i>N</i> = 200	<u>Outcome Variables</u>	
	Reappraisal	Suppression
<i>Covariates:</i>		
Gender	-.04	.18***
(ΔR^2)	(.01)	(.05***)
<i>Predictors:</i>		
Promotion Focus	.41***	-.16*
Prevention Focus	-.14*	.36***
(ΔR^2)	(.17***)	(.14***)
Total R^2	.18	.19
Adjusted R^2	.17	.18

* $p < .05$. *** $p < .001$.



Table 4

Paired T-Tests: Pre- and Post-Film Fear-Related Emotions


Variable	<u>Pre-film</u>		<u>Post-film</u>		<i>t</i> (74)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Fear	1.56	0.72	2.59	1.21	-7.23	< .0001	1.04
Agitation	1.87	1.03	3.17	1.02	-8.89	< .0001	1.27
Calmness	3.95	0.87	2.32	1.03	11.18	< .0001	1.71
Relaxation	3.53	0.86	2.01	0.91	10.31	< .0001	1.72

Table 5

Two-Way ANOVA of Regulatory Focus and Emotion Regulation on Emotion Stability

Variables	<i>df</i>	<i>F</i>	η_p^2	<i>p</i>
Regulatory Focus (RF)	1.000	2.939	.040	.091
Emotion Regulation (ER)	1.000	0.002	.000	.962
RF \times ER	1.000	8.716	.109	.004
Within-Group Error	71.000			
Total R^2	.142			
Adjusted R^2	.106			



Table 6

Two-Way ANOVA of Regulatory Focus and Emotion Regulation on Handgrip Performance

Variables	<i>df</i>	<i>F</i>	η_p^2	<i>p</i>
Gender (male = 1)	1.000	14.778	0.174	< .001
Regulatory Focus (RF)	1.000	0.569	0.008	0.453
Emotion Regulation (ER)	1.000	0.506	0.007	0.479
RF × ER	1.000	5.320	0.071	0.024
Within-Group Error	70.000			
Total R^2	.247			
Adjusted R^2	.204			



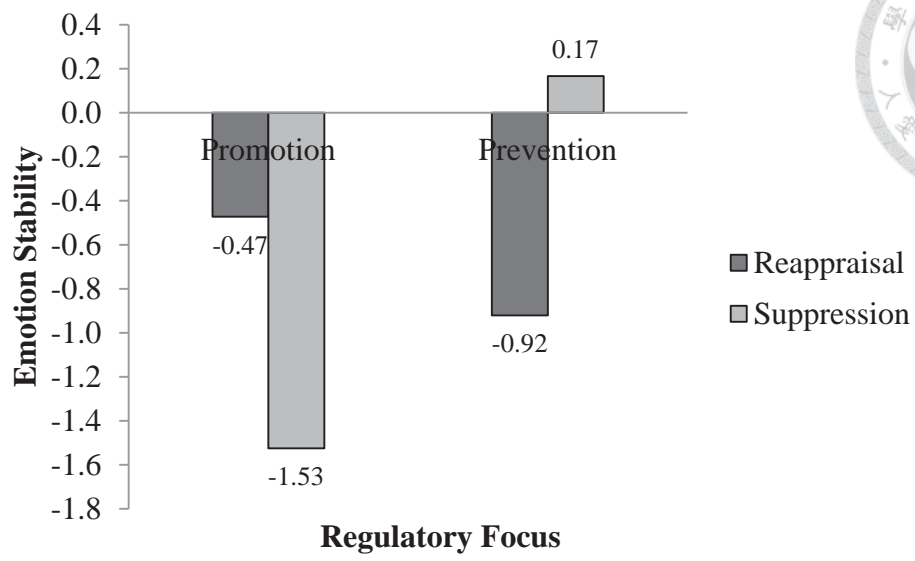


Figure 1. Emotion stability as a function of regulatory focus and emotion regulation strategy.

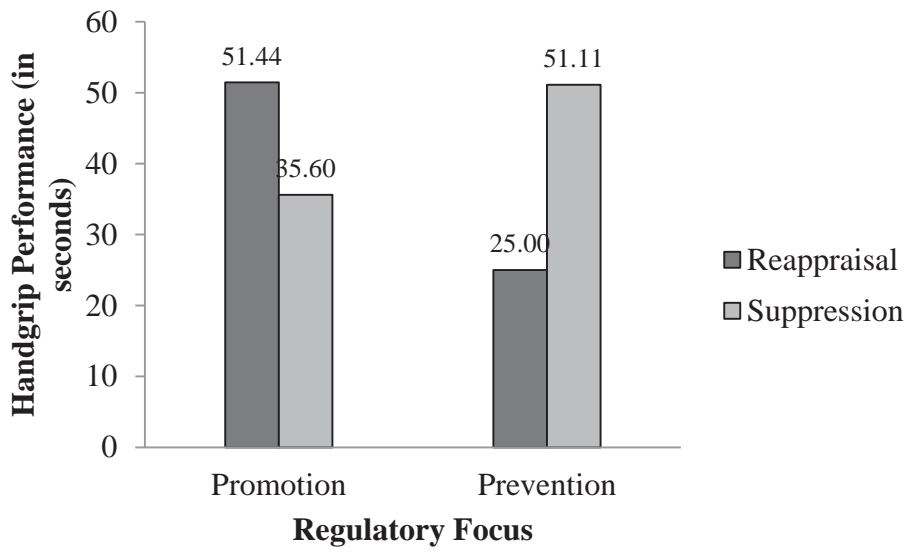
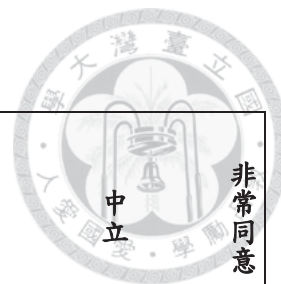


Figure 2. Handgrip performance as a function of regulatory focus and emotion regulation strategy.

Appendix A : Emotion Regulation Questionnaire.



◎請使用下列量尺(1~7)來表示你同意下列敘述的程度。	非常不同意 中立 非常同意
1. 當我想感受一些正向的情緒(如快樂或高興)時,我會改變自己思考問題的角度。	1 2 3 4 5 6 7
2. 我不會表達出自己的情緒。	1 2 3 4 5 6 7
3. 當我想少感受一些負向的情緒(如悲傷或憤怒)時,我會改變自己思考問題的角度。	1 2 3 4 5 6 7
4. 當感受到正向情緒時,我會很小心地不讓它們表達出來。	1 2 3 4 5 6 7
5. 在面對壓力情境時,我會使自己以一種有助於保持平靜的方式來思考它。	1 2 3 4 5 6 7
6. 我控制自己情緒的方式是不表達它們。	1 2 3 4 5 6 7
7. 當我想多感受一些正向的情緒時,我會改變自己對情境的思考方式。	1 2 3 4 5 6 7
8. 我會透過改變對情境的思考方式來控制自己的情緒。	1 2 3 4 5 6 7
9. 當感受到負向的情緒時,我確定不會把它們表達出來。	1 2 3 4 5 6 7
10. 當我想少感受一些負向的情緒時,我會改變自己對情境的思考方式。	1 2 3 4 5 6 7

1	2	3	4	5	6	7
Strongly Disagree	-----	-----	Neutral	-----	-----	Strongly Agree

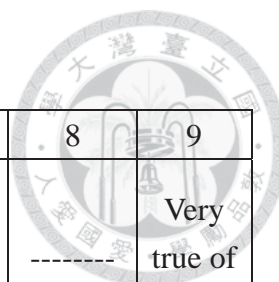
1. _____ When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.
2. _____ I keep my emotions to myself.
3. _____ When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.
4. _____ When I am feeling positive emotions, I am careful not to express them.
5. _____ When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.
6. _____ I control my emotions by not expressing them.
7. _____ When I want to feel more positive emotion, I change the way I'm thinking about the situation.
8. _____ I control my emotions by changing the way I think about the situation I'm in.
9. _____ When I am feeling negative emotions, I make sure not to express them.
10. _____ When I want to feel less negative emotion, I change the way I'm thinking about the situation

Note. Reappraisal items: 1, 3, 5, 7, 8, 10; Suppression items: 2, 4, 6, 9

Appendix B: General Regulatory Focus Questionnaire



◎請圈選下列敘述符合您在日常生活中思考習慣的程度。	非常不符合 非常符合
1. 一般而言，我會把注意力放在防止負面的事情發生在我的生活中。	1 2 3 4 5 6 7 8 9
2. 我擔心我會無法盡到我的責任與義務。	1 2 3 4 5 6 7 8 9
3. 我常想我要如何才能實現我的願望和抱負。	1 2 3 4 5 6 7 8 9
4. 我常想到那種我害怕自己將來可能成為的人。	1 2 3 4 5 6 7 8 9
5. 我常想到在我理想中自己將會成為的那種人。	1 2 3 4 5 6 7 8 9
6. 我通常會將注意力集中於我未來希望達到的成功上。	1 2 3 4 5 6 7 8 9
7. 我常擔心無法達到我學業上的目標。	1 2 3 4 5 6 7 8 9
8. 我常會想如何才能使我的學業成功。	1 2 3 4 5 6 7 8 9
9. 我常想像經歷那些我害怕會發生在自己身上的壞事。	1 2 3 4 5 6 7 8 9
10. 我常會想如何才能避免失敗在我的生活中發生。	1 2 3 4 5 6 7 8 9
11. 我比較傾向於避免損失多於追求收穫。	1 2 3 4 5 6 7 8 9
12. 目前我在學校主要的目標是取得學業上的成就。	1 2 3 4 5 6 7 8 9
13. 目前我在學校主要的目標是避免學業上的失敗。	1 2 3 4 5 6 7 8 9
14. 我覺得自己是那種努力去實現「理想中的我」的人—實現我的希望、願望和抱負。	1 2 3 4 5 6 7 8 9
15. 我覺得自己是那種努力成為我「應該」做的人—完成我的本分、責任和義務。	1 2 3 4 5 6 7 8 9
16. 一般而言，我注重追求生命中正面的結果。	1 2 3 4 5 6 7 8 9
17. 我常想像經歷那些我希望會發生在自己身上的好事情。	1 2 3 4 5 6 7 8 9
18. 總而言之，我比較傾向於追求成功多於避免失敗。	1 2 3 4 5 6 7 8 9



1	2	3	4	5	6	7	8	9
Not at all true of me	-----	-----	-----	Neutral	-----	-----	-----	Very true of me

1. _____ In general, I am focused on preventing negative events in my life.
2. _____ I am anxious that I will fail short of my responsibilities and obligations.
3. _____ I frequently imagine how I will achieve my hopes and aspirations.
4. _____ I often think about the person I am afraid I might become in the future.
5. _____ I often think about the person I would ideally like to be in the future.
6. _____ I typically focus on the success I hope to achieve in the future.
7. _____ I often worry that I will fail to accomplish my academic goals.
8. _____ I often think about how I will achieve academic success.
9. _____ I often imagine myself experiencing bad things that I fear might happen to me.
10. _____ I frequently think about how I can prevent failures in my life.
11. _____ I am more oriented toward preventing losses than I am toward achieving gains.
12. _____ My major goal in school right now is to achieve my academic ambitions.
13. _____ My major goal in school right now is to avoid becoming an academic failure.
14. _____ I see myself as someone who is primarily striving to reach my "ideal self" —
to fulfill my hopes, wishes, and aspirations.
15. _____ I see myself as someone who is primarily striving to become the self I "ought"
to be — to fulfill my duties, responsibilities, and obligations.
16. _____ In general, I am focused on achieving positive outcomes in my life.
17. _____ I often imagine myself experiencing good things that I hope will happen to me.
18. _____ Overall, I am more oriented toward achieving success than preventing failure.

Note. Promotion items: 3, 5, 6, 8, 12, 14, 16, 17, 18; Prevention items: 1, 2, 4, 7, 9, 10, 11, 13, 15

Appendix C: Regulatory Focus Priming



1) Promotion focus priming.

◎ 請在腦海中想兩件你理想中想要做的事情。換言之，請寫下兩個你現在有的理想或抱負，並說明原因。

2) Prevention focus priming.

◎ 請在腦海中想兩件你應該要做的事情。換言之，請寫下兩個你現在有的責任或義務，並說明原因。



Appendix D: Post-Film Emotion Questionnaire



◎請問你此時此刻的感受為何?					
	一 點 也 沒 有				非 常 強 烈
1. 激動的	1	2	3	4	5
2. 平靜的	1	2	3	4	5
3. 害怕的	1	2	3	4	5
4. 放鬆的	1	2	3	4	5

Appendix E: Manipulation Check Items And Demographics



- 請回想並寫下十分鐘小短文的題目。

- 請回想並寫下觀看第二部影片時，實驗者給你的指示。

- 請問你以前有看過第二部影片嗎？ 是 否

- **基本資料：**

年齡 _____ 性別 _____ (1=男，2=女) 系級 _____