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I hereby declare that this thesis is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in this thesis.

This thesis has also not been submitted for any degree in any university previously.

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Scant research has investigated the impact of common daily adversities on one's sense of meaning, and how one can cope and find meaning in these distressing events. Drawing on the meaning-making model and tripartite model of meaning, this study sought to examine how using a combination of coping strategies (i.e., positive reappraisal and self-distancing) can help individuals to derive greater situational meaning (i.e., meaning from the experience), greater global meaning (i.e., meaning in life)—across three facets (i.e., coherence, significance, and purpose). Specifically, it is proposed that the effects of positive reappraisal on promoting meaning would be enhanced by adopting a self-distanced perspective. This self-distancing "enhancement" hypothesis was expected to be mediated by reduced negative affect. In the present study (N = 482), little support was found for the enhancement hypothesis. Exploratory analyses were conducted to examine whether it would be supported under specific levels of recency and intensity of experience. While recency moderated the interaction between positive reappraisal and self-distancing on meaning, self-distancing did not enhance the effects of positive reappraisal. Similarly, although the three-way interaction between intensity, positive reappraisal, and self-distancing was statistically significant for two facets of situational meaning (coherence and existential mattering [significance]), the results did not support the enhancement hypothesis. Alternate explanations, implications, and limitations were further discussed.

Keywords: Positive Reappraisal, Self-distancing, Global Meaning, Situational Meaning

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Introduction

Meaning—a sense of understanding, significance, and purpose—is central to human experience (Baumeister, 1991; Park, 2010; Park & Folkman, 1997). Meaning in life (MIL) has been proposed to be critical to one's well-being (Frankl, 1984, 2011)—especially when going through adversity (e.g., having conflicts with a friend or bereavement). As these distressing experiences may disrupt one's sense of meaning (such as whether life continues to be worthwhile), efforts to restore meaning help to sustain positive functioning (e.g., Carnelley & Janoff-Bulman, 1992; Davis et al., 2000). According to the meaning-making model (Park, 2010), there are two levels at which people can experience a sense of meaning: global meaning and situational meaning.

Global Meaning and Situational Meaning

Global meaning comprises of both a meaning system, as well as a guiding system. The meaning system consists of global beliefs (i.e., assumptions about how the world functions, self and identity, human nature, and relationships; Park, 2017a), and global goals (i.e., life aspirations, values, and strivings; Park, 2010). Through this system, individuals develop a sense that the world and their place within it are coherent and comprehensible, and monitor their progress towards value-consistent goals, which in turn determine their sense of global meaning (i.e., MIL). To achieve a greater conceptual clarity, a tripartite model of subjective meaning was proposed—emphasizing on three aspects of the experience of meaning (George & Park, 2016, 2017; Martela & Steger, 2016). Firstly, a sense of *coherence*—which entails making sense of and comprehending one's experiences (Reker & Wong, 2013). Secondly, a sense of *purpose*—which involves the motivation to pursue *valued* life goals, personal projects, and aspirations (Kasser & Ryan, 1993; McGregor & Little, 1998; Rijavec et al., 2011). Lastly, a sense of *significance* or the feeling that one's life is worth living and that one's existence is important, and of value in the world (George & Park,

2014; King et al., 2016). These three dimensions reflect the *evaluative* component of meaning—by which people determine *how* meaningful their lives are

Global meaning also includes *a guiding system* of beliefs, identity, goals, and values (Park, 2017b). As a general orienting system, global meaning can be viewed as the schema through which individuals interpret their experiences (a top-down process; Leary & Tangney, 2012). One such schema is the belief in a just world (BJW)—individuals believe that they live in a world where people typically get what they deserve, and deserve what they get (Lerner & Miller, 1978). For example, individuals with a strong BJW assume that perpetrators of crime are punished for their wrongdoings (Wu & Cohen, 2017), and kind individuals are rewarded for their acts of kindness. This assumption provides a conceptual framework that helps them to interpret the events of their personal lives in more meaningful and coherent ways (Dalbert et al., 2001). Thus, the global meaning system is like a lens through which individuals appraise and make sense of the meaning of their experiences (*situational meaning*; Park, 2010).

Whereas global meaning refers to beliefs and frameworks that people use to evaluate their life as whole and their experiences in general, *situational meaning* refers to an individual's interpretation of the importance or significance of a particular experience (i.e., how one construes an event), and its impact on one's values and beliefs (Lazarus, 2006; Park & Folkman, 1997).

The Importance of Meaning at Both Levels

Other than global meaning, situational meaning is also an important driver of well-being (Park & Gutierrez, 2013). For example, appraising events as controllable and benign is related to less distress following negative events (Aldwin et al., 2007; Frazier et al., 2011). However, current literature has mainly focused on global meaning (Park, 2017a; Steger, 2012). Examining both in tandem is necessary for a complete understanding of how meaning

is experienced holistically (Park, 2017b). While the appraisal of an event (i.e., situational meaning) is said to be determined by one's global beliefs, it can also feed forward to influence one's global meaning system (Park et al., 2017). For example, how a person understands death is determined by an individual's general beliefs about how the world works (Janoff-Bulman, 1989b; Park, 2010). Such beliefs include the assumption that the universe is a benevolent and just place, that God is good, that each individual is valuable, and that life is satisfying and worthwhile. However, the loss of a loved one can unsettle these assumptions, challenge one's sense that the world is benevolent and just, and even dispute spiritual beliefs (Janoff-Bulman, 1989b; Marrone, 1999). Indeed, while religious and spiritual beliefs (i.e., global meaning) influence how individuals view a particular death (i.e., situational meaning), these beliefs can change following bereavement (Burke et al., 2014). Following the loss of a loved one, bereaved individuals may question God's character, possessed negative feelings (e.g., anger) towards God, and choose to abandon their faith (Burke et al., 2014). This change in global meaning (e.g., faith) due to the situational meaning (e.g., appraisal of a death) highlights the importance of the latter, and thus warrants a deeper understanding of both global and situational meaning.

As with global meaning, situational meaning can be decomposed into facets of coherence, purpose, and significance and this can be beneficial in understanding what constitutes a meaningful experience (Tov et al., 2021). Thus, this study sought to examine both global and situational meaning using the tripartite approach by exploring how negative experiences differentially influence each facet of meaning at both levels.

Effects of Negative Experiences on Meaning

The shattered assumptions theory posits that all individuals hold fundamental assumptions about the world and themselves (e.g., BJW) that allow for healthy human functioning (Janoff-Bulman, 1989a). When individuals experience an intense event (e.g.,

chronic illness), the situational meaning of the event may violate their beliefs and goals (Janoff-Bulman, 1989a); this violation may compromise the integrity of individuals' global meaning system (Park et al., 2016), and challenge their understanding of themselves and the world. Drawing on the meaning-making model, discrepancies between situational and global meaning can be distressing, pushing individuals to engage in meaning-making processes Such processes can foster change in either situational meaning or global meaning to reduce the existing discrepancy and psychological distress (e.g., reconfigured global beliefs or goals; Park, 2010). If experiences cannot be integrated with previously held worldviews, individuals may no longer perceive the world as benevolent and predictable or themselves as competent and invulnerable. In other words, the assumptions underlying their global meaning system are shattered.

While negative experiences appear to be antagonistic to the perception of a meaningful life or experience, some studies have shown that individuals are able to restore their sense of meaning (Joseph & Linley, 2005; Michael & Snyder, 2005). Through a process called assimilation, individuals may change how they appraise the situation (i.e., situational meaning) so that it is aligned to their global assumptions (Park, 2010). For instance, to maintain their assumption of a just world, individuals high in BJW can view negative experiences as potential challenges to overcome and reappraise them as less of a threat (Tomaka & Blascovich, 1994). By assimilating their experiences into an interpretive framework (of global meaning), individuals are able to better cope and make sense of such negative experiences. Alternatively, individuals can accommodate their situational meaning by changing their global assumption(s) to match their appraisal of the experience (Park, 2010). Hoppes and Segal (2010) found that individuals made life changes (e.g., work, leisure, or social participation) following the loss of a loved one. One participant, after the death of her mother from breast cancer, decided to make a career switch after discovering what is

more meaningful to her. This is akin to changing one's assumption about what constitutes meaningful activity—having learned about the purpose of one's life as a result of the negative experience.

Daily Experiences as Opportunities for Growth

Reports of meaning-making and growth following major negative life events such as trauma, loss, and serious illness have been well documented (Linley & Joseph, 2004). Though challenging, individuals can sometimes make meaning out of their suffering (Frankl, 2011). Indeed, following adversity, individuals may report some degree of positive change as a result of the experience (Park et al., 1996; Tedeschi & Calhoun, 1996). These include changes in sense of self (e.g., increased self-reliance and a sense that the experience "that did not kill you made you stronger"; Berger & Weiss, 2003, p. 28), changes in sense of social relationships (e.g., greater self-disclosure, emotional expressiveness, and empathy towards others; Tedeschi & Calhoun, 1996), as well as changes in philosophy of life (e.g., greater sense of purpose after clarifying life's meaning, values, and priorities; Calhoun & Tedeschi, 2010). Such positive changes have been associated with mental and physical health benefits, including positive well-being (e.g., Bower et al., 2009).

However, current literature on coping and meaning has often focused on major life events, while scant research examined common daily adversities. Notwithstanding the significant role these major life events can play, they can be quite rare across a person's lifespan (Frans et al., 2005). In contrast, the common daily adversities and the meaning-making and growth following such daily experiences is largely unexplored (Aldwin & Levenson, 2004). Although they are often less serious in nature when compared to traumatic life experiences, daily negative events (e.g., such as conflict with a friend) can still disrupt beliefs and goals, and cause distress (O'Neill et al., 2004); this brings about a need to process those daily negative experiences and make meaning out of them.

Hence, the current study aimed to extend the tripartite approach to meaning and meaning-making model to negative daily experiences. There is some support for this extension in the belief disruption and growth literature (LoSavio et al., 2011). It has been argued that any event can lead to some degree of core belief disruption and thus be associated with growth—even if they are not traumatic (Cann et al., 2011). That is, negative daily events may still disrupt people's meaning systems, particularly when they occur in valued life domains—despite being smaller in magnitude. For instance, negative daily social and achievement events are associated with less MIL on the day they occur (Machell et al., 2015). However, following less major and non-traumatic events, individuals still often report at least a modest degree of positive change (Park et al., 1996). As such, I argued that non-traumatic daily negative events would still initiate coping and meaning-making processes, though to a lesser extent than traumatic experiences.

Coping Through Negative Experiences

Lazarus and Folkman (1984) proposed two major ways that people might cope with negative experiences: problem-focused coping (to resolve the problem) and emotion-focused coping (to directly regulate distress). To date, many studies have adopted a dichotomous perspective on coping with negative experiences (problem-focused vs. emotion-focused). However, the notion that only one strategy is appropriate in a given situation is counterproductive (Lazarus, 2000), particularly because individuals can use more than one strategy when faced with potentially stressful situations (Sideridis, 2006). Unless the situation at hand is very simple, one may have to employ various strategies to cope and make sense of the complex demands of the environment.

The use of multiple coping strategies can be effective for dealing with stress. For example, Murphy (1996) found that the most prominent strategies involved a combination of relaxation (to reduce negative emotions) and cognitive-behavioral techniques (to reframe how

individuals think about the situation); this highlights the importance of flexibility in coping strategies and the effectiveness of blended interventions as compared to single strategy approaches. Hence, this study sought to explore whether complementary coping strategies could be applied to facilitate the meaning-making process of daily negative experiences—through meaning-focusing coping and self-distancing (e.g., reflecting from a third-person perspective).

Meaning-focused Coping on Negative Experiences

Meaning-focused coping is a coping process that focuses on the reappraisal of meaning. It is not orthogonal to problem- and emotion-focused coping. Rather, it provides another way to describe coping responses that emphasizes the subjective meaning of the event for the individual. Individuals may draw on their beliefs (e.g., religious, spiritual, or beliefs about justice), or values and existential goals (e.g., purpose in life or principles) to motivate and sustain coping and well-being during difficult times (Aldwin, 2007; Park & Folkman, 1997). Meaning-focused coping is assumed to be effective for situations in which there is little control over the resolution to the stressor (Park et al., 2012; Park & Folkman, 1997).

Effect of Positive Reappraisal on Meaning

One form of meaning-focused coping is positive reappraisal, which can be defined as reinterpreting events or situations in a positive manner (Folkman & Moskowitz, 2000; Helgeson et al., 2006). It includes elements such as attempting to find benefits in the experience (Garnefski et al., 2001)—by searching for positive meaning among the negativity (Nowlan et al., 2015). The individual may come to believe something valuable or beneficial has been gained from the situation, such as enhanced wisdom or personal growth (Folkman & Moskowitz, 2000). As a type of meaning-focused coping, positive reappraisal neither attempts to change a problematic situation, nor directly decrease pressure that is caused by

negative affect (NA) or distress. Instead, it aims to change the ways the individual evaluates the situation and to better reconcile beliefs and goals with stressful situations (Pearlin, 1991). For example, optimists, as compared with pessimists, adapt better to stressful situations as they are more likely to perceive benefits from adverse experiences through positive interpretation of ongoing events (Affleck et al., 2001).

In the process of evaluating the positive meaning of an experience, individuals may identify potential positive outcomes such as (a) enhanced social resources (e.g., development of a confidant relationship, Schaefer & Moos, 1992), (b) enhanced personal resources (e.g., development of empathy, and maturity; Calhoun & Tedeschi, 1990), and (c) development of new coping skills (e.g., ability to regulate and control affect; Park & Folkman, 1997). Through reappraisal, people may come to believe that adversity has helped them to acquire wisdom and patience (e.g., Stainton & Besser, 1998); learn important life skills (e.g., Kimura & Yamazaki, 2013); appreciate the value of life (e.g., Chou et al., 2013); create a new sense of purpose by re-evaluating and identifying important values, relationships, and commitments (e.g., Park & Folkman, 1997); or test and thereby strengthen one's faith and spirituality, and improve social relations (Cywińska, 2018).

Kumari and Singh (2016) found that when asked to think of ways in which they have grown, Indian women felt that their traumatic experiences (e.g., domestic abuse) could teach them to believe in themselves and to be more self-reliant. Similarly, people with traumatic spine injury thought that the injury could help them to have better appreciation and gratitude for daily opportunities to enjoy the little things in their lives—such as "to play with their grandchildren" (Chun & Lee, 2013, p. 14) . These examples highlight that, when individuals positively reappraise and cognitively transform difficult experiences, it is possible for them to notice the beneficial and valuable opportunities for positive change (Cywińska, 2018). Despite this, research has yet to examine how the meanings made via positive reappraisal

extend to specific facets of meaning. It is plausible that reappraisal helps people gain insights into the situation and themselves (i.e., enhancing a sense of coherence), seek ways to improve (i.e., sense of purpose), and even reflect on how life might be positively different in the future (i.e., sense of significance).

Challenges of Positive Reappraisal

While previous research found that positive reappraisal can be an effective coping strategy, recent studies suggest that the successful use of reappraisal requires several potentially taxing cognitive processes, including the ability to override a prepotent response (Ortner et al., 2016; Troy et al., 2018; Vieillard et al., 2020). For example, in emotionally intense situations, reappraisal may be difficult as it is challenging to override the original negative appraisal of the situation with the new, less emotionally evocative reappraisal (Ortner et al., 2016). The use of reappraisal is associated with decreased self-control resources when used in high-intensity situations (Ortner et al., 2016; Sheppes & Meiran, 2008); perhaps this explains why people are less likely to use reappraisal in such situations (Sheppes et al., 2014). Together, prior work suggests that the effectiveness of positive reappraisal may be limited in highly emotionally intense situations. As much as intense emotions are likely to be felt in traumatic experiences, they are also possible in daily negative events (e.g., poor performance on an exam; Charles et al., 2013; LoSavio et al., 2011). This raises the issue that positive reappraisal may not be as functional in situations where it could be most needed. Hence, it is important to find ways to facilitate the usage of positive reappraisal in these negative situations. One possibility is to attenuate intense negative emotions through other means such as self-distancing.

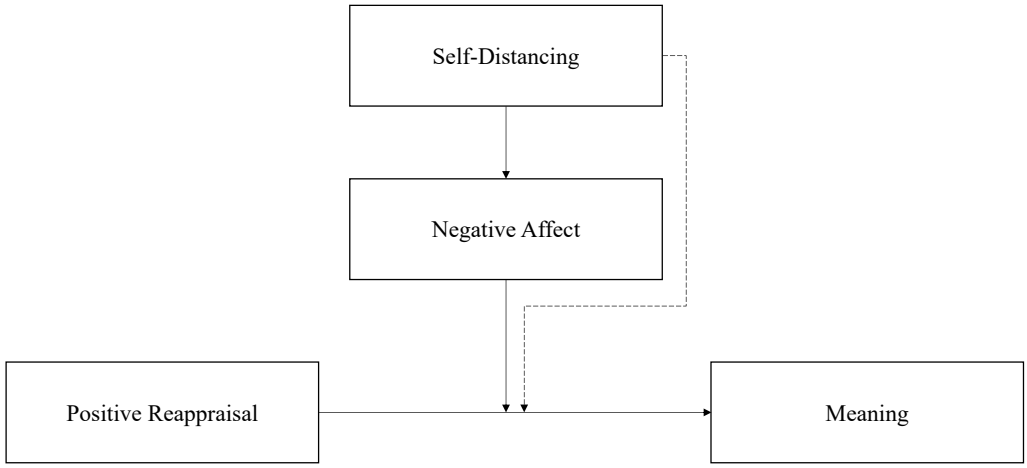
Effects of Self-Distancing on Negative Affect

Self-distancing is the process of stepping back from one's own thoughts, beliefs, and feelings (Teasdale et al., 2002). Reflecting on adversity from a self-distanced perspective can

facilitate constructive reasoning and effective regulation of negative emotions. It entails visualizing the event from a "fly on the wall" observer perspective—for example, by reflecting on it using third-person language (Grossmann & Kross, 2014; Kross & Ayduk, 2017; Nook et al., 2017).

In contrast to the self-distanced perspective, people often adopt an egocentric view when focusing on past emotional experiences (Nigro & Neisser, 1983). This self-immersed (first-person) perspective draws attention to the concrete features of one's experience (i.e., the specific development of events and emotions) and thereby increasing negative arousal as individuals "relive" their experiences all over again (McIsaac & Eich, 2004; Robinson & Swanson, 1993). Indeed, when adopting a first-person perspective, individuals can experience high levels of emotional arousal, which may then hinder their ability to engage in cognitive analysis (Nigro & Neisser, 1983; Robinson & Swanson, 1993). However, a third-person perspective may draw attention to additional features of the situation—leading to appraisals that attenuate negative affect (McIsaac & Eich, 2004; Robinson & Swanson, 1993). This would allow individuals to focus on the broader context of the event and reconstrue their experience (Mischel et al., 1989; Trope & Liberman, 2003). Therefore, when paired with positive reappraisal, self-distancing is proposed to attenuate the hampering effects of NA such that positive reappraisal can be employed more effectively to enhance meaning. Hence, the effects of positive reappraisal on enhancing meaning should be stronger when adopting a self-distanced perspective. I call this the self-distancing enhancement hypothesis (see Figure 1).

Figure 1. *Hypothesized Relationship between Positive Reappraisal and Meaning, Moderated by Self-Distancing, Mediated by Negative Affect*



H1: Adopting a self-distanced (third-person) perspective moderates the effectiveness of positive reappraisal of a negative experience on one's sense of meaning. Specifically, the effect of positive reappraisal on enhancing meaning will be stronger when a self-distanced perspective is adopted than when a self-immersed (first-person) perspective is adopted.

H2: The moderating effect of self-distancing on positive reappraisal (H1) is mediated by reduced negative affect.

The Present Study

As the meaning-making model suggests, global and situational meaning share a symbiotic relationship that shapes the present and future goals of persons as well as their overarching worldviews (Park, 2010)—analysis of one kind of meaning without the other would be incomplete. Indeed, scant research has investigated whether processes can jointly enhance both global and situational meaning. Moreover, despite the vital implications of daily experiences (e.g., conflict with a friend; O'Neill et al., 2004), scant research has examined how processing such experiences can influence one's sense of meaning (global and situational). On the other hand, while self-distancing may promote adaptive reflection of a negative experience (Kross & Ayduk, 2011, 2017), little is known about the relationship

between self-distancing and the maintenance of meaning (e.g., Wang et al., 2019)— and whether this occurs through reduced negative affect.

To this end, the research goals are threefold. First, I aimed to examine the interaction between the two strategies—positive reappraisal, and self-distancing—and their effects on meaning-making of negative daily experiences (i.e., the self-distancing enhancement hypothesis). Second, I aimed to elucidate the mechanism that undergirds the interactive effects of positive reappraisal and self-distancing on meaning—particularly, by examining the mediating role of NA. Third, I sought to explore whether (and the extent to which) these processes influence individuals' sense of situational meaning, global meaning, or both—across the three facets (i.e., coherence, purpose, and significance).

Methods

Participants

A total of 462 participants were recruited through the local university subject pool system (M_{age} = 21.28, SD_{age} = 1.91). The majority of the sample identified as female (78.7%; N = 364); 82.3% reported to be born in Singapore (N = 380); 79.9% identified Chinese as their ethnicity (N = 369). All participants received one course credit upon completion of the study.

Materials and Measures

The experiment conducted was a 2 (self-distanced vs self-immersed) × 2 (positive reappraisal vs reflection only) between-subjects design.

Dispositional Optimism. Individuals who hold generalized expectancies for positive outcomes (i.e., optimism; Scheier & Carver, 1985) may seek opportunities to transform threatening situations into favourable circumstances through positive reappraisal coping. Dispositional optimism was assessed with the six-item Life Orientation Test-Revised (Scheier et al., 1994; α = 0.81). Participants indicated the extent to which they agreed with

the items (e.g., "Overall, I expect more good things to happen to me than bad"; 1 = *strongly disagree*, 5 = *strongly agree*).

Dispositional Gratitude. Gratitude has been associated with making positive attributions, and a coping style called positive reinterpretation (Lambert et al., 2009; Wood et al., 2008). Dispositional gratitude was assessed with the six-item Gratitude Questionnaire-6 (McCullough et al., 2002*;* $\alpha = 0.80$). Participants indicated the extent to which they agreed with the items (e.g., "I have so much in life to be thankful for"; 1 = *strongly disagree*, 7 = *strongly agree*).

State of Arousal. State of arousal was assessed using the Attentiveness and Fatigue sub-scales of PANAS-X (Watson & Clark, 1994). Participants indicated the extent to which they were feeling at the "present moment" for each item (e.g., "Tired", "Attentive"; 1 = *very slightly or not at all*, 5 = *extremely*). Items were reversed-coded and added to form a single index for current state of arousal ($\alpha = 0.85$), where higher scores indicated a more aroused state.

Writing Tasks. Participants were instructed to think about a current or recent distressing or upsetting negative experience they are facing or have faced within the past four weeks, before writing down a short anchor prompt to remind them of what the experience is about. [1] They were then randomly assigned to one of the four experimental conditions: distanced reflection (n =110), immersed reflection (n = 113), distanced reappraisal (n = 120), and immersed reappraisal (n = 119) . The manipulations in each condition consisted of two parts.

[1] The events that the participants wrote about fell into several broad categories: 143 (31%) involved important problems at school, 94 (20%) involved important problems with relatives and family, 85 (18%) involved fights among or with friends, 52 (11%) involved relationship problems, 40 (9%) involved important problems at work, and the remaining 48 (8%) were unclassified events (e.g., health conditions such as surgery, knee injury). Chi-square analysis suggested no group differences between the four experimental conditions, χ^2 (15) = 11.108, p = .74.

Participants in the "Reflection-only" condition first worked on a *neutral task* where they answered a series of non-emotional questions related to the experience (e.g., "When did the experience occur? If possible, please include details such as date, day of the week, whether it was a weekday or weekend, the time of the day.") for five minutes. They continued to work on the task until they finished all the questions or until the time was up. They then proceeded to a five-minute *reflection task* (Kross et al., 2012) where they recalled and analyzed their experience from either a self-distanced perspective (e.g., "Replay the experience as it unfolds in your imagination as you observe your distant self") or self-immersed perspective (e.g., "Replay the experience as it unfolds in your imagination through your own eyes"). Participants in the distanced reflection (immersed reflection) condition were also instructed to write using third-person (first-person) pronouns to further draw the distinction between third- and first-person perspective (Giovanetti et al., 2019).

Participants in the "Positive Reappraisal" condition began with the reflection task (i.e., recalling their experience either through a self-distanced or self-immersed perspective) for five minutes. Afterwards, they were prompted to think about the experience in a more positive light (Rood et al., 2012) for another five-minutes. Specifically, they were instructed to give advice from either a self-distanced perspective (e.g., "Help the 'distant you' to see how they can benefit from… [the] experience…") or a self-immersed perspective (e.g., "Help yourself to see how you can benefit from … [the] experience…"). Accordingly, they were instructed to write in either third- or first-person pronouns. The full instructions of the manipulations are given in the Appendix.

Initial Intensity of Experience. Following Rood et al. (2012) and Shiota and Levenson (2012), participants rated how they felt when they first went through the experience with the following three items: (1) severity of the event—"At that point of time, how bad did this experience feel like to you?"; (0 = *not bad/ not terrible*, 8 = *the worst I have ever*

experienced), (2) intensity—"At that point of time, how strong/intense were those emotions?"; (0 = *no emotion at all*, 8 = *the strongest emotions I have ever felt*), (3) valence—"At that point of time, how negative or positive did you feel?"; (0 = *very negative*, 8 = *very positive*). The first two items were averaged to form a single score for one's initial intensity of the experience, where higher scores indicated a more intense event—the last item was dropped to improve reliability. The Spearman-Brown formula was used for reliability analysis for all two-items scales (Eisinga et al., 2013). Spearman-Brown coefficient for intensity of experience was 0.76.

Affective Experience. Using the 20-item Positive And Negative Affect Schedule (PANAS; Watson et al., 1988), participants indicated the extent to which they experienced Positive Affect (PA; e.g., "Interested", "Enthusiastic") and Negative Affect (NA; e.g., "Upset", "Guilty") while writing about the experience (1 = *very slightly or not at all*, 7 = *very much*). Items were added to form a single score for PA ($\alpha = 0.92$) and a single score for NA ($\alpha = 0.91$).

Psychological Distance Manipulation Check. Adapted from Ayduk and Kross (2010), and White et al., (2015), participants indicated the extent to which they "were seeing [the event] through your own eyes versus watching it happen from a distance" (1 = *completely through my own eyes*, 7 = *completely from a distance*), and "how far away from [the event] did you feel" (1 = *very close*, 7 = *very far*). They were averaged to form a single score for psychological distance. Spearman-Brown coefficient for psychological distance was 0.62.

Participants also indicated the extent to which they *recounted* the specific chain of events that took place and *reconstrued* the experience in that made them think and feel differently about their experience. Self-immersion is expected to increase recounting, whereas self-distancing increases reconstruing. Ratings were made on a 7-point Likert scale

(1 = *completely agree*, 7 = *completely disagree*). Three items on reconstruing were averaged to form a single score ($\alpha = 0.74$). As the recounting scores and reconstruing scores were not negatively correlated, $p = 0.98$, they were not combined to form a single thought content score (Ayduk & Kross, 2008; Kross et al., 2005).

In addition, they also indicated the extent to which they were 'reliving' their recalled experience (Ayduk & Kross, 2010) with the following two items—"I re-experienced the emotions I originally felt during the experience when I think about it", and "As I thought about the experience, my emotions and physical reactions to the experience were still pretty intense" (1 = *strongly disagree*, 7 = *strongly agree*). They were averaged to form a single score for emotion reactivity. Spearman-Brown coefficient for emotion reactivity was 0.78.

Positive Reappraisal Manipulation Check. Adapted from the Aspiration Index (AI; Kasser & Ryan, 1996) as well as the types of common benefits mentioned across the literature (e.g., Cywińska, 2018; Park & Folkman, 1997), participants rated (1 = *not at all*, 7 = *a great deal*) the extent to which reflecting and writing about the experience helped them realized nine accrued benefits (e.g., "Helped to clarify which goals or priorities are personally important and which are not") and eight opportunities for benefits (e.g., "An opportunity for learning important life skills"). Items were added to form a single index for accrued benefits and a single index for opportunities for benefits.

Co-variates. As older memories are found to be more distanced from the present than recent memories (Ayduk & Kross, 2010), participants also rated the recency of the experience (1 = *still ongoing*, 7 = *within the past four weeks*). Additionally, as the resolution of the recalled experience might have affected emotional reactivity (Ayduk & Kross, 2008), participants also rated the current status of the experience (1 = *not at all resolved*, 7 = *very much resolved*).

Situational Meaning. Participants rated the meaningfulness of the experience using six items as adapted from Heintzelman and King (2014), and Waytz et al. (2015)—that assess situational meaning using the tripartite approach (1 = *not at all*, 7 = *very much*). Items include: *purpose* ("To what extent did the experience involve achieving a purposeful goal"; "To what extent was the experience full of purpose?"); *significance* ("To what extent did the experience make you feel significant"; "To what extent did the experience feel important rather than trivial?"); and *coherence* ("To what extent did the experience give you a sense of coherence"; "To what extent did the experience make sense?"). An additional item to indicate the overall judgement of meaningfulness of the experience was also included, "To what extent do you find the experience that you wrote about meaningless or meaningful" (-3 = *very meaningless*, 0 = *neither meaningful nor meaningless*, 3 = *very meaningful*). Spearman-Brown coefficients were calculated: purpose (0.76), significance (0.51), and coherence (0.65).

Global Meaning. Global meaning (i.e., MIL) was assessed with the 15-item Multidimensional Existential Meaning Scale (MEMS; George & Park, 2017). Participants rated (1 = *very strongly disagree*, 7 = *very strongly agree*) the extent to which they agreed with several statements assessing the facets of global meaning. They include, "I have aims in my life that are worth striving for" (purpose); "My life makes sense " (comprehension); and "I am certain that my life is of importance (mattering); 1 = *very strongly disagree*, 7 = *very strongly agree*). As adopted from Heintzelman and King, 2014, an additional item to indicate the overall judgement of global meaning was also included, "To what extent do you feel that your life has meaning?" (1 = *not at all*, 7 = *extremely*). Three scores for purpose (α = 0.92), comprehension (α = 0.87), and mattering (α = 0.87) were calculated by averaging the five items within each subscale.

Procedure

After providing informed consent, participants completed three questionnaires regarding their dispositional optimism, dispositional gratitude, and current level of arousal. They were then asked to identify a distressing/ upsetting experience and write a sentence about it—before indicating their perceived initial intensity of experience. They were then assigned randomly to one of the four writing task conditions. After the writing task, participants completed a series of questions about their affective experience, psychological distance, perceived sense of benefits, situational meaning, and global meaning. Finally, they completed a set of demographic questions before debriefing.

Analysis Plan

One participant was manually screened out as due to noncompliance with the instructions (i.e., reflecting on an experience within the last four weeks). Prior to preliminary analyses, I used a robust outlier-detection approach (i.e., minimum covariance determinant [MCD]; Leys et al., 2019)—which is based on median absolute deviation, as the mean and standard deviation can be considerably influenced by the outliers they were meant to identify. Outliers were detected based on three variables available in all conditions: (i) duration participants took to adopt either the self-immersed or self-distanced perspective, (ii) duration participants took to reflect on the experience, (iii) duration participants took to complete the study—these were chosen because a short duration may imply that participants did not reflect on the experience sufficiently, while a long duration may suggest that participants may not be focusing on the study. Using the MCD method with a breakdown point of 0.25 (i.e., computing the mean and covariance terms using 75% of the data; see Leys et al., 2019 for a discussion of this approach), eighty-one multivariate outliers were identified and removed; a final sample of 380 participants remained. Logistic regression was used to analyze the relationship between the conditions (self-distanced vs. self-immersed × reflection-only vs. reappraisal) on the probability of being an outlier: being randomly assigned to any of the four

conditions did not significantly predict the probability of being an outlier, *p*s > .49. A series of independent samples *t*-tests further revealed that the outlier group tended to be less optimistic than the retained sample ($M_{retained}$ = 3.15, $M_{outlier}$ = 2.91, $t(110.05) = 2.64$, $p = .01$). In general, however, the outliers were not systematically different from the retained sample on the key variables. Subsequent analyses were conducted with and without these multivariate outliers. Assumptions of normality for all variables were then assessed. Values for skewness and kurtosis were within the acceptable standards for a normal distribution, that is, between -2 and +2 (George & Mallery, 2010).

To establish the robustness of the results, I also utilized an alternative outlier screening procedure whereby participants who were over 2 SDs from the mean on any of the three duration variables were excluded from analysis. Sixty-nine participants were identified and removed—leaving a final sample of 392 participants. Subsequent analyses were also conducted with this sample. Descriptive statistics of the three variables for the outliers are presented in Table 1. A comparison of the key analyses between the MCD and ±2-SD approaches are reflected in Table 14.

As I was interested to examine the self-distancing enhancement hypothesis (H1), I planned to conduct multiple regression analyses to test the effects of positive reappraisal, self-distancing, and their interaction on predicting meaning. Dispositional gratitude, dispositional optimism, recency, and resolution status were included in the regression model as control variables. I also conducted several exploratory analyses to examine the boundary conditions of the self-distancing enhancement hypothesis. Lastly, I explored whether the pattern of relationships between positive reappraisal and self-distancing generalized to each facet of meaning (i.e., coherence, purpose, significance) across both levels of meaning (i.e., global and situational).

Results

Table 2 displays the means, standard deviations, skewness, kurtosis, of the variables involved in this study. Table 3 displays the intercorrelations of the variables. A correlational analysis revealed significant zero-order associations between meaning (both situational and global meaning) and dispositional gratitude, dispositional optimism, and resolution status (i.e., how distressing the experience currently is). This served as empirical evidence for the inclusion of these variables as covariates. Variables were mean-centered for subsequent analyses.

Manipulation Check

Positive Reappraisal. Two-way analysis of variance (ANOVAs) were performed to examine (i) perception of accrued benefits and (ii) opportunities for benefits between those in the positive reappraisal and reflection-only conditions. There was a main effect of positive reappraisal, $F(1, 376) = 20.08$, $p < .01$, no main effect of self-distancing, $F(1, 376) = 0.16$, $p = 0.69$, and no interaction between the positive reappraisal and self-distancing on accrued benefits, $F(1, 376) = 0.07$, $p = .80$. Similar results were also obtained for opportunities for benefits: there was a main effect of positive reappraisal, $F(1, 376) = 21.05$, $p < .01$, no main effect of self-distancing, $F(1, 376) = 1.21$, $p = 0.27$, and no interaction between the positive reappraisal and self-distancing, $F(1, 376) = 0.15$, $p = .70$. Compared with those who only reflected on the event, those who reappraised reported more benefits, $t(376) = 4.38$, $p < .01$, $d = 0.45$, 95% CI [0.25, 0.66], and realized more opportunities for benefits, $t(376) = 4.44$, $p < .01$, $d = 0.46$, 95% CI [0.26, 0.67]. These relations remained significant after controlling for covariates such as dispositional gratitude, dispositional optimism, recency of the experience, and resolution status, ps $< .01$. Thus, the positive reappraisal manipulation effectively increased perceptions of benefits and opportunities for benefits regardless of the self-distancing manipulation.

Self-Distancing. Two-way ANOVAs were performed to examine the effectiveness of the self-distancing manipulation. Several measures were used to evaluate this.

Psychological Distance. There was a main effect of self-distancing, $F(1, 376) = 24.19$, $p < .01$, no main effect of positive reappraisal, $F(1, 376) = 0.12$, $p = .73$, and no interaction between positive reappraisal and self-distancing, $F(1, 376) = 0.14$, $p = .71$. Compared with immersed participants, distanced participants felt more psychologically distant from the experience, $t(376) = 4.93$, $p < .01$, $d = 0.50$, 95% CI [0.30, 0.71]. This effect remained significant after controlling for covariates, $p < .01$. As expected, the self-distancing manipulation thus effectively created differences in psychological distance between the conditions.

Thought content. There was a main effect of self-distancing on recounting, $F(1, 376) = 5.42$, $p = .02$, no main effect of positive reappraisal, $F(1, 376) = 2.38$, $p = .12$, and no interaction between positive reappraisal and self-distancing, $F(1, 376) = 0.13$, $p = .72$. Immersed participants reported significantly less recounting than distanced participants, $t(376) = -2.33$, $p = .02$, $d = 0.24$, 95% CI [-0.64, -0.05]. This remained significant after controlling for covariates, $p = .02$.

In contrast, there was no main effect of self-distancing on reconstruing, $F(1, 376) = 0.23$, $p = .63$, no interaction between positive reappraisal and self-distancing, $F(1, 376) = 1.04$, $p = .31$, and a main effect of positive reappraisal, $F(1, 376) = 51.64$, $p < .01$. Contrary to expectations, self-distancing did not lead to less recounting or more reconstruing.

Emotional Reactivity. There was no main effect of self-distancing, $F(1, 376) = 0.46$, $p = .50$, no main effect of positive reappraisal, $F(1, 376) = 0.05$, $p = .83$, and no interaction between positive reappraisal and self-distancing, $F(1, 376) = 1.16$, $p = .28$. Contrary to expectations, self-distancing did not lead to less emotional reactivity.

Positive and Negative Affect. For PA, there was a main effect of positive reappraisal, $F(1, 376) = 29.09$, $p < .01$, a marginally significant main effect of self-distancing, $F(1, 376) = 3.23$, $p = .07$, and no interaction between positive reappraisal and self-distancing, $F(1, 376) = 0.01$, $p = .92$. Compared with participants who only reflected, those who reappraised reported more PA, $t(376) = 5.36$, $p < .01$, $d = 0.55$, 95% CI [0.34, 0.76]. This relation remained significant after controlling for covariates, $p < .01$. In addition, distanced participants also reported less PA than immersed participants, $t(376) = 1.74$, $p = .08$, $d = 0.18$, 95% CI [-0.02, 0.38], this relation became non-significant after controlling for covariates, $p = .131$.

For NA, there was a main effect of positive reappraisal, $F(1, 376) = 21.19$, $p < .01$, a marginally significant main effect of self-distancing, $F(1, 376) = 3.69$, $p = .06$, and no interaction between positive reappraisal and self-distancing, $F(1, 376) = 0.01$, $p = .92$. Compared with participants who only reflected, those who reappraised reported less NA, $t(351) = 4.58$, $p < .01$, $d = 0.47$, 95% CI [0.27, 0.68]. This relation remained significant after controlling for covariates, $p < .01$. In addition, distanced participants also reported marginally less NA than immersed participants, $t(376) = 1.87$, $p = .06$, $d = 0.19$, 95% CI [-0.01, 0.39]. This relation became significant after controlling for the covariates ($p = .04$).

The results of the manipulation check suggested that the effect of positive reappraisal manipulation were consistent on participants' cognition and affect; it was effective in eliciting perceptions of benefits and enhancing PA, as well as reducing NA. However, the effects of self-distancing manipulation were inconsistent. While it successfully created more psychological distance, the unexpected shift in thought content (i.e., more recounting) ran contrary to prior studies. Additionally, the null effect for emotional reactivity and the weak effect observed for NA suggested that writing in a third-person's perspective had only weak effect on their affect.

Hypothesis Testing

A hierarchical multiple regression analysis was conducted to examine the effects of positive reappraisal and self-distancing on situational meaning (i.e., meaning in experience). On step 1 of the analysis, covariates (i.e., dispositional optimism, dispositional gratitude, recency of the experience, and resolution status) accounted for a significant 6.5% of the variance in overall situational meaning, $F_{(4, 375)} = 6.56$, $p < .01$. On step 2, the two main predictors (positive reappraisal and self-distancing), and their interaction were added to the regression equation, which accounted for an additional 4.5% of the variance in situational meaning, $F_{(3, 372)} = 6.40$, $p < .01$. The analysis revealed that there was a main effect of positive reappraisal on overall situational meaning, $B = 0.27$, $p < .01$, 95% CI [0.15, 0.40], no main effect of self-distancing, B = 0.00, p = .989, 95% CI [-0.12, 0.12], and no interaction between positive reappraisal and self-distancing, B = -0.02, p = .794, 95% CI [-0.14, 0.11].[2]

A hierarchical multiple regression analysis was also conducted on overall global meaning (i.e., MIL). On step 1, the covariates accounted for a significant 40.2% of the variance in overall global meaning, $F_{(4, 375)} = 63.1$, $p < .01$. On step 2, the two main predictors and their interaction were added to the regression equation and accounted for an additional 0.5% of the variance in global meaning, $F_{(3,272)} = 1.09$, $p = .352$. The analysis revealed that there was a marginally significant main effect of positive reappraisal, $B = 0.07$, $p = .08$, 95% CI [-0.01, 0.14], no main effect of self-distancing, $B = -0.02$, $p = .683$, 95% CI [-0.09, 0.06], and no interaction between self-distancing and positive reappraisal, $B = -0.01$, $p = .832$, 95% CI [-0.08, 0.07].[3] Unstandardized (B) regression coefficients for each predictor are reported in Table 4.

[2] A multiple regression analysis, without the covariates, was also conducted. Similarly, there was a main effect of positive reappraisal on overall situational meaning, $B = 0.27$, $p < .01$, 95% CI [0.14, 0.39], no main effect of self-distancing, $B = -0.02$, $p = .81$, 95% CI [-0.14, 0.11], and no interaction between positive reappraisal and self-distancing, $B = -0.01$, $p = .929$, 95% CI [-0.13, 0.12].

[3] A multiple regression analysis, without the covariates, was also conducted. There was no main effect of positive reappraisal on overall global meaning, $B = 0.05$, $p = .307$, 95% CI [-0.05, 0.14], no main effect of self-distancing, $B = -0.05$, $p = .315$, 95% CI [-0.14, 0.05], and no interaction between positive reappraisal and self-distancing, $B = -0.01$, $p = .916$, 95% CI [-0.09, 0.10].

The results did not support the self-distancing enhancement hypothesis—that adopting a self-distanced perspective would enhance the effectiveness of positive reappraisal in promoting greater meaning in negative experiences (H1). Nor were there any effects on global meaning. Therefore, testing of the mediated moderation hypothesis (H2) was not conducted.

However, as the manipulation check showed that self-distancing led to a reduction in NA, multiple regression analyses were conducted to examine the effects of positive reappraisal and NA on meaning. The analysis revealed that there was a main effect of positive reappraisal on overall situational meaning, $B = 0.27$, $p < .01$, 95% CI [0.14, 0.40], no main effect of NA, B = -0.00, p = .928, 95% CI [-0.01, 0.01], and no interaction between positive reappraisal and NA, B = -0.01, p = .092, 95% CI [-0.02, 0.00]. Similar results were obtained with the inclusion of the covariates.

In contrast, there was a main effect of NA on overall global meaning, $B = -0.01$, $p = .011$, 95% CI [-0.02, -0.00], no main effect of positive reappraisal, $B = 0.02$, $p = .691$, 95% CI [0.14, 0.40], no interaction between positive reappraisal and self-distancing, $B = -0.00$, $p = .745$, 95% CI [-0.01, 0.01]. However, when the covariates were included in the model, there was no main effect of NA, $B = -0.00$, $p = .504$, 95% CI [-0.01, 0.00], no main effect of positive reappraisal, $B = 0.06$, $p = .123$, 95% CI [-0.02, 0.14], and no interaction between positive reappraisal and NA, $B = -0.00$, $p = .758$, 95% CI [-0.01, 0.00]. Notwithstanding, the proposed enhancement hypothesis was not supported.

Exploratory Analyses

Similar regression analyses were conducted with the inclusion of the multivariate outliers. The analyses including the outliers revealed similar findings on both situational meaning and global meaning. For situational meaning, the model accounted for 11.7% of the variability in overall situational meaning, $F_{(7, 453)} = 8.58$, $p < .01$. The analysis revealed that there was a main effect of positive reappraisal, $B = 0.28$, $p < .01$, 95% CI [0.17, 0.39], no main effect of self-distancing, $B = -0.04$, p = .502, 95% CI [-0.15, 0.07], and no interaction effect, $B = 0.03$, $p = .699$, 95% CI [-0.08, 0.14]. For global meaning, the model accounted for a significant 40.7% of the variability in overall global meaning, $F_{(7, 453)} = 44.5$, $p < .01$. The analysis revealed that there was a main effect of positive reappraisal, $B = 0.08$, $p < .01$, 95% CI [0.02, 0.15], no main effect of self-distancing, $B = -0.02$, $p = .601$, 95% CI [-0.09, 0.05], and no interaction effect, $B = 0.00$, $p = .964$, 95% CI [-0.07, 0.07].

Several exploratory analyses were conducted to examine the boundary conditions of the self-distancing enhancement hypothesis.

Moderating Effects of Recency

First, I examined if the recency of the experience moderated the interaction effect between positive reappraisal and self-distancing on situational meaning. Previous studies found that older experiences are more distant than newer experiences (Ayduk & Kross, 2010; Nigro & Neisser, 1983; Robinson & Swanson, 1993), thus, the self-distancing task may not be as effective on older experiences that are already seen as distant. In addition, older events may have afforded individuals the opportunity to process and reflect upon the experience before the study. That is, as compared to newer experiences, individuals may have already thought about and reappraised their older experiences, thus limiting the effectiveness of the experimental manipulations.

Figure 2. *Recency of the Experience Moderating the Effects of Positive Reappraisal and Self-distancing on Situational Meaning*

Note. PR, Positive Reappraisal; RO, Reflection-only; SD, Self-distanced; SI, Self-immersed

Effects on Situational Meaning. Indeed, recency moderated the interaction between positive reappraisal and self-distancing on overall situational meaning, $B = 0.13$, $p = .02$, 95% CI [0.05 – 0.32]. Figure 2 gives a graphical representation of the interaction between positive reappraisal and self-distancing at average recency (i.e., between one to two weeks), +1 *SD* (i.e., older than two weeks) and -1 *SD* (i.e., within 72 hours). Simple interaction analyses revealed the that the two-way interactions between positive reappraisal and self-distancing were only significant for experiences within 72 hours, $B = -0.54$, $p = .048$, 95% CI [-1.09, -0.02], but not for experiences between one to two weeks, $B = -0.27$, $p = .114$, 95% CI [-0.62, 0.07], or those older than two weeks, $B = -0.01$, $p = .96$, 95% CI [-0.45, 0.43].

Among recent experiences (i.e., within 72 hours), simple slopes analysis indicated that the effects of positive reappraisal on meaning were only apparent when participants engaged in immersed reappraisal, $B = 1.08$, $t = 3.16$, $p < .01$, but not when they engaged in distanced reappraisal, $B = 0.00$, $t = -0.00$, $p = .99$. Contrary to expectations, distanced reappraisal did not enhance meaning more than immersed reappraisal. Instead, the reappraisal × distancing interaction appeared to be due to participants reporting less meaning when engaged in immersed reflection (vs distance reflection), $B = 0.98$, $p = .02$, 95% CI [0.17, 1.79].

Among older experiences, effects of positive reappraisal were only significant at average recency (i.e., between one to two weeks), $B = 0.44$, $p = .01$, 95% CI [0.10, 0.78], but not significant when they were older than two weeks, $B = 0.33$, $p = .14$, 95% CI [-0.11, 0.77]. No other effects were observed (see Table 5).

These findings indicate that the effects of positive reappraisal on overall situational meaning were not further enhanced by adopting a self-distanced perspective (compared with a self-immersed perspective). In fact, among recent experiences (i.e., within 72 hours), engaging in distanced reappraisal (positive reappraisal in third-person) led to similar levels of

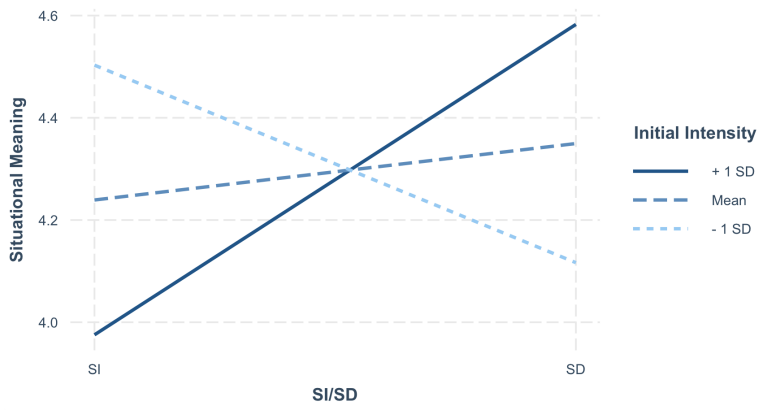
meaning as an immersed reappraisal (positive reappraisal in first-person). In contrast, among experiences *older than* two weeks, neither positive reappraisal nor self-distancing appear to enhance situational meaning.

Effects on Global Meaning. Recency did not moderate the interaction between positive reappraisal and self-distancing on overall global meaning, $B = 0.05$, $p = .22$, 95% CI [-0.03, 0.13], nor were any two-way interactions statistically significant (see Table 6).

Moderating Effects of Initial Intensity of Experience

The intensity of the negative experience could alter the effectiveness of either positive reappraisal or self-distancing. For example, when given the choice to implement either distraction or reappraisal, participants were less likely to use reappraisal for high intensity emotional images (Shafir et al., 2016; Sheppes et al., 2011, 2014). This may be due to one's unwillingness to engage in the high monitoring and effortful conflict resolution involved in the reappraisal process, which often corresponds to the difficulty in overriding one's initial emotional responses (Hoeksma et al., 2004). In addition, as individuals are often motivated to mitigate the distress that arises from intensely negative experiences, they may put more effort into self-distancing to achieves this aim. This suggests self-distancing may aid positive reappraisal particularly when experiences are initially high on intensity.

Figure 3. *Initial Intensity Moderates Effects of Self-distancing on Situational Meaning*



Note. SD, Self-distanced; SI, Self-immersed

Effects on Situational Meaning. A non-significant three-way interaction between positive reappraisal, self-distancing, and initial intensity was found, B = -0.33, p = .091, 95% CI [-0.71, 0.05]. Moreover, initial intensity did not moderate the effect of positive reappraisal on situational meaning, B = -0.00, p = .984, 95% CI [-0.39, 0.38]. However, a two-way interaction between self-distancing and initial intensity on overall situational meaning was found, B = 0.46, p = .02, 95% CI [0.07, 0.84] (see Figure 3).

To further probe the significant interaction effect, the Johnson-Neyman interval was obtained to determine the levels of intensity at which the simple slopes of self-distancing were significant. There was a significant negative relationship between self-distancing and situational meaning at lower levels of intensity (moderate to low intensities; i.e., 1.11 *SD* below the mean), and a significant positive relationship at higher levels of intensity (1.33 *SD* above the mean). In other words, self-distancing from a high-intensity negative experience enhanced situational meaning compared with self-immersion. In contrast, self-distancing from low-intensity experiences reduced situational meaning.

Taken together, while initial intensity moderated the effects of self-distancing on situational meaning, it did not moderate the effects of positive reappraisal, nor did it moderate the interaction between self-distancing and positive reappraisal on situational meaning.

Situational Meaning Facet Level Analyses. The previous analysis showed that initial intensity moderated the effects of self-distancing on situational meaning, but not the effects of positive reappraisal, nor the interaction between self-distancing and positive reappraisal. Given that meaning may be composed of distinct facets (George & Park, 2016, 2017; Martela & Steger, 2016), I further explored whether the effects of intensity, positive reappraisal, and self-distancing generalized to each of these facets.

Positive reappraisal may generally enhance meaning by encouraging individuals to identify possible benefits or opportunities created by the negative experiences (Luszczynska et al., 2005; Wrosch et al., 2003). Engaging in positive reappraisal may help one to construe a connection between the negative event and future improvement, or reinterpret ego threats in ways that reflect positively on the self (Folkman & Moskowitz, 2007). Insights from positive reappraisal could therefore enhance coherence, purpose, and significance.

In contrast, adopting a self-distanced perspective is thought to deepen one's understanding of those negative events and recognize how these experiences can still facilitate progression towards desired goals. In this way, adopting a self-distanced perspective can enhance one's sense of purpose and coherence. However, self-distancing may not promote all facets of meaning. For instance, adopting a psychologically distant perspective can increase one's awareness of the relative insignificance of a negative experience—thus, possibly reducing one's sense of significance and lowering perceived meaning.

Thus, although positive reappraisal is thought to enhance each facet of meaning in the same manner, self-distancing may have a differential influence on them. To explore these

possibilities, the effects of positive reappraisal, self-distancing, and intensity were examined separately for each facet of meaning.

Figure 4. *Initial Intensity Moderating Interaction between Positive Reappraisal and Self-distancing on Sense of Situational Coherence*

Note. PR, Positive Reappraisal; RO, Reflection-only; SD, Self-distanced; SI, Self-immersed

Sense of Situational Coherence. A three-way interaction was found between initial intensity, positive reappraisal, and self-distancing on the sense of situational coherence, B = -0.43, p = .038, 95% CI [-0.84, -0.02]. Simple interaction analyses revealed that the two-way interactions between positive reappraisal and self-distancing were only significant at high-intensity experiences, B = -0.77, p = .03, 95% CI [-1.47, -0.06], and not at mean-level, B = 0.32, p = .25, 95% CI [-0.22, -0.85] or low-intensity experiences, B = -0.22, p = .22, 95% CI [-0.59, 0.14]. Among high-intensity experiences, immersed reappraisal enhanced coherence, B = 0.86, t = 2.34, p = .02, but distanced reappraisal did not, B = -0.67, t = -1.09, p = .27 (see Figure 4). More critically for the enhancement hypothesis, distanced reappraisal did not enhance coherence more than immersed reappraisal. This was true across intensity levels (ps > .94; see Table 7).

Main effects of self-distancing were only observed when reflecting *without* positive reappraisal. These effects were qualified by intensity of experience. At high intensities, distanced reflection resulted in greater coherence than immersed reflection, $B = 1.54$, $t = 2.88$, $p < .01$. However, no effects were observed at lower levels of intensity (mean-level: $B = 0.47$, $t = 1.72$, $p = .09$, low-intensity: $B = -0.60$, $t = -1.45$, $p = .15$).

Figure 5. *Initial Intensity Moderating Effects of Positive Reappraisal and Self-distancing on the Sense of Existential Mattering*

Note. PR, Positive Reappraisal; RO, Reflection-only; SD, Self-distanced; SI, Self-immersed

Sense of Situational Significance. Given the poor reliability of the two-item situational significance subscale, I conducted separate analyses for each item. The first item assessed the perceived importance of the experience ("To what extent did the experience feel important rather than trivial?"). The second item assessed existential mattering ("To what extent did the experience make you feel like your existence matters?".

When perceived importance of experience was examined, no three-way interaction was found between initial intensity, positive reappraisal, and self-distancing, B = -0.11, p = .657, 95% CI [-0.56, 0.36]. No two-way interactions were observed either (see Table 8).

When existential mattering was examined, a three-way interaction between initial intensity, positive reappraisal, and self-distancing was found, B = -0.62, p = .04, 95% CI [-1.20, -0.03]. Simple interaction analyses revealed that the two-way interactions between positive reappraisal and self-distancing were significant for low-intensity, B = 0.60, p = .01, 95% CI [0.17, 1.37], and high-intensity experiences, B = -0.95, p = .049, 95% CI [-1.96, -0.07], but not significant for mean-level intensity experiences, B = -0.17, p = .52, 95% CI [-0.69, 0.35].

For low-intensity experiences, distanced reappraisal enhanced mattering, B = 1.23, t = 2.38, p = .02, but immersed reappraisal did not, B = 0.03, t = 0.06, p = .96 (see Figure 6). In contrast, for high-intensity experiences, distanced reappraisal reduced mattering, B = -0.16, t = -1.42, p = .01, whereas immersed reappraisal did not, B = 0.37, t = 1.29, p = .20. Despite these effects, the overall pattern of results do not support the enhancement hypothesis. While a distanced reappraisal promoted the sense of existential mattering in low-intensity experiences, self-distancing did not further enhanced the effect of positive reappraisal; that is, engaging in distanced reappraisal led to similar levels of existential mattering as immersed reappraisal.

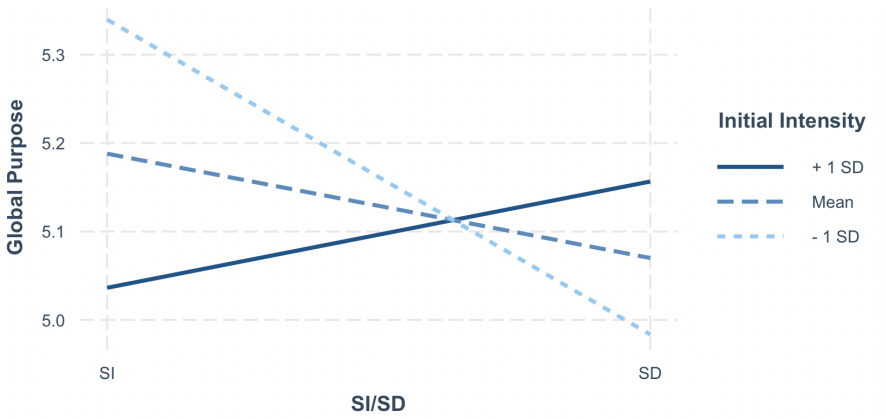
Interestingly, the main effect of distanced reflection (i.e., *without* positive reappraisal) also depended on intensity. At high intensities, distanced (vs immersed) reflection enhanced sense of existential mattering, B = 1.57, t = 2.03, p = .04. However, for low-intensity experiences, distanced reflection reduced mattering, B = -1.45, t = -2.42, p = .02.

Sense of Situational Purpose. No three-way interaction was found between initial intensity, self-distancing, and positive reappraisal on sense of situational purpose, B = -0.20,

p = .452, 95% CI [-0.72, 0.32], nor were any two-way interactions statistically significant (see Table 9).

Taken together, these findings did not support the enhancement hypothesis—that self-distancing can enhance the effects of positive reappraisal on situational meaning. Although immersed reappraisal enhanced coherence of high-intensity experiences and distanced reappraisal enhanced existential mattering of low-intensity experiences, these facets were not enhanced *beyond* the levels observed when reappraisal was practiced *without* self-distancing (i.e., immersed reappraisal).

Figure 6. *Initial Intensity Moderates Effects of Self-distancing on Global Purpose*



Note. SD, Self-distanced; SI, Self-immersed

Effects on Global Meaning. No three-way interaction was found between initial intensity, self-distancing, and positive reappraisal on sense of global meaning, B = -0.07, p = .08, 95% CI [-0.14, 0.01], nor were any two-way interactions statistically significant (see Table 10). Similar results were observed when examined at facet level: coherence (see Table 11), significance (see Table 12), and purpose (see Table 13). However, a two-way interaction between self-distancing and initial intensity on sense of global purpose was found, B = 0.10,

p = .03, 95% CI [0.01, 0.19]. The pattern was similar to that in Figure 3, whereby self-distancing reduced purpose for low but not high intensity experiences.

Taken together, these findings did not support the enhancement hypothesis—that self-distancing can enhance the effects of positive reappraisal on global meaning.

Robustness across Outlier Detection Methods

All but two two-way interaction effects were replicated across the MCD and ±2-SD outlier detection methods (see Table 14). In particular, while the interactions between intensity and self-distancing on overall situational meaning, and global purpose were significant when using the MCD approach, they became non-significant under the ±2-SD approach. This suggested that these two effects may not be robust to variations in the three duration variables.

Discussion

The present study had three main aims. First, I examined whether adopting a self-distanced perspective moderates the effectiveness of positive reappraisal on promoting meaning in daily negative experiences. Specifically, I postulated that the effects of positive reappraisal on enhancing meaning should be stronger when a self-distanced (versus self-immersed) perspective is adopted (i.e., the enhancement hypothesis). Second, I proposed that the moderation effect would be mediated by NA, such that self-distancing should enhance the effects of positive reappraisal on meaning by reducing NA. Third, I explored whether (and to what extent) these processes differed for situational versus global meaning, and across three facets of meaning (i.e., coherence, significance, and purpose). In general, little support was found for the self-distancing enhancement hypothesis.

Self-Distancing Enhancement Hypothesis

One explanation for the lack of support for the enhancement hypothesis could be that the self-distancing manipulation was ineffective in certain ways. For example, distanced

participants did not differ significantly from immersed participants in their emotional reactivity—as assessed by the extent to which and the intensity with which participants re-experienced (during the writing task) the negative emotions they felt in the original event. This is inconsistent with prior studies (e.g., Ayduk & Kross, 2008; Kross et al., 2005; Kross & Ayduk, 2009). One factor could be the type of emotion elicited by the negative experience. Prior studies instructed participants to write about specific experiences (e.g., one that elicited anger or sadness). In contrast, the present study simply instructed participants to write about a negative experience. Hence, other negative emotions such as guilt and shame could also be evoked. Self-distancing may highlight the presence of an imagined audience (Leary, 2007) and their objections to the violation of social norms (Barrett, 1995), which could further increase guilt or shame—which self-distancing is not effective in regulating them (Katzir & Eyal, 2013).

Further, although distanced participants did not report less emotional reactivity, they did report less NA—which seems contradictory. It is important to note that NA was measured using the PANAS, which mainly consists of adjectives representing high activation and arousal (Jovanović, 2015; Jovanović et al., 2019). Affect characterized by low to medium arousal may not be adequately measured using PANAS. Thus, even though self-distancing may have reduced high-arousal NA, other forms of negative emotion may have been "re-experienced" by participants, producing a null effect on emotional reactivity. Thus, future research should use measures that fully capture the diversity of positive and negative feelings, across varying arousal levels. This would provide stronger evidence on the boundary conditions of self-distancing.

However, it is difficult to fully attribute any observed differences (or lack thereof) to self-distancing alone. This is because participants only reported their affect after the entire writing segment. Participants' affect and emotional reactivity were not measured immediately

after the self-distancing reflection task or before the positive reappraisal task. While preliminary analyses revealed that positive reappraisal had a stronger effect than self-distancing in reducing NA, it remains uncertain whether the reduction in NA was more strongly influenced by self-distancing or reappraisal *per se*. Similarly, as participants' thought content (i.e., recounting vs. reconstruing) was only assessed after the writing segment, effects of positive reappraisal may have influenced their responses. Indeed, post hoc test on the main effect of positive reappraisal on reconstruing revealed that participants who reappraised reported more reconstruing than those who only reflected on the event, $t(376) = 7.19$, $p < .01$, $d = 0.74$, 95% CI [0.68, 1.19]. While the reconstruing effect of promoting perceptions of insight and closure is consistent with prior studies on positive reappraisal (Folkman & Moskowitz, 2000; Pearlin, 1991), it sheds light on the importance of measuring the relevant factors after the reflection task (and before the reappraisal task) to better assess the effectiveness of self-distancing in future studies.

Alternatively, it is also possible that positive reappraisal and self-distancing are not complementary in promoting meaning. While positive reappraisal and self-distancing are both techniques that promote a perspective shift, participants may be more familiar with the concept underlying positive reappraisal than self-distancing. The idea of positive reappraisal could be deemed as being embedded within folk wisdom and proverbs such as "Every cloud has a silver lining". In contrast, viewing experiences from an observer's perspective (e.g., that of a fly-on-the-wall; Mischkowski et al., 2012) may be relatively challenging and unnatural (Giovanetti et al., 2019; White & Carlson, 2016)—which may have hampered the participants' ability to adopt an observer perspective as instructed. Thus, when prompted to engage in a distanced reappraisal (i.e., positive reappraisal in third-person), participants may have had difficulty integrating both approaches simultaneously.

Exploratory Analyses

Several exploratory analyses were conducted to examine whether the self-distancing enhancement hypothesis would be supported under specific circumstances.

Recency of the experience

The recency of the experience moderated the interaction between self-distancing and positive reappraisal on situational meaning. Specifically, positive reappraisal enhanced meaning but only when events were more recent (i.e., within the past two weeks), and only when participants adopted a self-immersed perspective (i.e., immersed reappraisal). Effects of self-distancing were only evident for those who reflected on recent events and only when performed *without* reappraisal (i.e., distanced reflection). Contrary to the enhancement hypothesis, distanced reappraisal did not result in higher levels of meaning than immersed reappraisal. No effects of self-distancing or positive reappraisal were observed for events older than two weeks. A possible interpretation is that the relatively unambiguous nature of many daily negative experiences afforded participants a straightforward and clear understanding of the event and its implications. Alternatively, while participants were instructed to provide an unresolved experience, the degree to which they had already reflected on it could have varied. The older the experience, the more likely the participants would have started processing it, exploring a range of potential meanings behind the experience, both consciously and subconsciously (Van Eerde, 2000, 2003).

Future research may employ either experience sampling methods (ESM; Csikszentmihalyi & Larson, 2014) or ecological momentary assessment (EMA; Stone & Shiffman, 1994) to reduce the lapse of time between when the experience first occurred and time of reflection or reappraisal. This would clarify the effectiveness of each emotion regulation strategy in relation to the recency of the experience. Furthermore, whether such strategies may be applied outside the laboratory remains unidentified in the literature. Hence,

using ESM/EMA would allow researchers to examine the context in which the effectiveness of these strategies would be enhanced or diminished.

Initial Intensity

Initial intensity did not moderate the interaction between positive reappraisal and self-distancing on overall situational and global meaning. Furthermore, although the three-way interaction (intensity × reappraisal × self-distancing) was statistically significant for two facets of situational meaning (coherence and existential mattering [significance]), the results did not support the enhancement hypothesis. Immersed reappraisal enhanced coherence relative to immersed reflection, and distanced reappraisal enhanced mattering relative to distanced reflection. However, distanced reappraisal was never more effective than *immersed* reappraisal (see Figures 4 and 5).

One fairly consistent finding was the two-way interaction between intensity and self-distancing on certain facets of meaning. While the interaction on overall situational meaning did not replicate across both outlier detection methods, they were consistent for situational coherence and existential mattering. In particular, adopting a self-distanced perspective enhanced situational coherence and existential mattering for high-intensity experiences. In contrast, the same perspective did not enhance coherence and even *reduced* mattering for low-intensity experiences. This appears to run contrary to prior studies that found that reflecting on a negative experience from a distanced perspective generally promotes situational meaning (Ayduk & Kross, 2008; Kross et al., 2014; Kross & Ayduk, 2008, 2009, 2011). Prior studies specifically elicited participants' most distressing life experiences (e.g., the loss of a loved one, or divorce). In contrast, participants were prompted for their negative *daily experiences*—consisting of problems in school (e.g., lack of cooperation from a group mate), problems with relatives and family (e.g., argument with siblings), and relationship problems (e.g., argument with partner). Thus, the events studied by Kross and colleagues

tended to be of higher intensity, whereas the events elicited in the present study may have varied more across intensity levels. This may suggest one boundary condition on the effects of self-distancing on meaning: such effects may only be beneficial when reflecting on intense experiences where the impact and implications are complex and require deeper processing. This also reflected that it may be more useful to examine meaning at the facet level, to provides additional insights into the effects of self-distancing and positive reappraisal on meaning.

Further, these findings may have also hinted at the unique effects of daily negative experiences on situational and global meaning. Previous research has focused almost exclusively on how positive reappraisal and/or self-distancing influences one's global meaning in the face of stressful and traumatic events (e.g., Ferreira-Valente et al., 2021; Vos, 2016; White et al., 2019). The current findings highlight how situational meaning are shaped by daily experiences more so than global meaning. This is noteworthy because situational meaning informs one's global beliefs as much as the global meaning offers guidance in interpreting the experience. As people often appraise and try to make sense of their daily negative experiences when they occur, understanding the extent to which positive reappraisal and self-distancing shape situational meaning and global meaning is an important issue, which the current findings offer.

Implications

One potential implication is that expressive writing tasks could be structured in specific ways to promote one's sense of meaning rather than simply divulging one's deepest thoughts and feelings. Instead of delineating the concrete terms of the experience, a self-distanced reflection of the experience could foster insights and closure (Ayduk & Kross, 2010). If clinicians can find creative ways to assist clients in reflecting on their negative experiences through a self-distanced perspective, and/or even positively reappraise them

(when appropriate), one may see a shift in the type of interventions—not only can we feel better by facing our negative experiences, the negative reality may in fact help us to make meaning, and re-identify what are truly our strengths, resources, and beliefs. This allows us to build positive resources that we may tap on when we are faced with yet another distressing experience.

More importantly, in line with previous studies, the findings also indicated that the tendency to engage in a self-immersed reflection (i.e., without positive reappraisal) would result in diminished sense of meaning (Ayduk & Kross, 2010). In the attempt to understand the negative experience, individuals often engage in rumination; this perpetuates their fixation on self-relevant negative content—and may subsequently reduce their sense of meaning. However, we found that either adopting a self-distancing perspective or engaging in positive reappraisal buffered individuals against the reduced levels of meaning after a negative experience. These findings not only align with past work that underscores the potency of relatively brief interventions but also the importance of disidentifying with the negative experience via self-distancing or resourcing oneself with the positive aspects of the experience to enhance their well-being.

That said, the implications and generalizability of this study are limited by the use of a predominately Singaporean student sample. For instance, age-related decline in cognitive ability and the increased prevalence of dementia throughout older adulthood (Petersen et al., 2001) may make it difficult for seniors to cope using positive reappraisal and self-distancing. Further, assessment of cultural differences may also be explored. A recent study suggested that dialecticism—the assumption that contradictory information can coexist (Peng & Nisbett, 1999)—may influence the ability to appraise negative situations more positively (Chen & Lee, 2021). For instance, East Asians (higher in dialecticism) were able to focus more on the positive aspects of negative events, as compared to North Americans who tended

to hold more polarising attitudes (Grossmann et al., 2014; Peng & Nisbett, 1999). Hence, individuals endorsing high dialectical thinking may face lesser resistance and difficulty in engaging positive reappraisal—as it involves the integration of positives (i.e., perceived valued gains) with the negatives (i.e., distressing reality). Similarly, cross-cultural studies have also investigated differences in self-awareness between individualistic and collectivistic cultures (Heine, 2016). East-Asians—who adopt an objective self-awareness and often monitor their interactions with others—are more likely to engage in spontaneous self-distancing (Heine, 2016). Thus, as it is less likely for Westerners to spontaneously engage in dialectical thinking and self-distancing in daily life, it may be possible that only when prompted, the effects of the perspective shift may be more apparent—as seen in prior studies. On the other hand, as East-Asians tend to spontaneously consider the broader implications of the negative experience and/or take a more psychologically distant perspective on their own behaviour, the manipulation of self-distancing and positive reappraisal may be less apparent for the predominantly Singaporean sample in the present study. This is evident in studies where East-Asian mothers of children with disabilities—tended to construe the negative into positive, such as feeling grateful for the unfortunate situation (Kimura & Yamazaki, 2013), appreciating the little things in life (Huang et al., 2009), and recognizing a sense of personal growth (Tait et al., 2016).

Relatedly, the self-distancing enhancement hypothesis may be more applicable for vulnerable individuals who face difficulties managing their negative emotions. Previous studies found that emotional vulnerability factors (such as anxiety- and depression-related traits) moderated the benefits of self-distancing (Kross & Ayduk, 2009; Rinaldi et al., 2017). While self-distancing was beneficial for high trait anxious participants in coping with their emotional threats, no effects of self-distancing were observed for the low trait anxious participants (Penner et al., 2016). It is suggested that only those under severe emotional

distress may benefit from self-distancing (Kross et al., 2012). As such, there may be little room for self-distancing to operate for individuals who do not experienced enough distress.

Taken together, future research could also investigate the role of culture and the varying tendencies to engage in positive reappraisal and self-distancing, and identify the boundary conditions in which they become the most effective for individuals with certain characteristics.

Tables

Table 1. *Descriptive Statistics of Outliers*

		MCD Approach			±2-SD approach	
Variable (in mins)	n	Mean (SD)	Range	n	Mean (SD)	Range
Above the retained sample's mean						
Duration to adopt the perspective	53	2.38 (4.45)	0.32-30.12	34	2.79 (5.52)	0.38-30.12
Duration to reflect	45	5.99 (2.28)	4.65-16.33	44	5.94 (2.33)	4.60-16.33
Duration to complete the study	74	431.3 (1393.43)	25.03-8463.32	68	468.15 (1448.65)	35.6-8463.32
Below the retained sample's mean						
Duration to adopt the perspective	28	0.16 (0.08)	0.04-0.29	35	0.19 (0.09)	0.04-0.35
Duration to reflect	36	3.52 (0.48)	3.02-4.38	25	3.49 (0.45)	3.02-4.38
Duration to complete the study	7	19.59 (3.52)	12.32-22.42	1	18.50	
Retained sample's mean						
Duration to adopt the perspective	380	0.31 (0.21)	0.04-1.04	392	0.37 (0.38)	0.04-3.40
Duration to reflect	380	4.47 (0.90)	3.02-5.70	392	4.46 (0.91)	3.02-5.70
Duration to complete the study	380	23.32 (6.92)	11.07-46.78	392	23.12 (6.35)	11.07-40.48

Table 2. *Descriptive Statistics of the Key Variables*

	Mean (SD)	Range	Kurtosis	Skewness
Demographics				
Age (in years)	21.29 (1.91)	18-32	3.45	1.27
Sex (% of females)	78%			
Born in Singapore (%)	82%			
Individual Differences				
Dispositional Gratitude	5.58 (0.88)	2.17-7	0.25	-0.68
Dispositional Optimism	3.15 (0.69)	1-4.67	-0.49	-0.31
Global Meaning	4.67 (0.93)	1.2-7	0.88	-0.40
Level of Arousal	25.83 (6.27)	8-40	-0.54	-0.14
Experience Specific				
Initial Intensity	6.43 (1.26)	1-9	0.46	-0.14
Recency of the Experience[1]	4.61 (2.00)	1-7	-0.92	-0.44
Resolution Status[2]	4.06 (1.82)	1-7	-0.99	-0.20
Time to Adopt the Perspective (mins)	0.31 (0.21)	0.04-1.04	0.76	1.10
Time to Reflect (mins)	4.47 (0.90)	3.02-5.70	-1.58	-0.21
Words Written during Reflection	128.71 (54.23)	16-325	0.48	0.76
Meaning in Experience	4.19 (1.25)	1-7	-0.32	-0.15
Actual Benefits Accrued	41.02 (13)	9-63	-0.42	-0.47
Opportunity for Benefits	36.22 (10.78)	8-56	-0.26	-0.39

Note.
[1]Recency of the experience (i.e., memory age) is reported on a scale of 1 (*Still ongoing*) to 7 (*Within the past four weeks*)
[2]Resolution status is reported on a scale of 1 (*not at all unresolved; not an active source of distress*), 7 (*very much unresolved; an active source of distress*)

Table 3. *Intercorrelations of the Key Variables*

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. Age (in years)	—																	
2. Dispositional Gratitude	-0.04*	—																
3. Dispositional Optimism	0.12*	0.38**	—															
4. Religiosity	-0.01	0.27**	0.29**	—														
5. Global Meaning	0.16**	0.54**	0.51**	0.37**	—													
6. Level of Arousal	0.12*	0.27**	0.27**	0.11*	0.3**	—												
7. Initial Intensity	-0.01	0.00	-0.07*	-0.02	-0.08*	-0.01	—											
8. Recency of the Experience	0.14*	0.09*	0.00	-0.08*	0.01	0.11*	0.09*	—										
9. Resolution Status	0.01	-0.12*	-0.1*	-0.03	-0.08*	-0.06*	0.19**	-0.25**	—									
10. Time to Adopt the Perspective	0.02	-0.05*	-0.03	0.05*	-0.08*	0.03	-0.01	-0.01	-0.05*	—								
11. Time to Reflect	-0.19**	-0.01	-0.05*	0.07*	0.01	0.04*	0.00	-0.09*	-0.06*	0.22**	—							
12. Words Written During Reflection	-0.14*	0.04*	-0.07*	-0.11*	0.00	0.03	0.09*	0.00	0.01	-0.02	0.38**	—						
13. Emotional Reactivity	0.04*	0.01	0.02	0.02	0.1*	0.00	0.27**	-0.13*	0.39**	-0.01	0.1*	0.17**	—					
14. Post-reflection Negative Affect	0.06*	-0.13*	-0.1*	0.04*	-0.13*	-0.1*	0.00	0.00	0.33**	-0.06*	0.01	0.03	0.29**	—				
15. Post-reflection Positive Affect	0.1*	0.21**	0.17**	0.05*	0.28**	0.23**	-0.03	0.02	0.00	0.03	-0.03	0.01	0.11*	0.06*	—			
16. Meaning in Experience	0.08*	0.19**	0.14*	0.14*	0.29**	0.1*	-0.02	0.00	0.04*	0.00	0.01	-0.04*	0.00	-0.02	0.4**	—		
17. Actual Benefits Accrued	0.14*	0.28**	0.23**	0.15**	0.34**	0.11*	-0.02	0.05*	0.00	0.01	0.08*	-0.04*	0.07*	0.00	0.45**	0.55**	—	
18. Opportunity for Benefits	0.09*	0.25**	0.22**	0.24**	0.33**	0.15**	-0.02	0.04*	-0.01	0.03	0.13*	-0.04*	0.11*	0.02	0.45**	0.5**	0.83**	—

**$p < .01$, *$p < .05$

Table 4. *Unstandardized (B) Regression Coefficients for Multiple Regression Models*

Variables	Outcome Variable = Global Meaning					Outcome Variable = Situational Meaning				
	B	LLCI	ULCI	se	*p*	*B*	LLCI	ULCI	se	*p*
Step 1										
Dispositional Optimism	0.49	0.37	0.60	0.06	< .01	0.13	-0.07	0.32	0.18	.204
Dispositional Gratitude	0.43	0.34	0.52	0.05	< .01	0.32	0.17	0.48	0.14	< .01
Resolution Status	-0.01	-0.05	0.03	0.02	.735	0.04	-0.03	0.11	0.06	.230
Recency of the Experience	-0.03	-0.07	0.01	0.02	.104	-0.02	-0.08	0.05	0.06	.607
Step 2										
Dispositional Optimism	0.49	0.37	0.61	0.06	< .01	0.15	-0.05	0.34	0.17	.133
Dispositional Gratitude	0.43	0.34	0.52	0.05	< .01	0.32	0.17	0.47	0.14	< .01
Current Distress of Experience	-0.01	-0.05	0.03	0.02	.727	0.04	-0.02	0.11	0.06	.207
Recency of the Experience	-0.03	-0.07	0.01	0.02	.109	-0.01	-0.08	0.05	0.06	.691
Self-distancing	-0.02	-0.09	0.06	0.04	.679	0.00	-0.12	0.12	0.11	.989
Positive Reappraisal	0.07	-0.01	0.14	0.04	.078	0.27	0.15	0.40	0.11	< .01
Interaction Term[1]	-0.01	-0.08	0.07	0.04	.832	-0.02	-0.14	0.11	0.11	.794

[1]Positive Reappraisal × Self-distancing

Table 5. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Recency on Situational Meaning*

Predictor	***B***	***t***	***p***
SD	-0.04	-0.65	.52
PR	0.28	4.75	< .01
Recency	0.00	-0.08	.94
SD × Recency	-0.03	-1.16	.25
PR × Recency	0.03	0.97	.33
SD × PR	0.04	0.68	.50
SD × PR × Recency	0.02	0.84	.40

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 6. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Recency on Global Meaning*

Predictor	***B***	***t***	***p***
SD	-0.05	-1.00	.32
PR	0.05	1.05	.30
Recency	0.01	0.30	.76
SD × Recency	-0.01	-0.56	.58
PR × Recency	-0.02	-0.94	.35
SD × PR	0.00	0.06	.95
SD × PR × Recency	0.02	0.99	.32

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 7. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Intensity on Situational Coherence*

Predictor	***B***	***t***	***p***
SD (vs SI)	-0.00	-0.01	.99
PR (vs RO)	0.42	3.55	< .01
Intensity	-0.18	1.92	.06
SD (vs SI) × Intensity	0.42	2.05	.04
SD × Low-intensity	-0.27	-1.01	.31
SD × Mean	0.23	1.27	.20
SD × High-intensity	0.74	2.07	.04
PR × Intensity	-0.15	-0.73	.47
SD × PR	-0.22	-1.22	.22
SD × PR × Intensity	-0.42	-2.09	.04
Low Intensity			
SD (vs SI) × RO	-0.60	1.45	.15
SD (vs SI) × PR	0.03	0.08	.94

Mean			
SD (vs SI) × RO	0.47	1.72	.09
SD (vs SI) × PR	0.02	0.08	.94
High Intensity			
SD (vs SI) × RO	1.54	2.88	< .01
SD (vs SI) × PR	0.01	0.02	.98
Low Intensity			
PR (vs RO) × SI	0.15	0.38	.70
PR (vs RO) × SD	0.79	2.18	.03
Mean			
PR (vs RO) × SI	0.5	2.16	.03
PR (vs RO) × SD	0.06	0.19	.85
High Intensity			
PR (vs RO) × SI	0.86	2.34	.02
PR (vs RO) × SD	-0.67	-1.09	.27

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 8. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Intensity on Perceived Importance*

Predictor	***B***	***t***	***p***
SD	-0.05	-0.62	0.54
PR	0.14	1.89	0.06
Intensity	0.14	2.37	0.02
SD × Intensity	-0.02	-0.34	0.73
PR × Intensity	0.05	0.80	0.42
SD × PR	-0.02	-0.29	0.77
SD × PR × Intensity	-0.02	-0.29	0.77

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 9. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Intensity on Situational Purpose*

Predictor	***B***	***t***	***p***
SD	-0.07	-0.47	.64
PR	0.6	3.99	< .01
Intensity	0.03	0.28	.78
SD × Intensity	-0.17	-1.43	.15
PR × Intensity	0.19	1.56	.12
SD × PR	-0.03	-0.20	.84
SD × PR × Intensity	0.05	0.44	.66

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 10. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Initial Intensity on Overall Global Meaning*

Predictor	***B***	***t***	***p***
SD	-0.06	-1.23	.22
PR	0.03	0.66	.51
Intensity	-0.07	-1.69	.09
SD × Intensity	0.07	1.73	.08
PR × Intensity	-0.01	-0.20	.84
SD × PR	0.01	0.31	.76
SD × PR × Intensity	-0.07	-1.76	.08

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 11. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Initial Intensity on Global Coherence*

Predictor	***B***	***t***	***p***
SD	-0.05	-1.04	0.30
PR	0.08	1.83	0.07
Intensity	-0.13	-3.66	0.00
SD × Intensity	0.06	1.60	0.11
PR × Intensity	0.00	-0.10	0.92
SD × PR	0.00	-0.10	0.92
SD × PR × Intensity	-0.07	-1.82	0.07

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 12. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Initial Intensity on Global Significance*

Predictor	***B***	***t***	***p***
SD	-0.04	-0.60	0.55
PR	0.06	1.10	0.27
Intensity	-0.08	-1.79	0.07
SD × Intensity	-0.01	-0.15	0.88
PR × Intensity	-0.05	-1.07	0.29
SD × PR	0.01	0.25	0.81
SD × PR × Intensity	-0.07	-1.43	0.15

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 13. *Regression Coefficients of the Three-way Interaction between Positive Reappraisal, Self-distancing, and Initial Intensity on Global Purpose*

Predictor	***B***	***t***	***p***
SD	-0.06	-1.11	0.27
PR	0.00	0.06	0.95
Intensity	-0.03	-0.60	0.55
SD × Intensity	0.10	2.21	0.03
PR × Intensity	0.02	0.34	0.74
SD × PR	0.05	0.90	0.37
SD × PR × Intensity	-0.07	-1.54	0.12

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only

Table 14. *A Comparison between the MCD and ±2-SD Approach of the Key Analyses*

	MCD Approach		±2-SD Approach		Significant for both approaches
Predictor	*B*	*p*	*B*	*p*	
Hypothesis Testing					
Overall Situational Meaning					
PR	0.27	< .01	0.28	< .01	✓
SD	0.00	.989	0.01	.868	
PR × SD	0.02	.794	-0.02	.771	
Exploratory Analyses: Recency					
Recency × PR × SD	0.13	.020	0.08	.013	✓
Within 72 hours					
PR × SD	-0.54	.048	0.03	.030	✓
Exploratory Analyses: Intensity					
Intensity × PR × SD	-0.33	.911	-0.12	.288	
Intensity × SD	0.46	.020	0.13	.261	✗
Situational Coherence					
Intensity × PR × SD	-0.43	.038	-0.19	.013	✓
High Intensity					
PR × SD	-0.77	.023	-0.38	.045	✓
Existential Mattering					
Intensity × PR × SD	-0.62	.041	-0.31	.044	✓
Low Intensity					
PR × SD	0.60	.012	0.35	.010	✓
High Intensity					
PR × SD	-0.95	.049	-0.44	.011	✓
Perceived Importance					
Intensity × PR × SD	-0.11	.657	0.01	.939	
Situational Purpose					
Intensity × PR × SD	-0.20	.452	-0.01	.936	
Hypothesis Testing					
Global Meaning					
PR	0.07	.080	0.07	.050	
SD	0.02	.683	-0.01	.879	
PR × SD	0.01	.832	-0.01	.700	
Exploratory Analyses: Recency					
Recency × PR × SD	0.05	.221	-0.00	.959	
Exploratory Analyses: Intensity					
Intensity × PR × SD	-0.07	.081	-0.06	.099	
Global Coherence					
Intensity × PR × SD	-0.07	.074	-0.06	.153	
Global Significance					

Intensity × PR × SD	-0.07	.156	-0.07	.149	
Global Purpose					
Intensity × PR × SD	-0.07	.123	-0.06	.170	
Intensity × SD	0.10	.031	0.06	.166	✕

Note. SD, Self-distanced; SI, Self-immersed; PR, Positive Reappraisal; RO, Reflection-only; MCD, minimum covariance determinant

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Appendix

Pre-writing Task Questionnaires

[1] Dispositional Optimism; Life Orientation Test-Revised (Scheier et al., 1994)

Adopted from

- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test. *Journal of personality and social psychology*, *67*(6), 1063.

5-point Likert scale:

- 1 = strongly disagree; 2 = agree; 3 = neutral; 4 = disagree; and 5 = strongly disagree

Please indicate the extent to which you agree with each of the items.

1. In uncertain times, I usually expect the best.
2. If something can go wrong for me, it will.
3. I'm always optimistic about my future.
4. I hardly ever expect things to go my way.
5. I rarely count on good things happening to me.
6. Overall, I expect more good things to happen to me than bad.

[2] Dispositional Gratitude; Gratitude Questionnaire-6 (McCullough et al., 2002)

Adopted from

- McCullough, M. E., Emmons, R. A., & Tsang, J.-A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*(1), 112–127. https://doi.org/10.1037/0022-3514.82.1.112

7-point Likert scale:

- 1 = strongly disagree; 2 = disagree; 3 = slightly disagree; 4 = neutral; 5 = slightly agree; 6 = agree; 7 = strongly agree

Using the scale as a guide, please indicate how much you agree with the following statements.

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for.
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone.

[3] State of Arousal; Attentiveness and Fatigue sub-scales of PANAS-X (Watson & Clark, 1999)

Adopted from

- Watson, D., & Clark, L. A. (1999). *The PANAS-X: Manual for the positive and negative affect schedule-expanded form.* Ames: The University of Iowa

5-point Likert Scale

- 1 = very slightly or not at all; 2 = a little; 3 = moderately; 4 = quite a bit; 5 = extremely

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then indicate to what extent you have felt this way right now (that is, at the present moment).

- Sleepy
- Tired
- Sluggish
- Drowsy
- Alert
- Attentive
- Concentrating
- Determined

Writing Task (12 mins)

(a) 2 mins	Writing Prompt			
	Initial Intensity Questionnaire			
(b) 5 mins	Neutral task	Neutral task	Distanced Reflection	Immersed Reflection
(c) 5 mins	Distanced Reflection	Immersed Reflection	Distanced Reappraisal	Immersed Reappraisal

[4] Writing Prompt (1 min)

In this study we are interested in the negative experiences that people encounter in daily life. Identify a current or recent distressing/ upsetting experience you are facing or have faced within the past month and are comfortable writing about. Take as much time as you need. Once a memory comes to your mind, allow yourself to consider this event, letting your thoughts and feelings about the event run through your mind for a few moments. Please be ensured everything you write is completely confidential and will not be traced back to your identity. When you are ready to continue, click >>.
Write a short sentence about the experience as an anchor prompt to remind you of what it is about, using the following format: what happened, who was involved (if applicable), when did it happened, where did it happen (if applicable). After writing the anchor prompt, a few questions pertaining how you felt about the experience will be asked.

[5] Initial Intensity of Experience

Adopted from

- Rood, L., Roelofs, J., Bögels, S. M., & Arntz, A. (2012). The effects of experimentally induced rumination, positive reappraisal, acceptance, and distancing when thinking about a stressful event on affect states in adolescents. *Journal of abnormal child psychology*, *40*(1), 73-84.
- Shiota, M. N., & Levenson, R. W. (2012). Turn down the volume or change the channel? Emotional effects of detached versus positive reappraisal. *Journal of Personality and Social Psychology*, *103*(3), 416.

Please indicate how you felt <u>when you first went through the experience</u>.

1. Severity of the event: "At that point of time, how bad did this experience feel like to you?" (0 = not bad/ not terrible, 8 = the worst I have ever experienced)
2. Intensity: "At that point of time, how strong/intense were those emotions?" (0 = no emotion at all, 8 = the strongest emotions I have ever felt)
3. Valence: "At that point of time, how negative or positive did you feel?" (0 = very negative, 8 = very positive)

[6] Neutral Task

To help you recall the experience, we would first like to draw your attention to various features of the situation. Please elaborate on your experience based on the following prompts.

1. When did the experience occur? If possible, please include details such as date, day of the week, whether it was a weekday or weekend, the time of the day.
2. Please name and describe 4 objects that you remember seeing in the experience. Please give a description of their features (e.g., colour, size, pattern, etc).
3. Where did the experience occur?
4. Did the experience happen in Singapore? If so, where in Singapore did it occur? (e.g., Toa Payoh, Bukit Timah, etc).
5. Was it indoors or outdoors?
6. If indoors, was it a big space or small space? What was the space used for?
7. Were there any lights on? What colour were the lights?
8. How many fan(s), or air-conditioner(s) were there? How many was on?
9. If outdoors, was it on concrete ground, or grassy areas, or others? What was the space used for?
10. Was the sky clear or was it overcast and cloudy?
11. Were there any trees or plants around you? Were there any flowers around you? If so, what colours were they?
12. What was the temperature of the location?
13. How dirty or clean was the location?
14. Please name and describe 3 things that you remember touching in the experience. Please give a description of what they felt like to you (e.g., texture)
15. Please describe the kind of clothing you were wearing (e.g., design, patterns, colours, material). This includes any jewellery, accessories, and shoes. Were you also wearing any perfume/ cologne?
16. Who was also involved in the experience? Please describe who they are in relation to you.
17. What were they wearing?
18. What kind of hairstyle were you (and those involved) having? What kind of hair products did you use?
19. Were there any animals involved? If yes, what animals were there?
20. Please name and describe 2 sounds that were heard at that time. Please give a description of the sounds (e.g., type, loudness, pitch, etc).
21. In the experience, were you or anyone using any technological gadgets? If so, please name the gadgets, and describe their features and functions. How many gadgets were used in total?
22. Please name and describe a smell in the experience. Please give a description of that smell (e.g., intensity, pleasantness, etc).

[7] Reflection Task Manipulation—Self-Distanced vs. Self-Immersed Perspective

Adapted from

- Kross, E., Gard, D., Deldin, P., Clifton, J., & Ayduk, O. (2012). "Asking why" from a distance: Its cognitive and emotional consequences for people with major depressive disorder. *Journal of Abnormal Psychology*, *121*(3), 559.
- Giovanetti, A. K., Revord, J. C., Sasso, M. P., & Haeffel, G. J. (2019). Self-distancing may be harmful: third-person writing increases levels of depressive symptoms compared to traditional expressive writing and no writing. *Journal of social and clinical psychology*, *38*(1), 50-69.

Distanced (Third-Person) Reflection	Immersed (First-Person) Reflection
Now close your eyes. Go back to the time and place of the experience you just recalled and see the scene in your mind's eye. Now take a few steps back. Move away from the situation to a point where you can now watch the experience unfold from a distance and see yourself in the event. As you do this, focus on what has now become the distant you. Now watch the experience unfold as if it were happening to the distant you all over again. Replay the experience as it unfolds in your imagination as you observe your distant self. Take a few moments to do this. When you're ready to continue, click >>.	Now close your eyes. Go back to the time and place of the experience you just recalled and see the scene in your mind's eye. Now see the experience unfold through your own eyes as if it were happening to you all over again. Replay the experience as it unfolds in your imagination through your own eyes. Take a few moments to do this. When you're ready to continue, click >>.
As you continue to watch the experience unfold to your distant self, we would like you to write about your deepest thoughts about it. Specifically, try to understand the feelings of your distant self. Why did the distant you have those feelings? What were the underlying causes and reasons? When writing about the experience, please **use only third-person pronouns** (e.g. his/her), and your name, as if you were writing about yourself in a novel. For example, instead of writing, "I woke up and went to get myself some breakfast", please write "Jordan woke up and went to get himself some breakfast". (You can use your initials instead of typing out your name).	As you continue to see the situation unfold through your own eyes, we would like you to write about your deepest thoughts about it. Specifically, try to understand your feelings. Why did you have those feelings? What were the underlying causes and reasons? When writing about the experience, please **use the pronouns "I" and "my"** as much as possible. Do not worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up.

Do not worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up.	

[8] Positive Reappraisal Manipulation—Positive-Reappraisal (Self-Distanced) vs. Positive-Reappraisal (Self-Immersed)

Adapted from

- Rood, L., Roelofs, J., Bögels, S. M., & Arntz, A. (2012). The effects of experimentally induced rumination, positive reappraisal, acceptance, and distancing when thinking about a stressful event on affect states in adolescents. *Journal of abnormal child psychology*, *40*(1), 73-84.
- Kross, E., Gard, D., Deldin, P., Clifton, J., & Ayduk, O. (2012). "Asking why" from a distance: Its cognitive and emotional consequences for people with major depressive disorder. *Journal of Abnormal Psychology*, *121*(3), 559.

Positive Reappraisal (Self-Distanced)	Positive Reappraisal (Self-Immersed)
Now, try to think about the experience in a more positive light. This can be achieved in several different ways. For example, drawing from your life experience, try to imagine what advice you could give to the distant you/ [your name] to make this person feel better. This could be life advice that would help this person think about the positive bearing this experience could have on their lives. Or, think about the good things they might learn from this experience. Keep in mind that even though the experience may be painful/stressful in the moment, in the long run, it could make their life better, or have unexpected good outcomes. **As much as possible, help the "distant you" to see how they can benefit from going through the painful and challenging experience. This can be difficult at times, so it is very important that you try your best.** Again, when writing, please use only third-person pronouns (e.g. his/her), and your name/ initials, as if you were writing about yourself in a novel. Do not worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up.	Now, try to think about the experience in a more positive light. This can achieved in several different ways. For example, drawing from your life experience, try to imagine what advice you could give yourself to make you feel better. This could be life advice that would help you think about the positive bearing this experience could have on your life. Or, think about the good things you might learn from this experience. Keep in mind that even though the experience may be painful/stressful in the moment, in the long run, it could make your life better, or have unexpected good outcomes. **As much as possible, help yourself to see how you can benefit from going through the painful and challenging experience. This can be difficult at times, so it is very important that you try your best.** Likewise, when writing about the experience, please use the pronouns "I" and "my" as much as possible. Do not worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up.

Post-writing Task Questionnaires (10 mins)

[9] Emotions; PANAS (Watson et al., 1988)

Adopted from

- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, *54*(6), 1063.

7-point Likert scale: 1 = very slightly or not at all, 7= very much

Please indicate the extent to which you experienced each affect while writing the experience.

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

[10] Psychological distance behavioural manipulation check

(a) Self-Immersed vs. Self-Distanced
Adopted from

- White, R. E., Kross, E., & Duckworth, A. L. (2015). Spontaneous self-distancing and adaptive self-reflection across adolescence. *Child development*, *86*(4), 1272-1281.

1. When you saw the experience again in your imagination a few moments ago, how much did you feel like you were seeing it through your own eyes versus watching it happen from a distance (like watching yourself in a movie)?
    a. 1 = completely through my own eyes, 7 = completely from a distance

2. When you saw the experience again in your imagination a few moments ago, how far away from it did you feel?
    b. 1 = very close, 7 = very far

(b) Thought content (recounting vs reconstruing)
Adopted from

- Ayduk, Ö., & Kross, E. (2010). Analyzing negative experiences without ruminating: The role of self-distancing in enabling adaptive self-reflection. *Social and Personality Psychology Compass*, *4*(10), 841-854.
- White, R. E., Kross, E., & Duckworth, A. L. (2015). Spontaneous self-distancing and adaptive self-reflection across adolescence. *Child development*, *86*(4), 1272-1281.

Recounting (i.e., focusing on the specific chain of events that took place; Q1) vs. Reconstruing (i.e., expressing subjective perceptions of insight and closure, and realizations that made them think and feel differently about their experience; Q2-Q4).

Please rate your agreement with the following statements (1 = completely agree, 7 = completely disagree).

1. My thoughts focused on the specific chain of events – sequence of events, what happened, what was said and done – as I thought about the experience.
2. When I thought about the experience, I realized something that makes me think differently about why I felt the way I did.
3. When I thought about the experience, I realized something that made it bother me less.
4. When I thought about the experience, I understood why I reacted the way I did better than when it first happened.

(c) Emotion Reactivity
Adopted from

- Ayduk, Ö., & Kross, E. (2010). Analyzing negative experiences without ruminating: The role of self-distancing in enabling adaptive self-reflection. *Social and Personality Psychology Compass*, *4*(10), 841-854.

7-point Likert scale: 1 = strongly disagree, 7 = strongly agree

Please rate the following statements based on how you feel during the writing task.

1. I re-experienced the emotions I originally felt during the experience when I think about it.
2. As I thought about the experience, my emotions and physical reactions to the experience were still pretty intense.

[11] Perceived Benefits Scale

Adopted from

- Davis, C. G., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefiting from the experience: two construals of meaning. *Journal of personality and social psychology*, *75*(2), 561.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and social psychology bulletin*, *22*(3), 280-287.

7-point Likert scale

- 0 = not at all; 1, 2, 3 = moderately, 4, 5, 6 = a great deal

[Positive Reappraisal Conditions]

In the tasks you just completed, we asked you to write about your experience. We'd like to ask you specific questions about these writing tasks.

1. How much did reflecting and writing about the experience helped you to realize that the experience might be

- An opportunity for personal development (e.g., acquiring wisdom, patience)
- An opportunity for learning important life skills
- An opportunity to appreciate the value of life
- An opportunity to re-evaluating and identifying important values,
- An opportunity to strengthen faith and spirituality
- An opportunity to re-evaluating and identifying commitments
- An opportunity to re-evaluating and identifying relationships
- An opportunity to improve social relations

2. How much did reflecting and writing about the experience helped you

- To clarify which goals or priorities are personally important and which are not
- To grow and learn new things (e.g., maturity, wisdom)
- To be more proactive, instead of being pushed along by life
- To know and accept who you really are
- To gain increasing insight into why you do the things you do
- To realize that you have good friends that you can count on
- To develop committed, intimate relationships in the future
- To feel that there are people who really love you, and whom you love
- To have deep, enduring relationships in the future

[Reflection Only Conditions]

In the task you just completed, we asked you to write about your experience in more detail for five minutes. We'd like to ask you specific questions about this writing task.

[Same items above will be used]

[12] Co-variates

Adapted from

- Ayduk, Ö., & Kross, E. (2010). Analyzing negative experiences without ruminating: The role of self-distancing in enabling adaptive self-reflection. *Social and Personality Psychology Compass*, *4*(10), 841-854.
- White, R. E., Kross, E., & Duckworth, A. L. (2015). Spontaneous self-distancing and adaptive self-reflection across adolescence. *Child development*, *86*(4), 1272-1281.

(a) Recency of the experience

1. How long ago did the experience took place (i.e. memory age)?
    - 1 = still ongoing, 2 = within the past 24 hours (i.e., 1 day), 3 = within the past 72 hours (i.e.,3 days), 4 = within the past week, 5 = within the past two weeks, 6 = within the past three weeks, 7 = within the past four weeks

(b) Status of experience

2. To what extent is the experience that you wrote about is unresolved and is an active source of distress for you?
    - 0 = not at all, 6 = very much

(c) Construal of meaning (from writing task)

3. Has the act of writing about the experience helped you to make sense of it?
    - 0 = not at all, 6 = very much

4. Sometimes, people find positive aspect in their negative experiences. For example, after a break-up, some people feel they learn something about themselves or others. Has the act of writing about the experience help you to find anything positive in it?
    - 0 = not at all, 6 = very much

[13] Situational Meaning (i.e., Meaning in Experience)

Adopted from

- Waytz, A., Hershfield, H. E., & Tamir, D. I. (2015). Mental simulation and meaning in life. *Journal of personality and social psychology*, *108*(2), 336.
- Heintzelman, S. J., & King, L. A. (2014). (The feeling of) meaning-as-information. *Personality and Social Psychology Review*, *18*(2), 153-167.

7-point Likert scale: 1 = not at all, 7 = very much

The statements below refer to the experience that you wrote about.

Purpose

1. To what extent did the experience involve achieving a purposeful goal?
2. To what extent was the experience full of purpose?

Significance

3. To what extent did the experience make you feel significant?
4. To what extent did the experience feel important rather than trivial?

Coherence

5. To what extent did the experience give you a sense of coherence?
6. To what extent did the experience make sense?

Overall judgement of meaningfulness

7. To what extent do you find the experience that you wrote about meaningless or meaningful?
    a. -3 = very meaningless, 0 = neither meaningful nor meaningless, 3 = very meaningful

[14] Global Meaning (i.e., Meaning in Life); Multidimensional Existential Meaning Scale (George, & Park, 2017)

Adopted from

- George, L. S., & Park, C. L. (2017). The multidimensional existential meaning scale: A tripartite approach to measuring meaning in life. *The Journal of Positive Psychology*, *12*(6), 613-627.

7-point scale

- 1 = very strongly disagree; 2 = strongly disagree; 3 = disagree; 4 = neither disagree nor agree; 5 = agree; 6 = strongly agree; 7 = very strongly agree

Please read the following items carefully. Please using the response scale listed to indicate the extent to which you agree or disagree with that statement.

(1) My life makes sense
(2) There is nothing special about my existence
(3) I have aims in my life that are worth striving for
(4) Even a thousand years from now, it would still matter whether I existed or not
(5) I have certain life goals that compel me to keep going
(6) I have overarching goals that guide me in my life
(7) I know what my life is about
(8) I can make sense of the things that happen in my life
(9) I have goals in life that are very important to me
(10) I understand my life
(11) Whether my life ever existed matters even in the grand scheme of the universe
(12) My direction in life is motivating to me
(13) I am certain that my life is of importance
(14) Looking at my life as a whole, things seem clear to me
(15) Even considering how big the universe is, I can say that my life matters

Overall judgement of MIL
Adopted from

- Heintzelman, S. J., & King, L. A. (2014). Life is pretty meaningful. *American psychologist*, *69*(6), 561.

(16) To what extent do you feel that your life has meaning?

- 1 = not at all, 7 = extremely

[15] Demographics

1. What is your current age? Please indicate in numeric value (e.g., 21)
2. What is your gender?
    a. Male
    b. Female
    c. Prefer not to say
    d. Others (Please indicate in textbox)
3. What is your ethnicity?
    a. Eurasian
    b. Malay
    c. Indian
    d. Chinese
    e. Others
4. Are you born in Singapore?
    a. Yes
    b. No
5. If you are not born in Singapore, how long have you been in Singapore? Please indicate the estimated number of years in numeric value (e.g., 5)
6. What is your religion?
    a. Buddhism
    b. Christianity
    c. Islam
    d. Hinduism
    e. Taoism
    f. No Religion
    g. Prefer not to say
    h. Other Religion (please indicate in textbox)
7. To what extent do you agree with the following statement—"Faith involves all my life"?
    a. 1 = not at all, 5 = To a great extent
8. How often do you turn to your religion or your spiritual beliefs to help you deal with your daily problems?
    a. 1 = never, 5 = always
9. About how often do you pray?
    - 1 = never, 5 = always
10. How important is religion to you personally?
    a. 1 = not at all, 5 = extremely