Think ahead before you regulate: A focus on future consequences predicts choices of and beliefs about strategies for the down-regulation of negative emotions

Catherine N. M. Ortner, Leah Chadwick, and Alexis M. Wilson

Department of Psychology, Thompson Rivers University, 805 TRU Way, Kamloops, BC, V2C 0C8

Corresponding Author: C. Ortner, Tel. 250 828 5497, cortner@tru.ca

This is a post-peer-review, pre-copyedit version of an article published in *Motivation and Emotion*. The final authenticated version is available online at:

http://dx.doi.org/10.1007/s11031-018-9705-3

Abstract

Considering future consequences predicts many self-regulatory behaviors. Moreover, emotion regulation choices often involve trade-offs between immediate hedonic benefits and future well-being and mental health. We propose that focusing on future consequences may also predict emotion regulation choices. We examined whether people who consider future consequences of their actions are more likely to choose adaptive strategies and less likely to choose maladaptive strategies (Study 1) and whether people believe that adaptive and maladaptive strategies have differential short- and long-term consequences (Study 2). In Study 1, consideration of future consequences was related to choosing more adaptive and fewer maladaptive strategies for regulating negative emotions. In Study 2, participants believed that adaptive strategies are more effective in the short-term than in the long-term and that maladaptive strategies are more effective in the long-term than in the short-term. Moreover, commonalities in favored strategies were observed across the two studies. Taken together, the findings suggest that trait future time focus plays a significant role in emotion regulation preferences and that people have some knowledge about the varied temporal consequences of different strategies.

Keywords: emotion regulation; consideration of future consequences; future time focus; well-being

Think ahead before you regulate: A focus on future consequences predicts choices of and beliefs about strategies for the down-regulation of negative emotions

The way in which people regulate their emotions has important consequences for their mental health and well-being (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Gross & John, 2003; Nelis, Quoidbach, Hansenne, & Mikolajczak, 2011). Therefore, in order to experience well-being and avoid psychopathology, people presumably need to consider the long-term effects of their emotion regulation choices. People vary in their tendency to consider the future consequences of their actions (Strathman, Gleicher, Boninger, & Edwards, 1994) and considering future consequences predicts self-regulatory behaviors (Joireman & King, 2016), in addition to well-being (Azizli, Atkinson, Baughman, & Giammarco, 2015). However, the association between consideration of future consequences and emotion regulation choices has received limited attention to date.

Consideration of future consequences

Consideration of future consequences (CFC) refers to the extent to which people incorporate future outcomes in their decisions when determining a course of action (Strathman et al., 1994). CFC predicts a host of outcomes that come about through effective self-regulation, including exercise, healthy eating, reduced problematic drinking, and academic performance (Joireman & King, 2016; Joireman, Shaffer, Balliet, & Strathman, 2012; Joireman, Strathman, & Balliet, 2006; McKay, Cole, & Percy, 2015; McKay, Percy, & Cole, 2013; Peters, Joireman, & Ridgway, 2005). Furthermore, a rich, broader literature supports the role of future time focus in self-regulation more generally. For example, in the domain of academic achievement, Miller and Brickman (2004) proposed that proximal self-regulation is driven in part by the valuation of distal future goals. This assertion is supported by research showing that

holding distal future goals is associated with making more mid-range goals and also with the uptake of proximal self-regulation strategies, such as those that might facilitate learning (Tabachnick, Miller, & Relyea, 2008).

Several other temporal constructs have been proposed, including time perspective (Zimbardo & Boyd, 1999), temporal distancing (Bruehlman-Senecal, Ayduk, & John, 2016), and temporal focus, (Shipp, Edwards, & Lambert, 2009). However, CFC differs from these constructs in that it focuses specifically on the extent to which people consider immediate versus future outcomes of their actions when making decisions (Joireman & King, 2016). On the other hand, time perspective, as assessed by the Zimbardo Time Perspective Inventory (ZTPI), comprises five sub-scales that assess different aspects of temporal orientation, such as holding a negative or positive view of the past. Only the future subscale of the ZTPI reflects a measure of behavior that involves working towards future goals, and is therefore most closely and positively associated with CFC (Zimbardo & Boyd, 1999). Temporal distancing, which involves the tendency to consider negative experiences from a future timepoint, is only weakly correlated with CFC (Bruehlman-Senecal et al., 2016). In addition, CFC correlates with, but is distinct from, a number of other psychological constructs, such as conscientiousness, optimism, and delay of gratification (Joireman & King, 2016).

Few studies have explored the connection between CFC and well-being (Azizli et al., 2015). Research on the related construct of future time perspective (Zimbardo & Boyd, 1999) suggests that striving towards future goals is associated with higher life satisfaction, happiness, and positive affect, as well as lower negative affect (Boniwell, Osin, Linley, & Ivanchenko, 2010; Stolarski & Matthews, 2016; Zhang, Howell, & Stolarski, 2013).

Emotion regulation

People recruit a variety of strategies to maintain, enhance, or diminish their emotional experience, expression, and physiology (Gross & Thompson, 2007). For example, reappraisal reduces negative feelings by changing one's thoughts about an emotional situation (Richards & Gross, 1999). In contrast, rumination involves repetitive thoughts about a negative event and tends to prolong or even augment negative feelings (Pedersen et al., 2011). People also regulate positive emotions. For example, positive mental time travel—remembering a positive event that has occurred—maintains positive feelings. In contrast, fault-finding—looking for negative aspects of a positive situation—reduces positive feelings (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). How we regulate our emotions is connected to physiological responding and mental health, including anxiety, depression, substance use, and well-being. Strategies that have a positive association with psychopathology and physiological responding (e.g., rumination) have been deemed maladaptive and those with a negative association with psychopathology and physiological responding (e.g., reappraisal), have been deemed adaptive (Aldao et al., 2010; DeSteno, Gross, & Kubzansky, 2013; Nelis, Quoidbach, et al., 2011; Quoidbach et al., 2010; Tamir, 2009).

Researchers have challenged the distinction between maladaptive and adaptive strategies, noting that the utility of each strategy varies according to context (Naragon-Gainey, McMahon, & Chacko, 2017; Philippot, 2013). Flexible application of several different kinds of strategies, dependent on the situation, may be most adaptive (Aldao, Sheppes, & Gross, 2015; Bonanno & Burton, 2013; Bonanno, Papa, Lalande, Westphal, & Coifman, 2004). However, the adaptive/maladaptive distinction has been a useful guide in the development of some self-report measures of emotion regulation and maintains its predictive utility (e.g., Nelis et al., 2011).

Consideration of future consequences and emotion regulation

Given that CFC is broadly related to self-regulatory behaviors, and that both future time focus and effective emotion regulation predict well-being, it follows that thinking about the future consequences of one's behaviors may guide effective emotion regulation, particularly in the face of negative events. Specifically, people who consider future consequences may employ adaptive strategies to a greater extent than maladaptive strategies, in the service of achieving long-term well-being. In addition, specific strategies (whether adaptive or maladaptive) vary in their immediate and delayed consequences (Gross, 2015). Some strategies have immediate hedonic benefits, resulting in decreased negative affect, but do little to change feelings or are even detrimental in the long-term. For example, attention reorientation (shifting attention away from a negative stimulus towards a neutral or positive stimulus), rapidly decreases negative affect but increases it after a delay, relative to other strategies (Kross & Ayduk, 2008). Also, avoidance of negative thoughts and experiences is associated with psychopathology in the long-term (Aldao et al., 2010). Some other strategies are beneficial in the long-term, but are effortful to implement or require tolerating unpleasant feelings in the short-term. For example, reappraisal is associated with positive mental health outcomes in the long-term, but is relatively effortful to execute, placing demands on working memory, selective attention, and goal maintenance in the short-term (Goldin, McRae, Ramel, & Gross, 2008; Kalisch, 2009; Ortner, Zelazo, & Anderson, 2013; Sheppes & Meiran, 2007). Acceptance of unpleasant feelings is also associated with reduced psychopathology (Aldao et al., 2010), but acceptance does not diminish unpleasant feelings in the short-term, and so they must be tolerated, at least initially (Ellis, Vanderlind, & Beevers, 2013). Thus, individuals who do not focus on the long-term benefits of emotion regulation (i.e., those low in CFC) may avoid the use of strategies that entail effortful control or the need to tolerate negative feelings, in spite

of the potential long-term benefits of these strategies. In contrast, those who can prioritize the future consequences of their regulatory efforts (i.e., those high in CFC) should be more willing to use strategies that provide delayed benefits.

For regulation of emotions to positive events, the expected association with CFC might be less clear. Strategies to maintain or even enhance positive emotions might not have differential immediate and future benefits. Savoring (for example by focusing one's attention on the present moment, engaging in positive future mental time travel, or telling others about positive experiences) is associated with greater positive affect in response to positive events in the short-term, and higher life satisfaction in the long-term (Erisman & Roemer, 2010; Quoidbach et al., 2010; Quoidbach, Wood, & Hansenne, 2009). On the basis of these findings, one might expect the associations between CFC and emotion regulation preferences during positive events to be weak or even non-existent.

There is limited research on the association between future time focus and emotion regulation. One study found a small negative association between consideration of future consequences and expression suppression (concealing behavioral expressions of emotion), but no correlation with reappraisal (Bruehlman-Senecal et al., 2016). Also, people who score high, compared to low, on CFC respond differently to emotionally evocative events, reporting lower aggression, particularly when the consequences of their behaviors are delayed (Joireman, Anderson, & Strathman, 2003). They also report less regret and self-blame when they consider how they can learn from their experience after a negative event (Boninger, Gleicher, & Strathman, 1994). Furthermore, when asked to focus on a long-term regulatory goal, participants preferred reappraisal over distraction compared to when asked to focus on a short-term regulatory goal (Sheppes et

al., 2014). These findings suggest that a future time focus influences the ways in which people respond to and recover from negative emotionally evocative events.

Study 1

Does CFC predict more adaptive emotion regulation overall, as well as the use of specific adaptive and maladaptive strategies? Although the evidence suggests a link between CFC and emotion regulation, we could find no published studies examining this association using a measure of emotion regulation that assesses an array of adaptive and maladaptive strategies in response to both positive and negative emotional events. The aim of Study 1 was, first, to examine whether the consideration of future consequences predicts more adaptive emotion regulation choices overall, particularly for negative emotional events. Prior researchers have advocated for behavior-specific measures of CFC (Dassen, Houben, & Jansen, 2015; van Beek, Antonides, & Handgraaf, 2013), so we included both a general and domain-specific measure. The domain-specific measure was adapted from the general CFC measure (Strathman et al., 1994) and referred to considering future consequences for feelings, rather than future consequences in general. We used this feelings-specific measure to test our hypotheses, but its development was not the primary focus of this research. Second, we tested whether future time focus was associated with the endorsement of specific adaptive and maladaptive emotion regulation strategies. Finally, given limited previous work on the association between CFC and well-being, we examined this association using a broad battery of well-being measures.

Method

Participants

Participants were 209 undergraduate students from introductory psychology courses at Thompson Rivers University in Kamloops, BC. The university's Research

Ethics Board approved the study. Participants gave informed consent and received 2% bonus credit towards their grade.

After elimination of random responders, 182 participants remained in the final sample, of which 133 identified as female, 45 as male, and two as "other" (no response: $n = 2$). The mean age was 19.30 years ($SD = 2.60$). Participants were white ($n = 138$), Asian ($n = 8$), First Nations ($n = 9$), Hispanic ($n = 2$), black ($n = 2$), Indian ($n = 2$), Middle Eastern ($n = 1$), mixed ethnicity ($n = 16$), or other ($n = 2$) (no response: $n = 2$).

Measures

Consideration of Future Consequences Scale (CFCS; Strathman et al., 1994). The CFCS comprises 12 items assessing the propensity to consider the future outcomes of one's actions (e.g., "I consider how things might be in the future, and try to influence those things with my day to day behavior"). Participants responded on a scale from 1 (not at all like me) to 5 (very much like me). Reliability was high ($\alpha = .81$) in the current sample. Prior researchers have advocated for domain-specific measures of CFC (Dassen et al., 2015; van Beek et al., 2013), so we also adapted the CFCS to focus on feelings (CFCS-Feelings). The CFCS-Feelings emphasized feelings as outcomes of one's actions (e.g., "I consider how I might feel in the future, and try to influence those feelings with my day to day thoughts and behavior"). Reliability was high ($\alpha = .87$).

Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999). The ZTPI assesses five dimensions relating to time perspective. For the purposes of the current study, we focused on the future dimension (ZTPI-F), which comprises 13 items (e.g., "I believe that a person's day should be planned ahead each morning,") to which participants rated their agreement on a scale from 1 (very untrue) to 5 (very true). Reliability was high ($\alpha = .81$). We excluded the other subscales of the ZTPI from our

analyses because they show considerable content overlap with the emotion regulation items.

Emotion Regulation Profile Revised (ERP-R; Nelis et al., 2011). The ERP-R is a broad measure of emotion regulation choices, tapping into people's choices of four adaptive and four maladaptive strategies for each of the down-regulation of negative emotions and the up-regulation of positive emotions. The ERP-R comprises nine negative and six positive scenarios. For each negative scenario, participants identified which of four adaptive strategies (situation modification (e.g., getting help from a friend to prepare for a presentation), attention reorientation (e.g., thinking about a happy memory), positive reappraisal (e.g., looking for the positive in a situation), and emotion expression (e.g., sharing emotions)) and four maladaptive strategies (learned helplessness (e.g., doing nothing to improve a situation), rumination (e.g., focusing on negative thoughts), substance abuse (e.g., using alcohol to escape a situation), and acting out (e.g., yelling when angry)) they would use. Similarly, for each positive scenario, participants identified which of four adaptive strategies (behavioral display (expressing positive emotions non-verbally), savoring the moment (focusing attention on the experience), capitalizing (e.g., telling a friend about the experience), and positive mental time travel (e.g., remembering past positive events)) and four maladaptive strategies (inhibition of emotion expression (e.g., suppressing one's expression of positive emotions), fault-finding (looking for problems with the situation), inattention (engaging in other, negative, mental activities, such as worrying), and negative mental time travel (thinking about the event while focusing on external attributions or negative thoughts about the future)) they would use. Participants selected as many strategies as they wished for each scenario. Each adaptive strategy selection was credited +1 point and each maladaptive strategy selection was credited -1 point. The measure yields

scores for regulation of negative emotions and regulation of positive emotions (computed by summing the adaptive and maladaptive points for negative scenarios and positive scenarios), with higher scores reflecting more use of adaptive relative to maladaptive strategies. We also summed scores for adaptive strategies and maladaptive strategies, for positive and negative scenarios separately (savoring, dampening, focus change, and stuck negative, respectively), such that higher scores reflected more choice of those regulatory approaches. In other words, savoring reflects the selection of the four adaptive strategies across the six positive scenarios; dampening reflects the selection of the four maladaptive strategies across the six positive scenarios; focus change reflects the selection of the four adaptive strategies across the nine negative scenarios; and stuck negative reflects the selection of the four maladaptive strategies across the nine negative scenarios. We also computed a score reflecting total choice of each strategy. The decision to compute scores both for choice of adaptive and maladaptive strategies, as well as for each strategy separately, was based on prior research finding differential associations between adaptive versus maladaptive strategy use and mental health and well-being as well as between individual strategies and measures of well-being (Aldao et al., 2010; Quoidbach et al., 2010).

In the current sample, reliability was good (for up-regulation of positive emotions, $\alpha = .81$, and for down-regulation of negative emotions, $\alpha = .78$).

Well-being measures. We used a battery of tests (Huta & Ryan, 2010) to assess life satisfaction ($\alpha = .84$) (Satisfaction With Life Scale (SWLS); Diener, Emmons, Larson, & Griffin, 1985), vitality ($\alpha = .91$) (Bostic, Mcgartland, & Hood, 2011), meaning in life ($\alpha = .87$) (Huta & Ryan, 2010), positive and negative affect ($\alpha = .87$ and $\alpha = .77$, respectively) (E. Diener & Emmons, 1984), elevating experiences ($\alpha = .85$) (Huta & Ryan, 2010), self-esteem (one item) (Huta & Ryan, 2010), experience of

meaning (α = .87) (Huta & Ryan, 2010), self-connectedness (Huta & Ryan, 2010), and carefreeness (α = .73) (Huta, 2012). Following Huta and Ryan (2010), positive affect, negative affect, elevating experiences, self-connectedness, and carefreeness items were intermixed in a single measure whereby participants rated the extent to which they typically feel each state on a scale from 1 (not at all) to 7 (extremely).

Depression Anxiety Stress Scales (DASS-21; Henry & Crawford, 2005). To assess mental health symptoms, participants completed the DASS-21 (short form). Respondents rated how much each of 21 statements (seven for each of depression, anxiety, and stress) applied to them over the past week (e.g., "I felt that I had nothing to look forward to"—depression), on a scale from 0 (did not apply to me at all) to 3 (applied to me very much). We computed a mean DASS score, for which reliability was high (α = .92).

Conscientious Responders Scale (CRS; Marjanovic, Struthers, Cribbie, & Greenglass, 2014). The CRS consists of instructional items embedded amongst other items in a questionnaire to identify non-conscientious responders. Five items (e.g., "To respond to this question, please choose option number five, 'slightly agree'") were scored as correct (1) or incorrect (0). Participants scoring a total of 0, 1, or 2, out of a possible 5, were considered random responders and were omitted from the analyses (Marjanovic et al., 2014). Based on this criterion, 18 participants (8.6%) were identified as random responders, a proportion similar to random responding rates found in other undergraduate samples surveyed with the CRS (e.g., Marjanovic, Holden, Struthers, Cribbie, & Greenglass, 2015; Marjanovic et al., 2014) and similar validity measures (see Meade & Craig, 2012).

Balanced Inventory of Desirable Responding-Short Form (BIDR; Hart, Ritchie, Hepper, & Gebauer, 2015). Participants completed the short form of the

BIDR, which includes eight items assessing each of impression management (IM) and self-deceptive enhancement (SDE) (e.g., "It's hard for me to shut off a disturbing thought"). Following Hart et al. (2015), items were scored using continuous, rather than dichotomous, scoring. Given the content overlap between some of the SDE items and emotion regulation, we only used the IM subscale ($\alpha = .63$). BIDR-IM scores correlated positively with the future factor focus score (computed below), $r = .17$, $p = .022$, and with ERP-down regulation of negative emotions, $r = .27$, $p < .001$, but not with any other measures, all p's > .11.

Demographic information. Participants reported their age, gender, and ethnicity.

Procedures

Participants completed the questionnaires in groups of approximately 10 to 25 students. Questionnaire order was counterbalanced, with the ERP-R either preceding or following the other measures (which were always in a fixed order). Participants completed the demographic information last.

Results

Preliminary analyses

Table 1 shows descriptive statistics for the ERP-R, CFCS, CFCS-Feelings, ZTPI-F, and measures of well-being.

Data reduction

Because the CFCS, CFCS-Feelings, and ZTPI-F likely tap into a similar construct, we conducted factor analysis to derive a single factor representing future-oriented thinking, to be used in subsequent analyses. We conducted a principal axis factor analysis on the three scale scores, with oblique rotation (direct oblimin; no rotation was applied because only one factor was extracted). The Kaiser-Meyer-Oklin

measure of sampling adequacy was adequate, KMO = .656, and KMOs for all three variables were .613 or higher. Only one factor had an eigenvalue greater than 1, and it explained 74.10% of the variance. Visual inspection of the scree plot further supported a single factor solution, with factor loadings of .89, .89, and .57, for CFCS, CFCS-Feelings, and ZTPI-F, respectively, suggesting a factor representing trait future focus. Given that the three scales clustered on one factor, we used future focus factor scores for trait future focus in subsequent correlational analyses.

We also conducted factor analysis to derive factors for the scales assessing well-being (SWLS, vitality, positive affect, negative affect, carefreeness, elevating experience, experience of meaning, self-esteem, and self-connectedness). A principal axis factor analysis of the scale scores with oblique rotation (direct oblimin) indicated KMO = .869, with no KMOs for individual variables below .823. Two factors had eigenvalues above 1, and the two factors explained 59.79% of the variance, with carefreeness, negative affect, positive affect, and self-esteem, loading onto one factor, and elevating experiences, experience of meaning, and self-connectedness loading onto a second factor. Vitality and SWLS both loaded onto both factors (see Table 2 for factor loadings). For simplicity of interpretability, we named these two factors Hedonic well-being and Eudaimonic well-being (notwithstanding recent debates about the validity of the distinction between two forms of well-being, see Biswas-Diener, Kashdan, & King, 2009). We used factor scores for the two factors in our correlational analyses.

Correlations between consideration of future consequences and emotion regulation

We conducted Pearson correlation coefficients to assess the relationship between future focus factor scores (based on the factor analysis described above) and scores for down-regulating negative emotions and up-regulating positive emotions on the ERP-R. Correlations are shown in Table 3.

Future focus was significantly associated with down-regulation of negative emotions. That is, participants with high future time focus reported more adaptive regulation of negative emotions than participants with low future time focus. To ascertain whether these associations were driven by the use of adaptive strategies, maladaptive strategies, or both, we examined relations with stuck negative and focus change. Although the correlation coefficients were small, future focus factor scores predicted greater use of focus change strategies and less use of stuck negative strategies, $r = .24$, $p = .001$, and $r = -.22$, $p = .003$, respectively.

For up-regulation of positive emotions, there were no significant associations between savoring and dampening and future focus factor scores, both r's < .10, p's > .27.

Finally, in an exploratory fashion, we examined associations between future focus factor scores and specific regulatory strategies. Given the lack of associations with positive emotion regulation described above, we focused on the strategies for negative emotion regulation. Future focus was positively associated with reappraisal, $r = .21$, $p = .005$, situation modification, $r = .261$, $p < .001$, and negatively associated with acting out, $r = .18$, $p = .02$, and learned helplessness**,** $r = .21$, $p = .004$.. All other associations were small (r's < .135) and not significant.

Correlations between consideration of future consequences, emotion regulation, and measures of well-being

We computed Pearson correlation coefficients between future time focus measures and well-being, and between emotion regulation and well-being (Tables 3 and 4).

Future focus was negatively associated with the hedonic factor score but positively associated with the eudaimonic factor score (Table 3). Thus, having a higher

future focus predicted lower hedonic well-being, but higher eudaimonic well-being scores. There was no association of future focus with the DASS. Regulation of negative emotions and positive emotions were both associated with hedonic and eudaimonic factor scores, as well as with the DASS, with more adaptive regulation of positive and negative emotions predicting greater well-being and lower depression, anxiety, and stress (Table 4).

Discussion

Study 1 was designed to examine the relation between trait-level thinking about the future consequences of one's behavior and emotion regulation choices and well-being. Overall, a future time focus predicted a more adaptive pattern of emotion regulation: people who considered the future consequences of their actions were more likely to select adaptive strategies (such as reappraisal and situation modification) and less likely to select maladaptive strategies (such as acting out) when down-regulating negative emotions. Future time focus also predicted well-being and, replicating past work, emotion regulation choices were connected to well-being and mental health (Nelis, Quoidbach, et al., 2011). Notably, thinking about the future consequences of one's actions was not reliably associated with choices of emotion regulation strategies for positive emotion scenarios. However, while the current study was well-powered to detect moderate associations (for r = .30, the required sample size to achieve power = .95 is N = 115), it was underpowered to detect weak associations (for r = .10, the required sample size to achieve power = .95 is N =1077). However, the results suggest that if future focus does predict regulation of positive emotions, the association is weak.

The results extend previous research suggestive of an association between CFC and responses to emotionally evocative situations (Boninger et al., 1994; Bruehlman-Senecal et al., 2016; Joireman et al., 2003). A key strength of the current work over

previous studies was that we assessed participants' choices of a broad array of both adaptive and maladaptive emotion regulation strategies in response to both negative and positive scenarios.

The association between future time focus factor scores and eudaimonic well-being was moderate and positive. In addition, high future time focus weakly predicted lower hedonic well-being. One consideration is that too extreme of a focus on the future may reduce people's enjoyment of present moment experiences and even result in negative outcomes (e.g., workaholism) (Boniwell et al., 2010). Perhaps flexibly considering both immediate and future outcomes of one's behaviors would be associated with optimal emotion regulation and well-being. Such a perspective coincides with other work showing a relation between a balanced time perspective (computed from scores from all sub-scales of the ZTPI) and well-being measures (Boniwell et al., 2010; Zhang et al., 2013). We did not compute balanced time perspective in the current study because there is considerable content overlap between the other ZTPI sub-scales and emotion regulation items, which would likely inflate the size of the correlations with emotion regulation. Future work could explore alternative ways to measure flexibility in consideration of the immediate and future outcomes of one's behaviors to determine if flexibility, rather than a future focus alone, would be a better predictor of emotion regulation and well-being.

Study 2

Study 1 suggested an association between the extent to which people consider the future consequences of their behaviors and their reported emotion regulation choices. However, we do not know if people might choose to use more adaptive strategies because they are actually aware of the differential short- and longer-term consequences of their regulatory choices. Therefore, in Study 2 we sought to determine

to what extent people recognize that putatively adaptive and maladaptive strategies differ in their immediate and future consequences. In one previously published study, participants instructed to focus on either immediate or delayed consequences showed differential preferences for distraction and reappraisal (Sheppes et al., 2014), suggesting that people hold beliefs that different strategies have differential immediate and delayed benefits. However, that study focused on only two strategies. In Study 2, we asked participants to rate either the immediate or future effectiveness of eight different strategies, both adaptive and maladaptive.

In Study 2, participants read the same scenarios as in Study 1 and were asked to focus on either the immediate or future impacts of each strategy on their feelings. They rated the effectiveness of each strategy, providing a more sensitive measure of beliefs about regulatory outcomes than a binary variable of use/not use for each strategy. Because we found reliable associations between thinking about future consequences and regulation of negative emotions, but not positive emotions, in Study 1, Study 2 included only negative scenarios. This approach also alleviated participant burden by reducing the number of scenarios and strategies to which they were required to respond.

We predicted that participants would rate adaptive strategies as more effective in the future than immediately, and maladaptive strategies as more effective immediately than in the future.

Method

Participants

Participants were 80 students from introductory psychology courses at Thompson Rivers University in Kamloops, BC. The research was approved by the university Research Ethics Board. Participants gave informed consent and received 2% bonus credit towards their grade. The mean age was 21 years (SD = 5.95). Fifty-six

participants identified as female and 23 as male (no response: *n* = 1). Participants were white (*n* = 64), black (*n* = 4), Hispanic (*n* = 3), First Nations (*n* = 2), Indian (*n* = 1), Asian (*n* = 1), or mixed ethnicity (*n* = 4) (no response: *n* = 1).

Measures

Emotion Regulation Profile-Adapted. We adapted the original ERP-R (Nelis, Quoidbach, et al., 2011) described above to assess the perceived effectiveness of each response for each negative scenario. Specifically, participants rated how much better or worse they thought each response would make them feel on a scale from 1 to 9 (1 = much worse, 5 = no change, and 9 = much better).

Demographic information. Participants reported their age, gender, and ethnicity.

Procedure

Participants were tested in groups of approximately 10 to 25 students. They were randomly assigned to either the immediate or future focus condition. Participants in the immediate focus condition were instructed to "…indicate what will be the immediate impact of that response on your feelings. Don't be concerned with the long-term effects of that response. Rather, think about whether that response will make you feel immediately better or worse." Participants in the future focus condition were instructed to "indicate what will be the long-term impact of that response on your feelings. Don't be concerned with the immediate or short-term effects of that response. Rather, think about whether that response will make you feel better or worse in the long-term, later that day and beyond." After making the ratings, participants provided demographic information.

Results

To test whether perceived effectiveness varied according to time focus

(immediate or future) and strategy type (adaptive and maladaptive), we conducted a mixed 2 x 2 ANOVA. The dependent variable was perceived effectiveness, collapsing across the four specific adaptive strategies and collapsing across the four specific maladaptive strategies. Overall, participants believed that adaptive strategies were more likely to make them feel better than maladaptive strategies, $F(1, 78) = 564.70$, $p < .001$, $\eta_p^2 = .88$. There was no significant effect of focus, $F(1, 78) = 0.48$, $p = .49$, $\eta_p^2 = .006$. The main effect of strategy type was qualified by an interaction between strategy type and time focus, $F(1, 78) = 7.68$, $p = .007$, $\eta_p^2 = .09$. Participants rated adaptive strategies as more effective in the future ($M = 6.74$, $SD = 0.78$) than immediately ($M = 6.42$, $SD = 0.59$), $t(78) = 2.04$, $p = .022$, $d = .46$, and maladaptive strategies as more effective immediately ($M = 3.54$, $SD = 0.72$) than in the future ($M = 3.09$, $SD = 0.82$), $t(78) = 2.56$, $p = .006$, $d = .57$ (applying the Bonferroni adjustment for multiple comparisons, $\alpha = .05/2 = .025$).

In order to test which strategies were driving these differences, we conducted exploratory *t*-tests to assess differences in effectiveness ratings between the immediate and future focus conditions for each strategy separately. Given the exploratory nature of these analyses and the large number of *t*-tests conducted, we used two-tailed tests and also applied the Bonferroni correction to use a more conservative alpha, $\alpha = .05/8 = .006$. For adaptive strategies, the effect was significant for positive reappraisal, only, $t(78) = 3.94$, $p < .001$, $d = 0.89$, indicating that participants expected positive reappraisal to be more effective in the future than immediately. For maladaptive strategies, the effect was significant for substance use, $t(78) = 4.05$, $p < .001$, $d = 0.92$, and acting out, $t(78) = 3.05$, $p = .003$, $d = 0.69$, indicating that participants expected both substance use and acting out to be more effective immediately than in the future. In sum, for adaptive strategies, the perceived effectiveness of reappraisal drove the higher ratings for future

versus immediate focus. For maladaptive strategies, the perceived effectiveness of substance use and acting out drove the higher ratings for immediate versus future focus.

Discussion

In Study 2, we tested the effects of time focus (immediate or future) on perceived effectiveness of emotion regulation strategies. The results lend support to the conclusions from Study 1, suggesting that people have some knowledge about the differential immediate and delayed consequences of different strategies. In Study 2, adaptive strategies were perceived to be more effective for improving feelings overall. Moreover, people believed that adaptive strategies would be more likely to make them feel better in the future than immediately, but that maladaptive strategies would be more likely to make them feel better immediately than in the future. These effects did not hold across all specific strategies. Rather, for adaptive strategies, positive reappraisal was believed to have greater future than immediate benefits. For maladaptive strategies, it was primarily acting out and substance abuse that were believed to have more immediate than future benefits. Given the exploratory nature of these strategy-level analyses, these results should be interpreted with caution. Furthermore, while Study 2 was adequately powered to detect large effects (for $d = 0.80$ and power = .95, a sample size of $N = 70$ is required), it was underpowered to detect small to medium effects. Therefore, further research is needed to ascertain beliefs about the differential immediate and future consequences of specific regulatory strategies.

General discussion

Together, Studies 1 and 2 show that people's emotion regulation preferences are guided in part by the extent to which they consider the future consequences of their behaviours and also that people believe that strategies differentially achieve immediate versus future changes in feelings. In Study 1, future time focus correlated positively

with adaptive down-regulation of negative emotions (especially reappraisal and situation modification) and negatively with maladaptive down-regulation of negatives emotion (especially acting out). In Study 2, prompting people to focus on future rather than immediate changes in feelings resulted in higher perceived effectiveness for adaptive strategies (especially for reappraisal), and lower perceived effectiveness for maladaptive strategies (especially for acting out and substance abuse). Thus, we observed some overlap between the types of strategies that people who consider future consequences prefer to employ and people's beliefs about the immediate and future benefits of different regulatory strategies.

Although the strategy-specific analyses were exploratory, the findings mesh with the research literature showing enduring benefits of adaptive strategies like reappraisal (Denson, Moulds, & Grisham, 2012; Gutentag, Halperin, Porat, Bigman, & Tamir, 2016; Ray, Wilhelm, & Gross, 2008; Thiruchselvam, Blechert, Sheppes, Rydstrom, & Gross, 2011) and situation modification (Billings & Moos, 1981; Dixon-Gordon, Aldao, & De Los Reyes, 2014; Schäfer, Naumann, Holmes, Tuschen-Caffier, & Samson, 2017; Schutte, Manes, & Malouff, 2009). The findings also converge with research illustrating the potentially detrimental consequences of substance use (Single, Rehm, Robson, & Truong, 2000) and learned helplessness (Bargai, Ben-Shakhar, & Shalev, 2007; C. I. Diener & Dweck, 1978). In addition, the findings are consistent with prior research suggesting that although acting out is not an effective way to decrease negative feelings, people do tend to believe that it reduces angry feelings (Bushman, 2002; Bushman, Baumeister, & Phillips, 2001).

Notably, participants expected attention reorientation to be equally effective in the short- and long-term, in spite of research evidence that its benefits are short-lived (Denson et al., 2012; Kross & Ayduk, 2008; Thiruchselvam et al., 2011). People might

not be aware of the limited benefits of distraction, though this seems unlikely, given that other research has shown that when given the choice to use distraction or reappraisal, people are more likely to choose distraction when given short-term, rather than long-term, regulatory goals (Sheppes et al., 2014). Rather, it may be that the effects of distraction are modulated by other, contextual variables, such as personality, event significance, or stimulus intensity (cf. Sheppes & Gross, 2011). Furthermore, it is important to consider that people typically do not use a single emotion regulation strategy in isolation (Heiy & Cheavens, 2014). Using distraction may lay the groundwork for the use of other strategies that are more effective in the long-term.

For the other emotion regulation strategies assessed—emotion expression, rumination, and expression suppression—there was also no clear-cut association with CFC and no effect of the immediate/future focus manipulation. Perhaps these strategies are not differentially effective in the short- versus the long-term. Indeed, rumination maintains negative feelings (Aldao et al., 2010; Clancy, Prestwich, Caperon, & O'Connor, 2016; Denson et al., 2012; Schäfer et al., 2017). Expression suppression has been found to be maladaptive in the short- and long-term (Cameron & Overall, 2017; Chervonsky & Hunt, 2017). Social sharing of feelings (emotion expression) appears to be beneficial both in the short- and long-term (Cameron & Overall, 2017; Dixon-Gordon et al., 2014; Lepore, 1997; Lepore, Ragan, & Jones, 2000).

Limitations and future research

We report preliminary findings of a connection between a future time focus and emotion regulation choices. Our results open up several avenues for subsequent research. First, in our studies, participants reported their choices of and beliefs about a limited number of responses to several scenarios. Given that we found a relationship between future focus and emotion regulation in these contrived instances, the effect may

be even stronger in real life situations when people are actually required to regulate their emotions. However, people's self-reported preferences in the current study may not correspond with their actual regulatory behaviors: they may just be responding according to what they believe is best in a situation, not what they would actually do. Nonetheless, the ERP-R has good validity both in correlational and experimental studies (Nelis, Kotsou, et al., 2011; Nelis, Quoidbach, et al., 2011). Future work should examine how both trait-level CFC and experimentally-manipulated future focus relate to emotion regulation choices in the face of experienced emotion-eliciting events (cf. Sheppes et al., 2014). Furthermore, ecological momentary assessment could assess how both trait-level and state-level time focus predict emotion regulation choices in everyday life.

Second, future work should examine how other contextual variables, such as goals, personality, and stimulus characteristics, interact with CFC to impact emotion regulation choices in real-world situations. For example, people prefer reappraisal over distraction when emotional events are of low intensity, and vice versa under conditions of high intensity (Sheppes et al., 2014; Sheppes, Scheibe, Suri, & Gross, 2011). This effect may be moderated by CFC, such that those who consider the future consequences of their behaviors are even more likely to choose reappraisal under conditions of low intensity, given reappraisal's more favorable outcomes for long-term changes in affect. Such hypotheses could be tested both in laboratory settings and using ecological momentary assessment.

A third direction pertains to the use of the CFCS in this work. Although the original, 12-item CFCS appeared to be unidimensional (Strathman et al., 1994), recent research has differentiated between immediate and future concerns (CFC-14; Joireman et al., 2012). Distinguishing between concern for immediate versus future consequences

might enhance our understanding of the connection with emotion regulation. For example, people may be more likely to act out angrily either because they are concerned with immediate consequences, or because they are not concerned with future consequences, or both. Similarly, choice of reappraisal may be driven by a lack of concern with immediate consequences, a heightened concern for future consequences, or both. Furthermore, Joireman and King (2016) identified at least four different mechanisms by which CFC may be connected to self-regulatory behaviors. Uncovering which of these mechanisms are involved in guiding emotion regulation is important not just from a theoretical standpoint, but also for enabling the development of interventions to facilitate healthy emotion regulation. For example, according to the awareness model (Joireman & King, 2016), the effect of CFC on behavior is mediated by an awareness of the consequences of one's actions. If the awareness model holds, it would favor interventions that emphasize training increased awareness of emotion regulation choices and their outcomes. Other mechanisms would suggest that other types of interventions are more likely to be effective.

Acknowledgements

This work was supported by the Social Sciences and Humanities Research Council of Canada [grant number 430-2014-00626]. The authors thank Allister Grapes for his assistance with data collection.

References

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, *30*(2), 217–237. http://doi.org/10.1016/j.cpr.2009.11.004

Aldao, A., Sheppes, G., & Gross, J. J. (2015). Emotion regulation flexibility. *Cognitive Therapy and Research*, *39*(3), 263–278. http://doi.org/10.1007/s10608-014-9662-4

Azizli, N., Atkinson, B. E., Baughman, H. M., & Giammarco, E. A. (2015). Relationships between general self-efficacy, planning for the future, and life satisfaction. *Personality and Individual Differences*, *82*, 58–60. http://doi.org/10.1016/j.paid.2015.03.006

Bargai, N., Ben-Shakhar, G., & Shalev, A. Y. (2007). Posttraumatic stress disorder and depression in battered women: The mediating role of learned helplessness. *Journal of Family Violence*, *22*(5), 267–275. http://doi.org/10.1007/s10896-007-9078-y

Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine*, *4*(2), 139–157. http://doi.org/10.1007/BF00844267

Biswas-Diener, R., Kashdan, T. B., & King, L. a. (2009). Two traditions of happiness research, not two distinct types of happiness. *The Journal of Positive Psychology*, *4*(3), 208–211. http://doi.org/10.1080/17439760902844400

Bonanno, G. A., & Burton, C. L. (2013). Regulatory flexibility: An individual differences perspective on coping and emotion regulation. *Perspectives on Psychological Science*, *8*(6), 591–612. http://doi.org/10.1177/1745691613504116

Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science*, *15*(7), 482–487.

Boninger, D. S., Gleicher, F., & Strathman, A. (1994). Counterfactual thinking: From what might have been to what may be. *Journal of Personality and Social Psychology*, *67*(2), 297–307. http://doi.org/10.1037/0022-3514.67.2.297

Boniwell, I., Osin, E., Linley, P. A., & Ivanchenko, G. V. (2010). A question of balance: Time perspective and well-being in British and Russian samples. *The Journal of Positive Psychology*, *5*(1), 24–40. http://doi.org/10.1080/17439760903271181

Bostic, T. J., Mcgartland, D., & Hood, M. (2011). A validation of the Subjective Vitality Scale using structural equation modeling. *Social Indicators Research*, *52*(3), 313–324. http://doi.org/https://doi.org/10.1023/A:1007136110218

Bruehlman-Senecal, E., Ayduk, Ö., & John, O. P. (2016). Taking the long view: Implications of individual differences in temporal distancing for affect, stress reactivity, and well-being. *Journal of Personality and Social Psychology*. http://doi.org/10.1037/pspp0000103

Bushman, B. J. (2002). Does venting anger feed or extinguish the flame? Catharsis, rumination, distraction, anger, and aggressive responding. *Personality and Social Psychology Bulletin*, *28*(6), 724–731. http://doi.org/10.1177/0146167202289002

Bushman, B. J., Baumeister, R. F., & Phillips, C. M. (2001). Do people aggress to improve their mood? Catharsis beliefs, affect regulation opportunity, and aggressive responding. *Journal of Personality and Social Psychology*, *81*(1), 17–32. http://doi.org/10.1037//0022-3514.81.1.17

Cameron, L. D., & Overall, N. C. (2017). Suppression and expression as distinct emotion-regulation processes in daily interactions: Longitudinal and meta-analyses. *Emotion*, *Online Fir*. http://doi.org/10.1037/emo0000334

Chervonsky, E., & Hunt, C. (2017). Suppression and expression of emotion in social

and interpersonal outcomes: A meta-analysis. *Emotion*, *17*(4), 669–683. http://doi.org/10.1037/emo0000270

Clancy, F., Prestwich, A., Caperon, L., & O'Connor, D. B. (2016). Perseverative cognition and health behaviors: A systematic review and meta-analysis. *Frontiers in Human Neuroscience*, *10*, 534. http://doi.org/10.3389/fnhum.2016.00534

Dassen, F. C. M., Houben, K., & Jansen, A. (2015). Time orientation and eating behavior: Unhealthy eaters consider immediate consequences, while healthy eaters focus on future health. *Appetite*, *91*, 13–19. http://doi.org/10.1016/j.appet.2015.03.020

Denson, T. F., Moulds, M. L., & Grisham, J. R. (2012). The effects of analytical rumination, reappraisal, and distraction on anger experience. *Behavior Therapy*, *43*(2), 355–364. http://doi.org/10.1016/j.beth.2011.08.001

DeSteno, D., Gross, J. J., & Kubzansky, L. (2013). Affective science and health: The importance of emotion and emotion regulation. *Health Psychology*, *32*(5), 474–486. http://doi.org/10.1037/a0030259

Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology*, *36*(5), 451–462. http://doi.org/10.1037/0022-3514.36.5.451

Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*(5), 1105–1117. http://doi.org/10.1037/0022-3514.47.5.1105

Diener, E., Emmons, R. A., Larson, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. http://doi.org/10.1207/s15327752jpa4901_13

Dixon-Gordon, K. L., Aldao, A., & De Los Reyes, A. (2014). Repertoires of emotion regulation: A person-centered approach to assessing emotion regulation strategies and links to psychopathology. *Cognition and Emotion*, *29*(7), 1314–1325. http://doi.org/10.1080/02699931.2014.983046

Ellis, A. J., Vanderlind, W. M., & Beevers, C. G. (2013). Enhanced anger reactivity and reduced distress tolerance in major depressive disorder. *Cognitive Therapy and Research*, *37*(3), 498–509. http://doi.org/10.1007/s10608-012-9494-z

Erisman, S. M., & Roemer, L. (2010). A preliminary investigation of the effects of experimentally induced mindfulness on emotional responding to film clips. *Emotion*, *10*(1), 72–82. http://doi.org/10.1037/a0017162

Goldin, P. R., McRae, K., Ramel, W., & Gross, J. J. (2008). The neural bases of emotion regulation: Reappraisal and suppression of negative emotion. *Biological Psychiatry*, *63*(6), 577–586. http://doi.org/10.1016/j.biopsych.2007.05.031

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, *26*(1), 1–26. http://doi.org/10.1080/1047840X.2014.940781

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348–362. http://doi.org/10.1037/0022-3514.85.2.348

Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (1st ed., pp. 3–24). New York: Guilford Press.

Gutentag, T., Halperin, E., Porat, R., Bigman, Y. E., & Tamir, M. (2016). Successful emotion regulation requires both conviction and skill: Beliefs about the controllability of emotions, reappraisal, and regulation success. *Cognition and*

Emotion, *31*(6), 1225–1233. http://doi.org/10.1080/02699931.2016.1213704

Hart, C. M., Ritchie, T. D., Hepper, E. G., & Gebauer, J. E. (2015). The Balanced Inventory of Desirable Responding Short Form (BIDR-16). *SAGE Open*, *5*(4), 1–9. http://doi.org/10.1177/2158244015621113

Heiy, J. E., & Cheavens, J. S. (2014). Back to basics: A naturalistic assessment of the experience and regulation of emotion. *Emotion*, *14*(5), 878–891. http://doi.org/10.1037/a0037231

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *The British Journal of Clinical Psychology*, *44*, 227–239. http://doi.org/10.1348/014466505X29657

Huta, V. (2012). Linking peoples' pursuit of eudaimonia and hedonia with characteristics of their parents: Parenting styles, verbally endorsed values, and role modeling. *Journal of Happiness Studies*, *13*(1), 47–61. http://doi.org/10.1007/s10902-011-9249-7

Huta, V., & Ryan, R. M. (2010). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. *Journal of Happiness Studies*, *11*(6), 735–762. http://doi.org/10.1007/s10902-009-9171-4

Joireman, J., Anderson, J., & Strathman, A. (2003). The aggression paradox: Understanding links among aggression, sensation seeking, and the consideration of future consequences. *Journal of Personality and Social Psychology*, *84*(6), 1287–1302. http://doi.org/10.1037/0022-3514.84.6.1287

Joireman, J., & King, S. (2016). Individual differences in the consideration of future and (more) immediate consequences: A review and directions for future research. *Social and Personality Psychology Compass*, *10*(5), 313–326.

http://doi.org/10.1111/spc3.12252

Joireman, J., Shaffer, M. J., Balliet, D., & Strathman, A. (2012). Promotion orientation explains why future-oriented people exercise and eat healthy: Evidence from the two-factor Consideration of Future Consequences-14 Scale. *Personality and Social Psychology Bulletin*, *38*(10), 1272–1287. http://doi.org/10.1177/0146167212449362

Joireman, J., Strathman, A., & Balliet, D. (2006). Considering future consequences. In L. Sanna & E. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors* (pp. 88–92). Oxford: Oxford University Press.

Kalisch, R. (2009). The functional neuroanatomy of reappraisal: Time matters. *Neuroscience and Biobehavioral Reviews*, *33*(8), 1215–1226. http://doi.org/10.1016/j.neubiorev.2009.06.003

Kross, E., & Ayduk, O. (2008). Facilitating adaptive emotional analysis: Distinguishing distanced-analysis of depressive experiences from immersed-analysis and distraction. *Personality and Social Psychology Bulletin*, *34*(7), 924–938. http://doi.org/10.1177/0146167208315938

Lepore, S. J. (1997). Expressive writing moderates the relation between intrusive thoughts and depressive symptoms. *Journal of Personality and Social Psychology*, *73*(5), 1030–1037. http://doi.org/10.1037/0022-3514.73.5.1030

Lepore, S. J., Ragan, J. D., & Jones, S. (2000). Talking facilitates cognitive-emotional processes of adaptation to an acute stressor. *Journal of Personality and Social Psychology*, *78*(3), 499–508. http://doi.org/10.1037/0022-3514.78.3.499

Marjanovic, Z., Holden, R., Struthers, W., Cribbie, R., & Greenglass, E. (2015). The inter-item standard deviation (ISD): An index that discriminates between conscientious and random responders. *Personality and Individual Differences*, *84*,

79–83. http://doi.org/10.1016/j.paid.2014.08.021

Marjanovic, Z., Struthers, C. W., Cribbie, R., & Greenglass, E. R. (2014). The Conscientious Responders Scale: A new tool for discriminating between conscientious and random responders. *SAGE Open*, *4*(3), 1–10. http://doi.org/10.1177/2158244014545964

McKay, M. T., Cole, J. C., & Percy, A. (2015). Further evidence for a bifactor solution for the Consideration of Future Consequences Scale: Measurement and conceptual implications. *Personality and Individual Differences*, *83*, 219–222. http://doi.org/10.1016/j.paid.2015.04.022

McKay, M. T., Percy, A., & Cole, J. C. (2013). Consideration of future consequences and alcohol use among Northern Irish adolescents. *Journal of Substance Use*, *18*(5), 377–391. http://doi.org/10.3109/14659891.2012.685793

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*(3), 437–455. http://doi.org/10.1037/a0028085

Miller, R. B., & Brickman, S. J. (2004). A Model of Future-Oriented Motivation, *16*(1), 9–33.

Naragon-Gainey, K., McMahon, T. P., & Chacko, T. P. (2017). The structure of common emotion regulation strategies: A meta-analytic examination. *Psychological Bulletin*, *143*(4), 384–427. http://doi.org/10.1037/bul0000093

Nelis, D., Kotsou, I., Quoidbach, J., Hansenne, M., Weytens, F., Dupuis, P., & Mikolajczak, M. (2011). Increasing emotional competence improves psychological and physical well-being, social relationships, and employability. *Emotion*, *11*(2), 354–66. http://doi.org/10.1037/a0021554

Nelis, D., Quoidbach, J., Hansenne, M., & Mikolajczak, M. (2011). Measuring individual differences in emotion regulation: The Emotion Regulation Profile-

Revised (ERP-R). *Psychologica Belgica*, *51*(1), 49–91.

Ortner, C. N. M., Zelazo, P. D., & Anderson, A. K. (2013). Effects of emotion regulation on concurrent attentional performance. *Motivation and Emotion*, *37*(2), 346–354. http://doi.org/10.1007/s11031-012-9310-9

Pedersen, W. C., Denson, T. F., Goss, R. J., Vasquez, E. A., Kelley, N. J., & Miller, N. (2011). The impact of rumination on aggressive thoughts, feelings, arousal, and behaviour. *The British Journal of Social Psychology*, *50*, 281–301. http://doi.org/10.1348/014466610X515696

Peters, B. R., Joireman, J., & Ridgway, R. L. (2005). Individual differences in the consideration of future consequences scale correlate with sleep habits, sleep quality, and GPA in university students. *Psychological Reports*, *96*, 817–824. http://doi.org/10.2466/PR0.96.3.817-824

Philippot, P. (2013). Emotion regulation: A heuristic paradigm for psychopathology. *Journal of Experimental Psychopathology*, *45*(5), 600–607. http://doi.org/10.5127/jep.034513

Quoidbach, J., Berry, E. V., Hansenne, M., & Mikolajczak, M. (2010). Positive emotion regulation and well-being: Comparing the impact of eight savoring and dampening strategies. *Personality and Individual Differences*, *49*(5), 368–373. http://doi.org/10.1016/j.paid.2010.03.048

Quoidbach, J., Wood, A. M., & Hansenne, M. (2009). Back to the future: the effect of daily practice of mental time travel into the future on happiness and anxiety. *The Journal of Positive Psychology*, *4*(5), 349–355. http://doi.org/10.1080/17439760902992365

Ray, R. D., Wilhelm, F. H., & Gross, J. J. (2008). All in the mind's eye? Anger rumination and reappraisal. *Journal of Personality and Social Psychology*, *94*(1),

133–145. http://doi.org/10.1037/0022-3514.94.1.133

Richards, J. M., & Gross, J. J. (1999). Composure at any cost? The cognitive consequences of emotion suppression. *Personality and Social Psychology Bulletin*, *25*(8), 1033–1044. http://doi.org/10.1177/01461672992511010

Schäfer, J. Ö., Naumann, E., Holmes, E. A., Tuschen-Caffier, B., & Samson, A. C. (2017). Emotion regulation strategies in depressive and anxiety symptoms in youth: A meta-analytic review. *Journal of Youth and Adolescence*, *46*(2), 261–276. http://doi.org/10.1007/s10964-016-0585-0

Schutte, N. S., Manes, R. R., & Malouff, J. M. (2009). Antecedent-focused emotion regulation, response modulation and well-being. *Current Psychology*, *28*(1), 21–31. http://doi.org/10.1007/s12144-009-9044-3

Sheppes, G., & Gross, J. J. (2011). Is timing everything? Temporal considerations in emotion regulation. *Personality and Social Psychology Review*, *15*(4), 319–331. http://doi.org/10.1177/1088868310395778

Sheppes, G., & Meiran, N. (2007). Better late than never? On the dynamics of online regulation of sadness using distraction and cognitive reappraisal. *Personality and Social Psychology Bulletin*, *33*(11), 1518–1532. http://doi.org/10.1177/0146167207305537

Sheppes, G., Scheibe, S., Suri, G., & Gross, J. J. (2011). Emotion-regulation choice. *Psychological Science*, *22*(11), 1391–6. http://doi.org/10.1177/0956797611418350

Sheppes, G., Scheibe, S., Suri, G., Radu, P., Blechert, J., & Gross, J. J. (2014). Emotion regulation choice: A conceptual framework and supporting evidence. *Journal of Experimental Psychology: General*, *143*(1), 163–81. http://doi.org/10.1037/a0030831

Shipp, A. J., Edwards, J. R., & Lambert, L. S. (2009). Conceptualization and

measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational Behavior and Human Decision Processes*, *110*(1), 1–22. http://doi.org/10.1016/j.obhdp.2009.05.001

Single, E., Rehm, J., Robson, L., & Truong, M. V. (2000). The relative risks and etiologic fractions of different causes of death and disease attributable to alcohol, tobacco and illicit drug use in Canada. *CMAJ*, *162*(12), 1669–1675.

Stolarski, M., & Matthews, G. (2016). Time perspectives predict mood states and satisfaction with life over and above personality. *Current Psychology*, *35*(4), 516–526. http://doi.org/10.1007/s12144-016-9515-2

Strathman, A., Gleicher, F., Boninger, D. S., & Edwards, C. S. (1994). The Consideration of Future Consequences: Weighing immediate and distant outcomes of behavior. *Journal of Personality and Social Psychology*, *66*(4), 742–752. http://doi.org/10.1037/0022-3514.66.4.742

Tabachnick, S. E., Miller, R. B., & Relyea, G. E. (2008). The relationships among students' future-oriented goals and subgoals, perceived task instrumentality, and task-oriented self-regulation strategies in an academic environment. *Journal of Educational Psychology*, *100*(3), 629–642. http://doi.org/10.1037/0022-0663.100.3.629

Tamir, M. (2009). What do people want to feel and why? *Current Directions in Psychological Science*, *18*(2), 101–106.

Thiruchselvam, R., Blechert, J., Sheppes, G., Rydstrom, A., & Gross, J. J. (2011). The temporal dynamics of emotion regulation: An EEG study of distraction and reappraisal. *Biological Psychology*, *87*(1), 84–92. http://doi.org/10.1016/j.biopsycho.2011.02.009

van Beek, J., Antonides, G., & Handgraaf, M. J. J. (2013). Eat now, exercise later: The

relation between consideration of immediate and future consequences and healthy behavior. *Personality and Individual Differences*, *54*(6), 785–791. http://doi.org/10.1016/j.paid.2012.12.015

Zhang, J. W., Howell, R. T., & Stolarski, M. (2013). Comparing three methods to measure a balanced time perspective: The relationship between a balanced time perspective and subjective well-being. *Journal of Happiness Studies*, *14*(1), 169–184. http://doi.org/10.1007/s10902-012-9322-x

Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology*, *77*(6), 1271–1288. http://doi.org/10.1037//0022-3514.77.6.1271

Table 1. Descriptive statistics for consideration of future consequences, regulation of negative and positive emotions, and measures of well-being.

	M	*SD*
Future thinking		
CFCS	42.00	6.72
CFCS-Feelings	40.96	7.52
ZTPI-F	3.55	0.60
Regulation of negative emotions	5.79	8.01
Focus change	14.07	5.89
Stuck negative	7.87	5.31
Regulation of positive emotions	8.05	7.02
Savouring	13.00	5.46
Dampening	3.00	3.86
Well-being		
Life satisfaction	22.09	6.10
Vitality	3.85	1.20
Positive affect	4.83	1.02
Negative affect	3.41	1.08
Carefreeness	3.64	0.95
Elevated	3.86	0.89
Self-connected	5.04	1.02
Self-esteem	4.00	1.53
Meaning	5.01	1.18
DASS Mean	3.30	1.91

Note. CFCS = Consideration of Future Consequences Scale; ZTPI-F = Zimbardo Time Perspective Inventory Future subscale. Focus change = adaptive strategies for regulation of negative emotions (positive reappraisal, attention reorientation, emotion expression, situation modification); stuck negative = maladaptive strategies for regulation of negative emotions (rumination, acting out, substance abuse, learned helplessness); savouring = adaptive strategies for regulation of positive emotions (behavioural display, savouring the moment, capitalizing, positive mental time travel);

dampening = maladaptive strategies for regulation of positive emotion (inhibition of emotion expression, fault finding, inattention, negative mental time travel). DASS = Depression Anxiety Stress Scales.

Table 2. Factor loading for well-being items

	Factor 1	Factor 2
Carefreeness	**.781**	-.083
Negative affect	**-.729**	.080
Positive affect	**.586**	.285
Vitality	**.472**	**.440**
Self-esteem	**.405**	.212
Life satisfaction	**.404**	**.334**
Elevated	-.080	**.816**
Meaning	.025	**.688**
Self-connected	.053	**.481**

Note. Factor loadings > .3 appear in bold.

Table 3. Pearson's correlations between future focus and regulation of positive and negative emotions, well-being, and DASS.

	Future focus factor score	Hedonic	Eudaimonic	DASS
Regulation of negative emotions	.31**	.34**	.27**	-.32**
Regulation of positive emotions	.10	.27**	.35**	-.22**
Well-being				
Hedonic factor score	-.21**			
Eudaimonic factor score	.37**			
DASS-Mean	-.05			

Note. * $p < .05$ (one-tailed) ** $p < .01$ (one-tailed). Focus change = adaptive strategies for regulation of negative emotions (positive reappraisal, attention reorientation, emotion expression, situation modification); stuck negative = maladaptive strategies for regulation of negative emotions (rumination, acting out, substance abuse, learned helplessness); savouring = adaptive strategies for regulation of positive emotions (behavioural display, savouring the moment, capitalizing, positive mental time travel); dampening = maladaptive strategies for regulation of positive emotion (inhibition of emotion expression, fault finding, inattention, negative mental time travel); DASS = Depression Anxiety Stress Scales.

Table 4. Pearson's correlations among regulation of positive and negative emotions, well-being, and DASS.

	Hedonic factor score	Eudaimonic factor score	DASS
Regulation of negative emotions	.34**	.27**	-.32**
Regulation of positive emotions	.27**	.35**	-.22**

Note. * $p < .05$ (one-tailed) ** $p < .01$ (one-tailed). DASS = Depression Anxiety Stress Scales.

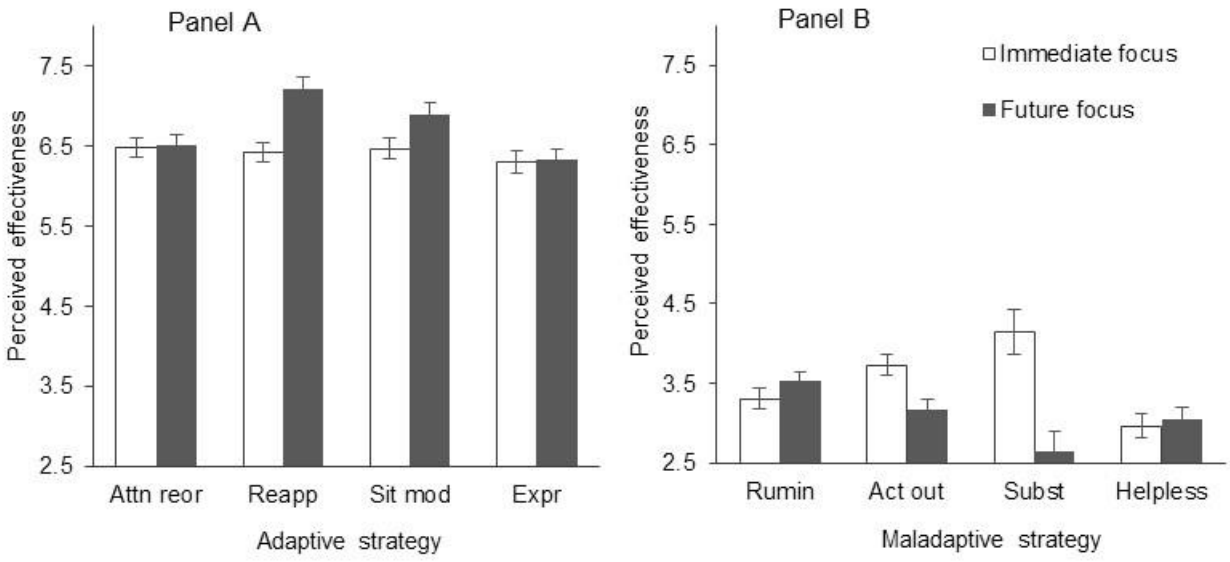

Figure 1. Perceived effectiveness ratings (1 = much worse, 5 = no change, 9 = much better) for adaptive (Panel A) and maladaptive (Panel B) strategies, by immediate and future focus. Attn Reor = attention reorientation; Reapp = reappraisal; Sit mod = situation modification; Expr = emotion expression; Rumin = rumination; Act out = acting out; Subst = substance use; Helpless = learned helplessness.