



Emotions and the big picture: The effects of construal level on emotional preferences

Anna Schwartz^{a,*}, Tal Eyal^b, Maya Tamir^a

^a The Hebrew University of Jerusalem, Israel

^b Ben-Gurion University of the Negev, Israel



ARTICLE INFO

Keywords:

Emotion regulation
Self-regulation
Motivation
Construal level

ABSTRACT

Emotions can offer instrumental benefits, but people do not always take advantage of them. In this paper, we identify one factor that might propel people to seek emotions that have instrumental value – namely, the level at which a situation is construed. According to construal level theory, construing a situation in high-level terms increases preferences reflecting self-control (i.e., preferences for delayed over immediate outcomes). Therefore, we hypothesized that activating a high-level construal would motivate people to experience emotions that are perceived as instrumental for achieving their goals in the long-run, even if they may be aversive in the short-run. In three studies, inducing a high (vs. low) level mindset increased participants' preferences for useful, albeit unpleasant, emotions. Participants in a high (vs. low) level mindset expressed a stronger preference for anger when they were asked to imagine a hypothetical scenario in which anger was presented as more useful for goal pursuit (Studies 1–2) and when they played an economic game in which anger was potentially useful (Study 3). We discuss the theoretical and practical implications of our findings.

Handling editor: Ursula Hess

Emotions can help us to achieve our goals. In fact, both pleasant and unpleasant emotions can be useful. For instance, while love helps to build and strengthen social bonds and recruit social support (Fredrickson, 1998), anger can help us get a better deal when bargaining (Sinaceur & Tiedens, 2006). According to the instrumental account of emotion regulation (e.g., Tamir, 2009a), people may be motivated to experience emotions in order to gain their instrumental benefits, even when these emotions are unpleasant to experience. In such cases, people need to pay a hedonic price in order to achieve their goal, and they are willing to do so when these emotions are expected to yield future benefits that they consider more valuable than the short-term benefit of experiencing pleasant emotions (Tamir & Bigman, 2014). Instrumental emotion regulation has been linked to positive outcomes, such as higher emotional intelligence (Ford & Tamir, 2012), greater well-being (Tamir & Ford, 2012a), and better psychological health (Kim, Ford, Mauss, & Tamir, 2014; Tamir & Ford, 2012a). However, people differ in the extent to which they want to experience useful emotions, especially when they are unpleasant to experience. In the current investigation, we propose that such differences may derive, in part, from different modes of thinking. In particular, we hypothesized that the extent to which people are motivated to experience instrumental emotions may depend on the level at which they construe

the situation.

According to construal level theory (CLT; Trope & Liberman, 2010), people can construe situations in either high or low-level terms, which in turn leads them to make decisions that reflect a preference to either long or short-term benefits, respectively. We suggest that construing a situation at a higher-level may motivate people to experience emotions that may promote long-term benefits, even if they come at an immediate hedonic price. We tested whether construal level might influence emotion regulation, by shaping what people want to feel.

1. Regulating emotions in the service of goals

When people regulate their emotions, they employ strategies that change current emotions into desired emotions (see Gross, 2015). According to the instrumental approach to emotion regulation (Tamir, 2009a, 2016), people are motivated to experience emotions to attain hedonic or instrumental benefits. People may desire positive emotions for either hedonic benefits, instrumental benefits, or both. When long-term benefits outweigh short-term hedonic costs, people might be willing to experience useful emotions, even if they are unpleasant, when they believe that experiencing these emotions might lead to desired outcomes (e.g., Tamir & Ford, 2009; Tamir & Ford, 2012b). For example, participants who needed to behave aggressively wanted to

* Corresponding author.

E-mail address: anna.schwartz@mail.huji.ac.il (A. Schwartz).

increase their anger, and increasing their anger, in turn, resulted in better performance and more effective goal pursuit (Tamir, Mitchell, & Gross, 2008).

Instrumental emotion regulation is largely adaptive. Engaging in this form of regulation may help shape behavior and cognition in a manner that promotes goal pursuit (e.g., Tamir et al., 2008; Tamir & Ford, 2009). By promoting more efficient goal pursuit, instrumental emotion regulation may promote greater psychological well-being. Indeed, people who seek instrumental emotions seem to have better mental health (Kim et al., 2014), have better social relationships, and experience greater well-being (Tamir & Ford, 2012a). Yet, people do not often seek to experience negative emotions that are instrumental.

Whereas some people flexibly shift their emotional preferences according to instrumental demands, others do not (e.g., Ford & Tamir, 2012; Kim et al., 2014; Tamir & Ford, 2012b). For instance, Kim et al. (2014) found in a daily diary study that people with less depressive symptoms wanted to feel happier the more that they needed to collaborate with others, presumably because happiness can promote collaborations with others. In contrast, people with more depressive symptoms did not vary in their preferences for happiness. It is important, therefore, to understand what leads people to consider the instrumental nature of emotions as they determine what they want to feel.

To date, research on instrumental emotion regulation has focused mainly on objective situational demands (i.e., what type of behavior is required to achieve the best outcome). Such research has shown that the more a particular goal is temporarily salient, the more likely people are to seek out emotions that are instrumental for attaining that goal (e.g., Tamir et al., 2008). However, could it be that the likelihood of considering the instrumental nature of emotions might depend on people's mindset rather than objective situational demands? In this investigation, we propose that the way people construe the situation influences the extent to which instrumental considerations influence their emotional preferences.

2. Emotion regulation and construal levels

According to CLT, the same event or object can be represented at multiple levels of abstractness (Trope & Liberman, 2003). Whereas a high-level construal refers to the representation of stimuli in an abstract and coherent manner, a low-level construal refers to the representation of stimuli in a concrete, detailed, and context-based manner. Therefore, a high-level construal captures the superordinate, central features of an object or event, while a low-level construal captures subordinate, incidental features (Trope & Liberman, 2010). For example, consider the action of riding a bike. When considering *why* one should ride a bike (e.g., to get from one point to another), we address the more general and abstract aspects of the action (i.e., construe the action in high-level terms). However, when considering *how* one should ride a bike (e.g., by moving one's feet on the pedals), we address the more specific and concrete aspects of the action (i.e., construe the action in low-level terms).

The level at which people construe a situation influences self-regulation. In particular, self-control requires high levels of construal (Fujita & Carnevale, 2012; Fujita & Han, 2009; Fujita, Trope, Liberman, & Levin-Sagi, 2006). This is because self-regulation involves the pursuit of a higher-order goal and overcoming immediate costs or temptations. Construing a situation at a higher level, therefore, can result in more successful self-control. For example, Fujita et al. (2006) found that participants who were primed to construe actions at a high (vs. low) level displayed greater physical endurance (on a handgrip task) and were less likely to prefer immediate over delayed outcomes. High-level construal may even increase the likelihood of using prospective self-control strategies, such as self-imposed punishments (Fujita & Roberts, 2010). It seems that high-level construals may also alter implicit attitudes toward temptations, making them less positive (Fujita & Han,

2009). In sum, leading people to adopt higher levels of construal may enhance their appreciation for the broader, goal-relevant implications of their choices, thus potentially facilitating greater self-control. In contrast, leading people to adopt lower levels of construal may direct people's attention to the salient, secondary, incidental features of their choices, which might lead them to succumb to temptation (Fujita & Carnevale, 2012).

Given that emotion regulation involves self-regulation, construal level should also influence emotion regulation. Indeed, if a higher level of construal leads people to pay more attention to long-term outcomes and devalue immediate costs, people should be more likely to consider the instrumental aspects of emotions when adopting a higher level of construal. Accordingly, we hypothesized that the degree to which an emotion is instrumental should impact the motivation to experience it under high, but not low, levels of construal. This should be the case even when the emotion is unpleasant to experience, and, therefore, offers no hedonic benefits. People who adopt a high-level construal should be more motivated to experience an instrumental than a non-instrumental emotion. In contrast, the instrumentality of emotions should matter less for people who adopt a low-level construal, because low-level construal highlights immediate benefits rather than long-term goals.

3. The current investigation

Although we assume that construal levels can influence preferences for any emotion, building on existing work on instrumental emotion regulation, we focused our empirical studies on preferences for anger. Similar to other studies on instrumental emotion regulation (for a review, see Tamir, 2016), participants imagined (Studies 1–2) or participated (Study 3) in situations involving a higher-order goal in which anger was more (or less) useful, and we assessed how people wanted to feel in that context. At the beginning of the studies, we manipulated construal-level mindset, using a validated procedure (Freitas, Gollwitzer, & Trope, 2004). As previously mentioned, we chose to manipulate instrumentality of anger in all three studies. Because anger can increase confidence and aggression, it can be instrumental in contexts that require social confrontation (e.g., Tamir et al., 2008; Tamir & Ford, 2012b). In addition, because anger is an unpleasant emotion, people are likely to be motivated to experience it for instrumental, but not hedonic, reasons. We predicted that people who were led to adopt a high level of construal (but not those who adopted a low level of construal) would be more motivated to experience anger when it is instrumental than when it is not.

4. Study 1

In Study 1, we manipulated the instrumentality of anger, by using a hypothetical scenario that presents participants either with a goal that anger is likely to promote (i.e., confrontation) or with a goal that anger is unlikely to promote (i.e., collaboration). We adopted the manipulation used in Tamir and Ford (2012a, 2012b), where participants play the role of tenants, who need to speak with their landlord about a broken refrigerator. Participants who were randomly assigned to the high instrumentality condition were given information implying that they may need to confront their landlord. Participants who were randomly assigned to the low instrumentality condition were given information implying that they may need to cooperate with their landlord.

We predicted that participants in the high-level construal condition would be more motivated to experience anger when it is expected to be useful (i.e., when they need to confront) than when it is not. We did not expect the instrumentality of anger to influence participants in the low-level construal condition, since instrumental motives should be less salient to them. To establish the validity and specificity of our effects, in

addition to measuring preferences for anger, we also measured preferences for cheerfulness and sadness. Given that cheerfulness promotes collaboration, but not confrontation (e.g., Yip & Martin, 2006), we expected to find the opposite pattern of preferences for anger than for cheerfulness. Given that sadness is related to neither confrontation nor collaboration, we did not expect our manipulations to influence preferences for sadness.

4.1. Method

4.1.1. Participants

One hundred and two undergraduate students (58% females; $M_{\text{age}} = 25.02$) participated in return for course credit, 5 NIS, or on a voluntary basis.¹ In all three studies, we determined the sample size by a power analysis based on effect sizes obtained in related studies (Fujita et al., 2006) to obtain a statistical power of 0.90 ($N = 99$; Cohen, 1988). We oversampled in order to safeguard against any necessary exclusions of participants.

4.1.2. Procedure

Participants completed the study online. After providing demographic information, participants were randomly assigned to one of the construal level conditions and completed the manipulation. Participants were then presented with a role-playing task, following Tamir and Ford (2012a, 2012b). Participants were asked to play the role of a tenant whose refrigerator had been broken for over a week and their landlord has been avoiding them. Now, they are getting ready to speak with their landlord about fixing the fridge. Participants were then randomly assigned to one of two anger instrumentality conditions. Participants in the high anger instrumentality condition were presented with a more confrontational goal: They were told that the lease is about to end and they have no plans to renew it. Participants in the low anger instrumentality condition were presented with a more collaborative goal: They were told they needed to renew the lease with the landlord. Participants completed the emotional preferences measure, and rated both their current emotions and the goals they wanted to achieve during the interaction with their landlord.

4.2. Materials

4.2.1. Construal level manipulation

Participants completed the construal level priming manipulation, which was developed by Freitas et al. (2004). Participants in the high-construal level condition were asked to consider a goal (e.g., find and maintain a healthy relationship), explain *why* they wish to pursue it by identifying a higher order goal, then explain why they pursue that higher order goal by presenting an even higher order goal, etc. In total, participants were requested to list four higher-order goals in ascending order. Participants in the low-construal level condition were presented with the same goal, but asked to explain *how* they wish to pursue it by identifying a lower order means, then explain how they pursue that lower order means, etc. In total, participants were requested to list four lower-order means in descending order. Participants in both conditions repeated this action three times, addressing three different goals (i.e., to find and maintain a healthy relationship, to achieve and maintain a healthy lifestyle, and to achieve an independent career).

4.2.2. Emotional preferences

Participants rated on a 1 (not at all) to 7 (extremely) scale how much they wanted to experience *anger*, *irritation*, *cheerfulness*, and

sadness as they prepare for the interaction with their landlord. These items were interspersed with other filler items (e.g., *frustration*, *peaceful*, and *fear*). To assess preferences for anger, we averaged across *anger* and *irritation* ($\alpha = 0.76$).

4.2.3. Concurrent emotions

Participants rated on a 1 (not at all) to 7 (extremely) scale how *angry*, *cheerful*, and *sad* they felt. These items were interspersed with other filler items (e.g., *frustration*, *peacefulness*, and *fear*).

4.2.4. Goals

Participants were presented with three different goals that could be achieved during the interaction with their landlord: fixing the fridge, maintaining a good relationship with their landlord, and ending the lease. Participants were asked to select all (or none of) the goals they should pursue in this situation. They could also indicate that they did not know what the goal was or describe a goal that was not listed.

4.3. Results

4.3.1. Manipulation checks

4.3.1.1. Construal level. To check the construal level manipulation, we adopted the procedure recommended by Fujita et al. (2006). Two objective judges assessed each participant's level of construal based on the abstractness of their responses. If a response described a higher order goal (e.g., maintain a healthy lifestyle in order to be happy), judges coded the response as 1. If a response described a lower-order means (e.g., maintain a healthy lifestyle by going to the gym), judges coded the response as -1 . If a participant's response described neither a higher-order goal nor a lower-order means, judges coded the response as 0. Ratings of each participant's four responses were summed to create an index of construal level. Scores could range from 4 to -4 , with higher scores indicating higher levels of construal. We averaged the responses of both judges for each goal ($\alpha = 0.994, 0.978$, and 0.957 for health, relationship, and career, respectively) and averaged across them ($\alpha = 0.992$). As expected, the responses of participants in the high construal level condition reflected higher levels of construal ($M = 3.73$, $SD = 0.407$) than those of participants in the low construal level ($M = -3.75$, $SD = 0.44$), $t(100) = 88.37$, $p < .0001$, $d = 17.362$, 95% CI [14.994, 19.905].

4.3.1.2. Goals. A logistic regression confirmed that all participants endorsed the overarching goal of fixing the fridge. On average, 90% of participants endorsed this goal, and this did not differ by construal level condition, $B = -0.757$, $SE = 0.650$, $\chi^2 = 1.357$, $p = .244$, 95% CI [0.131, 1.676], $\text{Exp}(B) = 0.469$, nor by anger instrumentality condition, $B = -0.415$, $SE = 0.627$, $\chi^2 = 0.438$, $p = .508$, 95% CI [0.193, 2.258], $\text{Exp}(B) = 0.660$. As we expected, participants differed in the extent to which they wanted to maintain a good relationship with the landlord, as a function of anger instrumentality, $B = -1.235$, $SE = 0.419$, $\chi^2 = 8.672$, $p = .003$, 95% CI [0.128, 0.662], $\text{Exp}(B) = 0.291$. Whereas only 41% of participants in the high anger instrumentality condition endorsed this goal, 70% of participants in the low anger instrumentality condition endorsed it. Participants did not differ in the extent to which they wanted to maintain a good relationship with their landlord as a function of construal level, $B = -0.062$, $SE = 0.418$, $\chi^2 = 0.022$, $p = .883$, 95% CI [0.414, 2.134], $\text{Exp}(B) = 0.940$. As expected, participants in the high and low-level construal conditions endorsed this goal to the same degree (55% and 56%, respectively).

4.3.2. Hypotheses testing

To test whether construal level interacted with anger instrumentality to predict emotional preferences, we ran a repeated measures ANOVA, with Construal Level (high, low) and Anger Instrumentality (high, low) as between-subjects factors and Emotion

¹ Six additional participants were excluded from the analyses. Three participants failed to answer a comprehension question correctly, one participant failed to complete the manipulation check, and two participants reported being landlords, which rendered the manipulation potentially ineffective.

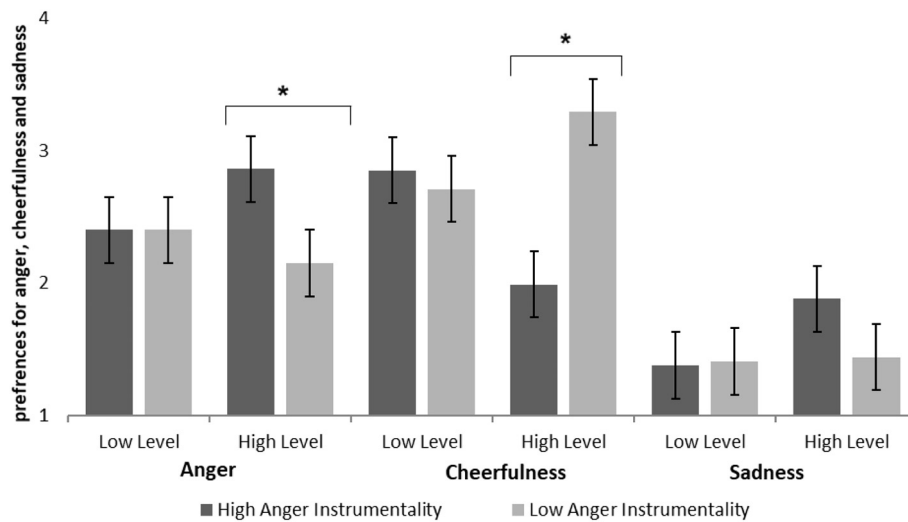


Fig. 1. Preferences for anger, cheerfulness and sadness as a function of construal level and anger instrumentality (Study 1). Error bars reflect ± 1 standard errors of the mean.

(anger, cheerfulness, and sadness) as a within-subjects factor.² As predicted, we found a significant Construal Level \times Anger Instrumentality \times Emotion interaction, $F(2, 196) = 5.39$, $p = .005$, $\eta^2 = 0.052$, 95% CI [0.005, 0.117]. As shown in Fig. 1, participants in the high-level construal condition reported a stronger preference for anger in the high anger instrumentality condition ($M = 2.88$, $SD = 0.25$) than did those in the low anger instrumentality condition ($M = 2.13$, $SD = 0.24$) condition, $F(1, 98) = 4.497$, $p = .036$, $\eta^2 = 0.044$, 95% CI [0.00, 0.143]. In contrast, participants in the low-level construal condition did not report stronger preferences for anger in the high anger instrumentality condition ($M = 2.42$, $SD = 0.25$), compared to those in the low anger instrumentality condition ($M = 2.39$, $SD = 0.26$), $F(1, 98) = 0.006$, $p = .940$, $\eta^2 = 0.000$, 95% CI [0.000, 0.017].

As shown in Fig. 1, participants in the high-level construal condition also reported a stronger preference for cheerfulness in the low anger instrumentality ($M = 3.29$, $SD = 0.28$) than in the high anger instrumentality ($M = 2.00$, $SD = 0.30$) conditions, $F(1, 98) = 9.807$, $p = .002$, $\eta^2 = 0.091$, 95% CI [0.012, 0.208]. Participants in the low level construal condition, however, did not report stronger preferences for cheerfulness in the low anger instrumentality condition ($M = 2.70$, $SD = 0.30$) compared to the high anger instrumentality condition ($M = 2.84$, $SD = 0.29$), $F(1, 98) = 0.107$, $p = .745$, $\eta^2 = 0.001$, 95% CI [0.00, 0.405]. As expected, participants' preferences for sadness did not differ by condition, so that participants in the high level construal condition wanted to feel as sad in the high anger instrumentality condition ($M = 1.88$, $SD = 0.20$) as did those in the low anger instrumentality condition ($M = 1.44$, $SD = 0.19$), $F(1, 98) = 2.463$, $p = .122$, $\eta^2 = 0.024$, 95% CI [0.00, 0.111]. Similarly, participants in the low level construal condition in the high anger instrumentality condition wanted to feel as sad ($M = 1.38$, $SD = 0.20$) as did those in the low level anger instrumentality condition ($M = 1.41$, $SD = 0.20$), $F(1, 98) = 0.013$, $p = .911$, $\eta^2 = 0.000$, 95% CI [0.00, 0.025].

This interaction qualified a significant Emotion \times Anger Instrumentality interaction, $F(2, 196) = 4.091$, $p = .018$, $\eta^2 = 0.040$, 95% CI [0.00, 0.099], such that participants in the low anger instrumentality condition wanted to feel more cheerful ($M = 3.00$, $SD = 0.20$) than did those in the high anger instrumentality condition

($M = 2.42$, $SD = 0.20$), $F(1, 98) = 3.839$, $p = .05$, $\eta^2 = 0.038$, 95% CI [0.00, 0.133]. Participants in the high anger instrumentality condition wanted to feel angrier ($M = 2.65$, $SD = 0.17$) than did participants in the low anger instrumentality condition ($M = 2.26$, $SD = 0.17$), although the difference between conditions was not significant, $F(1, 98) = 2.367$, $p = .127$, $\eta^2 = 0.024$, 95% CI [0.00, 0.109]. As expected, participants' preferences for sadness did not differ by anger instrumentality condition, so that participants reported wanting to feel as sad in the high anger instrumentality condition ($M = 1.63$, $SD = 0.14$) as did those in the low anger instrumentality condition ($M = 1.43$, $SD = 0.14$), $F(1, 98) = 1.022$, $p = .314$, $\eta^2 = 0.010$, 95% CI [0.00, 0.081]. As expected, the Emotion \times Construal Level interaction was not significant, $F(2, 196) = 0.596$, $p = .552$, $\eta^2 = 0.006$, 95% CI [0.00, 0.036]. As might be expected, we found a significant main effect for emotion, $F(2, 196) = 23.970$, $p < .0001$, $\eta^2 = 0.197$, 95% CI [0.101, 0.286], such that on average, participants reported stronger preferences for cheerfulness ($M = 2.71$, $SD = 0.14$) than for anger ($M = 2.45$, $SD = 0.126$) or sadness ($M = 1.53$, $SD = 0.10$).

4.4. Discussion

In Study 1, we found that the level of construal people adopted determined the extent to which instrumental considerations influenced their reported emotional preferences. Participants in a high-level construal mindset reported stronger preferences for anger when they imagined a scenario in which anger was instrumental than when it was not. Similarly, participants in a high-level construal mindset reported stronger preferences for cheerfulness when they imagined a situation in which anger was not instrumental than when it was. As for participants in a low-level construal mindset, their preferences for anger and cheerfulness were not influenced by considerations of instrumentality.

5. Study 2

Study 1 provided initial evidence for our hypothesis. However, to manipulate the instrumentality of anger in Study 1, we also manipulated the higher-order goal people pursued. To eliminate this confound, in Study 2, we held the higher-order goal constant and directly manipulated the perceived instrumentality of anger. We told participants to imagine they are about to talk to their professor after receiving a low grade on their exam. All participants were told that their goal was to receive a higher grade. Participants in the high anger instrumentality condition were told the professor would be more likely to listen to them

² Results remained consistent when we repeated the analysis with concurrent anger, cheerfulness, or sadness as covariates. We did so to make sure results did not simply reflect state-congruent preferences, driven by differences in current emotional experiences.

if they are angry. Participants in the low anger instrumentality condition were told the professor would be less likely to listen to them if they are angry.

When communicating with a person over a disagreement, as in the present scenario, anger typically involves focusing on one's personal interests, even at the cost of someone else's interests. In contrast, empathy reflects an openness to see the other person's perspective (e.g., Eisenberg, Fabes, & Spinrad, 2006). Given that anger and empathy are likely to lead to opposite outcomes in the present context, in Study 2, we assessed preferences for anger, empathy and sadness, in order to validate and establish the specificity of our effects.

As in Study 1, we expected to find an interaction between construal level and anger instrumentality. We predicted that the instrumentality of anger would influence participants' preferences for emotions in the high (but not the low) construal level condition. Participants would be more motivated to experience anger and less motivated to experience empathy when the instrumentality of anger is high (vs. low). We did not expect our manipulations to influence preferences for sadness, which we expected to be largely irrelevant to goal-pursuit.

Finally, in Study 1, participants could choose more than one higher-order goal that they wanted to pursue in the interaction. In Study 2, to ensure that all participants endorse the same higher-order goal, participants could indicate only one higher-order goal that they felt was the most important to pursue.

5.1. Method

5.1.1. Participants

One hundred and twenty-six undergraduate students (70% females; $M_{\text{age}} = 23.99$) participated in return for either course credit or 10 NIS.³

5.1.2. Procedure

Participants completed the study online. Participants were randomly assigned to one of the construal level conditions and completed the manipulation. Participants were then presented with a role-playing task. They were told that they received a low grade in a course that would heavily influence their final grade point average. Now, they are getting ready to talk to the professor who assigned them the grade, with the goal of convincing him/her to change their grade for the better. Participants were randomly assigned to an anger instrumentality condition. Participants in the high instrumentality anger condition were told that the professor had previously given students a better grade if they got angry while discussing their grade. Participants in the low instrumentality anger condition were told that the professor had previously given students an even lower grade if they got angry while discussing their grade. Participants completed the emotional preferences scale, rated their concurrent emotion, the goals they wanted to achieve during the interaction with the professor, and the expected usefulness of emotions. Finally, they provided demographic information.

5.2. Materials

5.2.1. Construal level manipulation

We used the same manipulation as in Study 1.

5.2.2. Emotional preferences

Participants rated on a 1 (not at all) to 7 (extremely) scale how much they wanted to experience *anger*, *irritation*, *empathy*, and *sadness* as they prepare for the interaction with the professor. These items were interspersed with other filler items (e.g., *calmness*, *fear*). To assess

preferences for anger, we averaged across ratings of *anger* and *irritation* ($\alpha = 0.77$).

5.2.3. Concurrent emotions

We used the same measure as in Study 1.

5.2.4. Goals

Participants were presented with three different goals that could be achieved during the interaction with the professor: avoiding unpleasantness, expressing discontent, and getting a better grade. Participants were asked to select only one goal they felt was the most important to them. They could also indicate that they did not know what the goal was or describe a goal that was not listed.

5.2.5. The perceived usefulness of emotions

Participants rated on a scale of 1 (not at all) to 5 (very much) how much they expected *anger*, *empathy*, and *sadness* to be useful in the interaction with the professor. These items were interspersed with other filler items (e.g., *excitement*, *frustration*).

5.3. Results

5.3.1. Manipulation checks

5.3.1.1. Construal level. We averaged the responses of both judges for each goal ($\alpha = 1.0$, 0.998, and 0.992 for health, relationship, and career, respectively) and averaged across them ($\alpha = 0.99$). As expected, the responses of participants in the high construal level condition reflected higher levels of construal ($M = 3.94$, $SD = 0.15$) than those of participants in the low construal level ($M = -3.94$, $SD = 0.18$) condition, $t(124) = -255.181$, $p < .001$, $d = 47.620$, 95% CI [41.841, 53.787].

5.3.1.2. Goals. A logistic regression confirmed that participants endorsed the overarching goal of improving their grade as their primary goal. On average, 91% of participants endorsed this goal, and this did not differ by construal level, $B = 1.237$, $SE = 0.703$, $\chi^2 = 3.094$, $p = .079$, 95% CI [0.868, 13.672], $\text{Exp}(B) = 3.445$, or by anger instrumentality, $B = 0.316$, $SE = 0.643$, $\chi^2 = 0.242$, $p = .622$, 95% CI [0.389, 4.834], $\text{Exp}(B) = 1.372$.⁴

5.3.1.3. Perceived usefulness of emotions. We conducted a series of ANOVAs, with construal level and anger instrumentality as independent variables and participant's perceived usefulness of emotions as a dependent variable. When examining the perceived instrumentality of anger, we found a main effect for anger instrumentality, $F(1, 122) = 14.2$, $p < .001$, $\eta^2 = 0.104$, 95% CI [0.023, 0.212], such that participants in the high anger instrumentality condition perceived anger as more useful ($M = 2.39$, $SD = 0.14$) than those in the low anger instrumentality condition ($M = 1.61$, $SD = 0.15$). As expected, participants in the high level construal condition did not perceive anger as more useful ($M = 2.089$, $SD = 0.15$) than did those in the low level construal condition ($M = 1.92$, $SD = 0.14$), $F(1, 122) = 0.638$, $p = .426$, $\eta^2 = 0.005$, 95% CI [0.00, 0.057]. Also, the Anger Instrumentality \times Construal Level interaction was not significant, $F(1, 122) = 0.030$, $p = .862$, $\eta^2 = 0.000$, 95% CI [0.00, 0.026]. When examining the perceived instrumentality of empathy, we found a main effect for anger instrumentality, $F(1, 122) = 12.59$, $p = .001$, $\eta^2 = 0.094$, 95% CI [0.018, 0.199], that participants in the high anger instrumentality

³ In addition, 17 participants were excluded for the following reasons: 16 participants were excluded because Hebrew was not their native language, and one other participant had already participated in Study 1.

⁴ We also conducted a memory test with both an open- and closed-ended question. In the open-ended question, we asked participants what was the reason they needed to meet their professor. All participants answered correctly. In the closed-ended question, we asked participants what happened to students who approached their professor angrily, 125 out of 126 participants answered correctly. Thus, participants correctly understood the situation's description.

condition perceived empathy as less useful ($M = 2.43$, $SD = 0.14$) than participants in the low anger instrumentality condition ($M = 3.18$, $SD = 0.15$). Participants in the high level construal condition did not perceive empathy as more useful ($M = 2.707$, $SD = 0.15$) than did those in the low level construal condition ($M = 2.91$, $SD = 0.14$), $F(1, 122) = 1.000$, $p = .319$, $\eta^2 = 0.008$, 95% CI [0.00, 0.066]. Also, the Anger Instrumentality \times Construal Level interaction was not significant, $F(1, 122) = 1.565$, $p = .213$, $\eta^2 = 0.013$, 95% CI [0.00, 0.076]. As expected, when examining the perceived instrumentality of sadness, we did not find any significant differences between anger instrumentality conditions, $F(1, 122) = 0.062$, $p = .804$, $\eta^2 = 0.001$, 95% CI [0.00, 0.032], construal level conditions, $F(1, 122) = 0.432$, $p = .512$, $\eta^2 = 0.004$, 95% CI [0.00, 0.052], or the interaction between the two, $F(1, 122) = 3.025$, $p = .085$, $\eta^2 = 0.024$, 95% CI [0.00, 0.099].

5.3.2. Hypotheses testing

To test whether construal level interacted with anger instrumentality to predict emotional preferences, we ran a repeated measures ANOVA, with Construal Level (high, low) and Anger Instrumentality (high, low) as between-subjects factors and Emotion (anger, empathy, and sadness) as a within-subject factor.⁵ As predicted, we found a significant Construal Level \times Anger Instrumentality \times Emotion interaction, $F(2, 244) = 3.14$, $p = .045$, $\eta^2 = 0.025$, 95% CI [0.00, 0.070]. As shown in Fig. 2, participants who were led to adopt a high-level construal reported stronger preferences for anger, when anger was potentially instrumental ($M = 3.11$, $SD = 0.24$) than when it was potentially harmful ($M = 1.84$, $SD = 0.25$), $F(1, 122) = 12.697$, $p = .001$, $\eta^2 = 0.094$, 95% CI [0.018, 0.199]. In contrast, participants in the low-level construal condition did not report stronger preferences for anger in the high anger instrumentality condition ($M = 2.78$, $SD = 0.22$), compared to those in the low anger instrumentality condition ($M = 2.22$, $SD = 0.24$), $F(1, 122) = 2.82$, $p = .096$, $\eta^2 = 0.023$, 95% CI [0.00, 0.968].

Also, as shown in Fig. 2, participants who were led to adopt a high-level construal mindset reported stronger preferences for empathy when anger was potentially harmful ($M = 4.14$, $SD = 0.31$) than when it was potentially instrumental ($M = 2.73$, $SD = 0.29$), $F(1, 122) = 10.670$, $p = .001$, $\eta^2 = 0.080$, 95% CI [0.012, 0.182]. Participants in the low level construal condition, however, did not report stronger preferences for empathy in the low anger instrumentality condition ($M = 3.67$, $SD = 0.29$) compared to the high anger instrumentality condition ($M = 3.40$, $SD = 0.27$), $F(1, 122) = 0.463$, $p = .498$, $\eta^2 = 0.004$, 95% CI [0.00, 0.052]. As expected, participants' preferences for sadness did not differ by condition, so that participants in the high level construal condition wanted to feel as sad in the high anger instrumentality condition ($M = 1.90$, $SD = 0.25$) as did those in the low anger instrumentality condition ($M = 2.25$, $SD = 0.26$), $F(1, 122) = 0.918$, $p = .340$, $\eta^2 = 0.007$, 95% CI [0.00, 0.064]. Similarly, participants in the low level construal condition wanted to feel as sad in the high anger instrumentality condition ($M = 2.10$, $SD = 0.22$) as did those in the low level anger instrumentality condition ($M = 2.16$, $SD = 0.25$), $F(1, 122) = 0.025$, $p = .875$, $\eta^2 = 0.000$, 95% CI [0.00, 0.025].

This interaction qualified as a significant Emotion \times Anger Instrumentality interaction, $F(2, 244) = 11.509$, $p < .0001$, $\eta^2 = 0.086$, 95% CI [0.027, 0.154], so that people reported stronger preferences for anger in the high anger instrumentality condition ($M = 2.95$, $SD = 0.16$) than did those in the low anger instrumentality condition ($M = 2.03$, $SD = 0.17$), $F(1, 122) = 14.104$, $p < .001$, $\eta^2 = 0.104$, 95% CI [0.023, 0.211]. People also reported stronger preferences for empathy in the low anger instrumentality ($M = 3.91$,

$SD = 0.21$) than in the high anger instrumentality condition ($M = 3.06$, $SD = 0.20$), $F(1, 122) = 8.171$, $p = .005$, $\eta^2 = 0.063$, 95% CI [0.00, 0.159]. As expected, participants' preferences for sadness did not differ by anger instrumentality condition, so that participants reported wanting to feel as sad in the high anger instrumentality condition ($M = 2.00$, $SD = 0.17$) as did those in the low anger instrumentality condition ($M = 2.20$, $SD = 0.18$), $F(1, 122) = 0.656$, $p = .420$, $\eta^2 = 0.005$, 95% CI [0.00, 0.058]. As expected, the Emotion \times Construal Level interaction was not significant, $F(2, 244) = 0.021$, $p = .979$, $\eta^2 = 0.000$, 95% CI [0.00, 0.065]. As might be expected, we found a significant main effect for Emotion, $F(2, 244) = 29.675$, $p < .0001$, $\eta^2 = 0.196$, 95% CI [0.110, 0.276], such that on average, participants reported stronger preferences for empathy ($M = 3.49$, $SD = 0.14$) than for anger ($M = 2.49$, $SD = 0.12$) or sadness ($M = 2.10$, $SD = 0.12$).

5.4. Discussion

As predicted, participants in Study 2 who adopted a high-level construal mindset reported stronger preferences for anger (and weaker preferences for empathy), when anger was potentially instrumental than when it was potentially harmful. In contrast, the potential instrumentality of anger did not influence the emotional preferences of participants in the low-level construal condition. In Study 2, we were also able to demonstrate that the effect is specific to the perceived instrumentality of anger, by manipulating and measuring it directly.

6. Study 3

Study 3 was designed to address several limitations of Studies 1 and 2. First, although hypothetical scenarios are often used to manipulate contextual determinants of emotional preferences (e.g., Tamir & Ford, 2012a; Tamir & Ford, 2012b), they are not necessarily consistent with responses in non-hypothetical situations. Therefore, it is important to also examine instrumental emotion regulation in real and personally relevant contexts (e.g., Kim et al., 2014; Porat, Halperin, & Tamir, 2016). To test whether the findings of Studies 1 and 2, which included hypothetical contexts, extend to non-hypothetical contexts, we manipulated anger instrumentality in a non-hypothetical context in Study 3. Second, since participants in Study 2 were directly informed that feeling angry might be useful (or harmful), we cannot rule out the potential effects of demand characteristics. To minimize such effects in Study 3, we used a more subtle manipulation of instrumentality. Specifically, participants witnessed rigged behavior of others, who either benefitted or suffered from expressing anger to another.

Participants in Study 3 played an adjusted version of the Dictator game (Guala & Mittone, 2010) with two other players through an online chat program. In effect, the experimenter served as the two other players. First, participants observed a game that the two other players presumably played. In the high instrumentality condition, participants observed Player B get money from Player A after expressing anger. In the low instrumentality condition, participants observed Player B get money from Player A after behaving in a neutral and pleasant manner. After watching the game, participants prepared to play the game themselves against Player B. As a manipulation check, we had objective judges rate the degree to which participants' written responses to player A's offer expressed anger. We expected participants in the high instrumentality condition to express more anger. As in Study 2, we also had participants rate the perceived instrumentality of anger at the end of the study.

As in Studies 1 and 2, we expected to find an interaction between construal level and anger instrumentality. We predicted that the instrumentality of anger would influence participants' preferences for emotions in the high (but not the low) construal condition. Namely, participants would report stronger preferences for anger in the high (vs. low) instrumentality condition. As in Studies 1 and 2, we did not expect

⁵ As in Study 1, results remained consistent when we repeated the analysis with concurrent anger, empathy, or sadness as covariates.

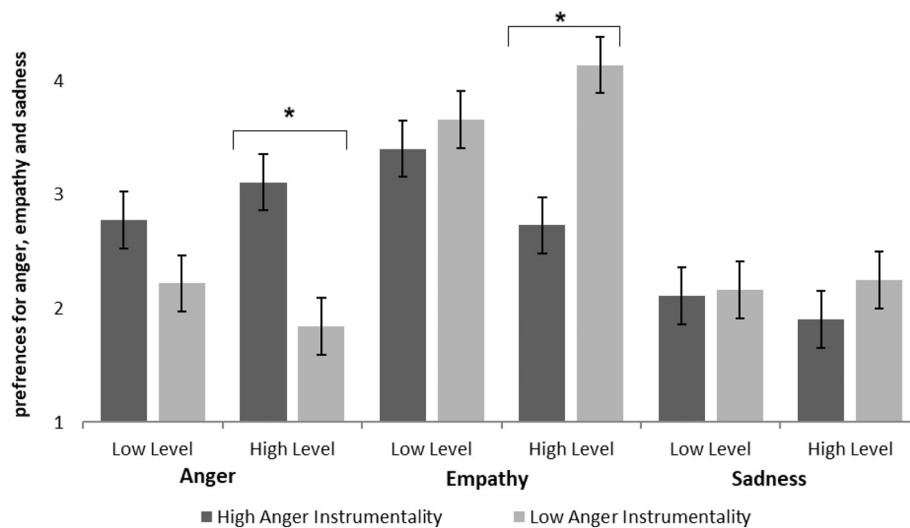


Fig. 2. Preferences for anger, empathy and sadness as a function of construal level and anger instrumentality conditions (Study 2). Error bars reflect ± 1 standard errors of the mean.

our manipulations to influence preferences for sadness, which we expected to be largely irrelevant for goal-pursuit. In Studies 1 and 2, we examined preferences for anger and a pleasant emotion that may be relevant for goal pursuit. Similarly, in Study 3, we assessed preferences for both anger and excitement. We chose excitement because we sought to examine a positive emotion that is similarly high in arousal, but should not necessarily be relevant for goal pursuit. We did not expect preferences for excitement to differ by condition.

6.1. Method

6.1.1. Participants

Eighty-eight undergraduate students (59% females; $M_{\text{age}} = 24.37$) participated in return for either course credit or 20 NIS.⁶

6.1.2. Procedure

Participants completed the study in the lab. They were randomly assigned to one of the construal level conditions and completed the manipulation. Participants were then invited to participate in an economic game, involving several other players through a chat application. They were told that there will be a lottery at the end of the study, and selected participants will actually receive the money that they earn in the game. Participants were told that the other players are participating in the study at the same time. To support the cover story, two participants were scheduled to complete the study at the same time. When they arrived at the lab, they were told: "Today you will complete the experiment together. We are waiting for another person to arrive, so please enter your separate cubicle and we will begin when s/he arrives." Participants then played a version of the Dictator Game through an online chat application.

The game had two rounds. In the first round, participants passively watched Player A, assigned to the dictator role, receive \$15 and distribute \$3 to Player B. Player B could then try to influence the decision of Player A, before the latter made a final decision. In the high instrumentality condition, Player B reacted angrily, and in the low instrumentality condition, Player B reacted positively. In both conditions,

Player A then doubled the amount of money offered to Player B. In the second round, participants were to play against Player A, who was again assigned to the dictator role. The game began with Player A offering \$3 to the participant. The game then paused, and participants were asked to rate their emotional preferences, their motivation in the game and their current emotions before reacting to the offer. Participants then reacted to Player A's offer, and Player A gave the participant \$8. Participants provided demographic information and were debriefed.

6.2. Materials

6.2.1. Construal level manipulation

We used the same manipulation as in Studies 1 and 2.

6.2.2. Emotional preferences

Participants rated on a 1 (not at all) to 7 (extremely) scale how much they wanted to experience *anger*, *irritation*, *sadness*, and *excitement*. These items were interspersed with other filler items (e.g., *fear*). To assess preferences for anger, we averaged ratings across *anger* and *irritation* ($\alpha = 0.75$).

6.2.3. Concurrent emotions

We used the same measure as in Studies 1 and 2.

6.2.4. Goals

Participants were presented with two groups of goals that could be achieved during the game. Three goals captured the importance of succeeding in the game (e.g., "How determined are you to succeed in the game?"; $\alpha = 0.89$), and two goals captured the importance of maintaining a pleasant atmosphere during the game (e.g., "How important is it for you to maintain a pleasant atmosphere during the game?"; $\alpha = 0.66$). Participants were asked to rate on a 1 (not at all) to 7 (extremely) scale how important each goal was for them.

6.2.5. The perceived usefulness of emotions

Participants rated on a scale of 1 (not at all) to 7 (very much) how much they expected *anger*, *sadness*, and *excitement* to be useful during the game. These items were interspersed with other filler items (e.g., *fear*).

⁶ We excluded 25 additional participants from the analyses for the following reasons: 6 participants were disqualified due to technical problems, 4 failed to understand the instructions because they were not native Hebrew speakers, 2 participants were disqualified due to distractors during the study (e.g., bringing a dog to the lab), 11 participants expressed suspicion regarding the manipulation, and 2 participants knew their presumed partner in the study. Results did not change when we repeated the key analyses using all participants in the sample.

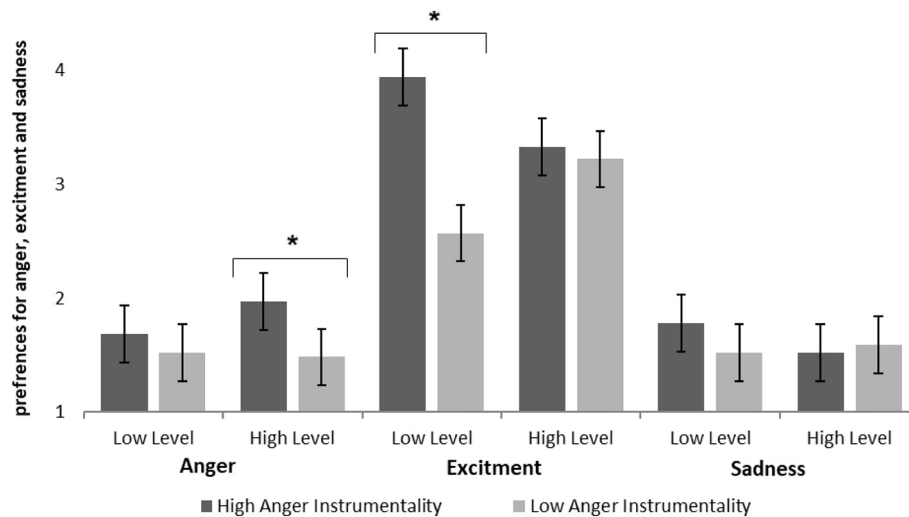


Fig. 3. Preferences for anger, excitement and sadness as a function of construal level and anger instrumentality conditions (Study 3). Error bars reflect ± 1 standard errors of the mean.

6.3. Results

6.3.1. Manipulation checks

6.3.1.1. Construal level. We averaged the responses of both judges for each goal ($\alpha = 0.98, 0.96$, and 0.99 for health, relationship, and career, respectively), and averaged across them ($\alpha = 0.98$). As expected, the responses of participants in the high-level construal condition reflected higher levels of construal ($M = 3.82, SD = 0.23$) than those of participants in the low construal level ($M = -3.61, SD = 0.63$), $t(86) = 74.91, p < .0001, d = 15.005, 95\% CI [12.793, 17.394]$.

6.3.1.2. Goals. We conducted a series of t -tests with anger instrumentality and construal level as an independent variables and goal importance as a dependent variable. When examining the importance of succeeding in the game, we found no effect for anger instrumentality, $t(86) = 1.51, p = .135, d = 0.320, 95\% CI [-0.100, 0.744]$. As expected, participants did not perceive the goal 'succeeding in the game' as more important when anger was instrumental ($M = 4.63, SD = 1.23$) than when it was harmful ($M = 4.27, SD = 1.01$). Contrary to our hypothesis, we did not find a significant difference between participants in the high level ($M = 4.27, SD = 1.16$) and those in the low level ($M = 4.62, SD = 1.06$) construal in the perceived importance of success in the economic game, $t(86) = -1.445, p = .152, d = 0.313, 95\% CI [-0.106, 0.737]$. As expected, however, we did find a significant effect for anger instrumentality on the importance of maintaining a pleasant atmosphere during the game, $t(53) = -2.07, p = .043, d = 0.550, 95\% CI [0.016, 1.096]$. Participants in the low anger instrumentality condition valued this goal more ($M = 5.34, SD = 1.17$) than did participants in the high anger instrumentality condition ($M = 4.65, SD = 1.29$). We didn't find a significant difference between high level construal ($M = 5.13, SD = 1.04$) and low level construal ($M = 4.88, SD = 1.5$) in the perceived importance of that goal, $t(53) = 0.734, p = .466, d = 0.19, 95\% CI [-0.339, 0.721]$.

6.3.1.3. Expressed anger in the economic game. Two judges, blind to condition, rated the responses of each participant⁷ to Player A's offer. Judges were instructed to rate, how angry and how positive each response was on a scale of 1 (=not at all) to 7 (=very much). We averaged the responses of both judges for anger ($\alpha = 0.86$), and positivity ($\alpha = 0.78$). As expected, participants in the high anger instrumentality expressed more anger ($M = 2.94, SD = 1.55$) than

participants in the low anger instrumentality condition ($M = 2.03, SD = 1.23$), $t(81) = 2.97, p = .004, d = 0.652, 95\% CI [0.212, 1.101]$. Participants in the high anger instrumentality condition were also less positive ($M = 2.44, SD = 1.25$) than participants in the low anger instrumentality condition ($M = 3.4, SD = 1.43$), $t(81) = -3.19, p = .002, d = 0.702, 95\% CI [0.261, 1.153]$.

6.3.1.4. Self-reported instrumentality of emotions. We ran a repeated measures ANOVA, with Construal Level (high, low) and Anger Instrumentality (high, low) as between-subjects factors, and Emotion (anger, sadness, excitement) as a within-subject factor. We did not find a significant Construal Level \times Anger Instrumentality \times Emotion interaction, $F(2, 168) = 0.495, p = .611, \eta^2 = 0.006, 95\% CI [0.00, 0.038]$. Participants who were led to adopt a high-level construal perceived anger as more useful when anger was potentially instrumental ($M = 2.33, SD = 0.27$) than potentially harmful ($M = 1.85, SD = 0.24$), although the effect was not significant $F(1, 84) = 1.719, p = .193, \eta^2 = 0.020, 95\% CI [0.00, 0.111]$. Participants in the low level construal condition did not perceive anger as more useful when it was instrumental ($M = 1.84, SD = 0.29$) than when it was not ($M = 1.81, SD = 0.27$), $F(1, 84) = 0.007, p = .935, \eta^2 = 0.000, 95\% CI [0.00, 0.092]$. Furthermore, anger instrumentality did not affect the perceived utility of excitement in the high level construal condition, $F(1, 84) = 0.006, p = .938, \eta^2 = 0.000, 95\% CI [0.00, 0.092]$, or in the low level construal condition, $F(1, 84) = 1.10, p = .741, \eta^2 = 0.001, 95\% CI [0.00, 0.095]$. Participants' perceived utility of sadness was similarly unaffected by anger instrumentality in the high level construal condition, $F(1, 84) = 0.002, p = .962, \eta^2 = 0.000, 95\% CI [0.00, 0.008]$, or in the low level construal condition, $F(1, 84) = 0.314, p = .577, \eta^2 = 0.004, 95\% CI [0.00, 0.067]$. In addition, we didn't find a significant interaction between Emotion and Anger Instrumentality, $F(2, 168) = 0.180, p = .835, \eta^2 = 0.000, 95\% CI [0.00, 0.049]$, or between Emotion and Construal Level, $F(2, 168) = 0.639, p = .529, \eta^2 = 0.008, 95\% CI [0.00, 0.043]$. We did, however, find a significant main effect for Emotion, $F(2, 168) = 39.966, p < .0001, \eta^2 = 0.322, 95\% CI [0.207, 0.417]$, so that people perceived excitement as more useful ($M = 2.84, SD = 0.17$) than anger ($M = 1.95, SD = 0.13$) and sadness ($M = 1.32, SD = 0.08$).

6.3.2. Hypotheses testing

To test whether construal level interacted with anger instrumentality to predict preferences for anger, we ran a repeated measures ANOVA, with Construal Level (high, low) and Anger Instrumentality (high, low) as between-subjects factors, and Emotion

⁷ Due to technical issues we failed to collect the responses of 5 participants.

(anger, sadness and excitement) as a within-subjects factor. As expected, we found a significant Construal Level \times Anger Instrumentality \times Emotion interaction, $F(2, 168) = 3.25$, $p = .041$, $\eta^2 = 0.037$, 95% CI [0.00, 0.100]. As shown in Fig. 3, participants who were led to adopt a high-level construal preferred to experience more anger when it was potentially instrumental ($M = 1.97$, $SD = 0.17$) than when it was not ($M = 1.48$, $SD = 0.15$), $F(1, 84) = 4.43$, $p = .038$, $\eta^2 = 0.05$, 95% CI [0.00, 0.162]. In contrast, participants in the low-level construal condition did not report stronger preferences for anger in the high anger instrumentality condition ($M = 1.68$, $SD = 0.18$) compared to those in the low anger instrumentality condition ($M = 1.52$, $SD = 0.17$), $F(1, 84) = 0.393$, $p = .532$, $\eta^2 = 0.005$, 95% CI [0.00, 0.071].

Unexpectedly, as shown in Fig. 3, participants who were led to adopt a low-level construal mindset preferred to experience more excitement when anger was potentially instrumental ($M = 3.94$, $SD = 0.37$) than when it was not ($M = 2.57$, $SD = 0.35$), $F(1, 84) = 7.037$, $p = .010$, $\eta^2 = 0.077$, 95% CI [0.00, 0.200]. Participants in the high level construal condition did not differ in their preferences for excitement in the high anger instrumentality condition ($M = 3.33$, $SD = 0.35$) or the low anger instrumentality condition ($M = 3.22$, $SD = 0.31$), $F(1, 84) = 0.054$, $p = .816$, $\eta^2 = 0.001$, 95% CI [0.00, 0.045]. As expected, there were no significant effects on preferences for sadness, such that participants in the high level construal preferred to experience the same amount of sadness in the high anger instrumentality condition ($M = 1.52$, $SD = 0.25$) as did those in the low level instrumentality condition ($M = 1.59$, $SD = 0.22$), $F(1, 84) = 0.040$, $p = .842$, $\eta^2 = 0.000$, 95% CI [0.00, 0.041]. In the low-level construal condition, participants also wanted to feel as sad in the high anger instrumentality condition ($M = 1.78$, $SD = 0.27$) as did those in the low anger instrumentality condition ($M = 1.52$, $SD = 0.25$), $F(1, 84) = 0.501$, $p = .481$, $\eta^2 = 0.006$, 95% CI [0.00, 0.076]. Moreover, the interaction between Emotion and Anger Instrumentality was not significant, $F(2, 168) = 2.16$, $p = .119$, $\eta^2 = 0.025$, 95% CI [0.00, 0.080], nor was the interaction between Emotion and Construal Level, $F(2, 168) = 0.252$, $p = .778$, $\eta^2 = 0.003$, 95% CI [0.00, 0.028]. Again, we found a significant main effect for emotion, $F(2, 168) = 71.766$, $p < .0001$, $\eta^2 = 0.461$, 95% CI [0.349, 0.543], such that, on average, participants reported stronger preferences for excitement ($M = 3.26$, $SD = 0.17$) than for anger ($M = 1.66$, $SD = 0.08$) or sadness ($M = 1.60$, $SD = 0.12$).

6.4. Discussion

As predicted, participants in Study 3 who adopted a high-level construal mindset reported stronger preferences for anger when anger was potentially instrumental than when it was potentially harmful. This is consistent with our prediction, and extends our prior findings to a realistic context, as well as to cases in which people learn about instrumentality of emotions through observation. We also found an unexpected effect, such that participants who were led to adopt a low-level construal had stronger preferences for excitement when anger was instrumental. Although such an effect needs to be further explored, one possibility is that participants in the low-level construal condition wanted to avoid anger for hedonic reasons, and such motivation was stronger when anger was more accessible (i.e., in the high instrumentality condition). As expected, participants in the high (vs. low) anger utility condition expressed more anger to the other player following the manipulation, as rated by two independent objective judges. This indicates that participants accurately learned about the potential instrumentality of anger. Such learning, however, was not evident in self-reported instrumentality of emotions. This may be because participants were not directly aware of our manipulation, or because the measure of perceived instrumentality was administered relatively late in the study, and the effects of the manipulation dissipated by then.

7. General discussion

What leads people to regulate their emotions in an instrumental manner? In this investigation, we demonstrated that people are more likely to consider the potential instrumentality of emotions when they adopt a higher level of construal. In three studies, we showed that activating high (vs. low) construal level led them to consider the potential instrumentality of both pleasant and unpleasant emotions. In Study 1, people in the high construal level condition reported stronger preferences for anger when anger could be useful, and were less motivated to feel cheerful. When anger could be harmful, however, people reported stronger preferences for cheerfulness. In Study 2, people in the high construal level condition reported stronger preferences for anger when anger could be useful, and were less motivated to feel empathy. When anger had the potential of being harmful, people reported stronger preferences for empathy. In contrast, information about the potential instrumentality of emotions did not influence the emotional preferences of people who were led to adopt low levels of construal. Similarly, in Study 3, people in the high-level construal condition preferred to feel more anger when it was instrumental than when it was not.

We were able to provide support for our hypotheses using three different manipulations of emotional instrumentality. We were further able to show that the effects on emotional preferences were specific to instrumentally-relevant emotions, and that the results replicate across both hypothetical and non-hypothetical contexts.

7.1. Implications for emotion regulation

To date, research on individual differences in emotional preferences focused primarily on differences in affective processes (Tamir, 2016). For example, individuals higher in extraversion were found to be more motivated to experience happiness (Tamir, 2009b), whereas individuals higher in neuroticism were found to be more motivated to experience fear (Ford & Tamir, 2013). In this paper, we demonstrate that such differences involve not only affective processes, but cognitive processes as well. We show that instrumental emotion regulation may depend, in part, on the level at which people construe their reality.

In order to be instrumentally-driven when regulating emotions, people need to consider longer-term or higher-order goals. Indeed, most of the studies on instrumental emotion regulation have manipulated either higher-order goals or perceived instrumentality (for a review, see Tamir, 2016), both of which are likely to involve higher levels of construal (Trope & Liberman, 2010). Yet, to our knowledge, this is the first investigation linking construal levels to emotion regulation. In doing so, we show that how people think about the situation they are in may dictate what they want to feel. Since high level construal increases awareness of the central goal, people are more likely to attend to the utility of emotions in such cases, influencing their preferences. Given that emotional preferences dictate the direction of emotion regulation (Millgram, Joormann, Huppert, and Tamir, 2015), it may be possible to change the direction in which people regulate emotions by shifting the level in which they construe situations.

In addition, unlike some types of emotion regulation strategies that require large amounts of mental resources, using construal level to change emotion regulation does not. Construal level changes the accessibility of a specific set of cognitive processes (Freitas et al., 2004) and offers several benefits. Changing construal level can automatically activate self-regularity behavior, with or without awareness (Fujita & Han, 2009; Trope & Fishbach, 2000). Thus, changing construal level may be an efficient way to facilitate instrumental emotion regulation, while consuming fewer mental resources.

Even though we focused our methodological investigation on anger, our results suggest that people also choose to feel pleasant emotions for instrumental reasons (cheerfulness in Study 1, empathy in Study 2). Since positive emotions can serve both hedonic and instrumental

motives, it could explain why, in Studies 1 and 2, effects appeared stronger for pleasant than unpleasant emotions.

7.2. Implications for adaptive emotion regulation

Emotion regulation is important for mental health (Gross & Muñoz, 1995), well-being (Nyklíček, Vingerhoets, & Zeelenberg, 2011), and adaptive social functioning (Campos, Mumme, Kermoian, & Campos, 1994; Gross & John, 2003). However, people do not always prefer to experience instrumental emotions, especially when these are unpleasant to experience. The current research shows that construal levels influence the extent to which people are likely to take instrumental considerations into account when setting desired emotional end points. As mentioned before, construal levels act as a mindset (Fujita & Han, 2009), which means it requires very little cognitive resources. Consequently, it may be easier for people who struggle with instrumental emotion regulation to detect the benefits of both pleasant and unpleasant emotions and promote adaptive emotion regulation under high level construal mindset.

In addition, Kross, Ayduk, and Mischel (2005) showed that abstract representations of a recalled negative experience enabled “cool,” reflective processing of emotions. This way, individuals were able to focus on their experience without reactivating excessive, “hot,” negative affect, making it easier for them to experience negative past events without it leading to rumination. It is possible then that high-level construal may promote adaptive emotion regulation not only by helping people make instrumental choices, but also by facilitating the use of effective regulation strategies, such as distancing. Future research could shed further light on the subject.

7.3. Implications for construal level theory

Our findings have several implications for construal level theory, as well. Construal level has been found to be linked to many different domains, such as social interaction, mental representation, cognitive biases, and more (Trope & Liberman, 2010). Here, we show that construal level can also affect emotion regulation. So far, the relationship between construal level and emotions has mainly been researched through the distinction between emotions that involve appraisals that vary in their level of construal. According to such research, basic emotions, such as joy, require a local and incidental construal of the eliciting event and a proximal perspective, whereas self-conscious emotions, such as pride, require a high-level construal of the eliciting event that takes into account the event's meaning and broad implications (Eyal & Fishbach, 2010; Karsh & Eyal, 2014). However, depending on the context, the same emotion may reflect high or low-level construal of a given object or a situation (Trope & Liberman, 2010). Our study shows that different emotions may be preferred in different contexts, regardless of whether they are low or high-level, depending on their level of instrumentality.

A high-level construal orients people to think of their long-term goals while paying less attention to immediate benefits. Consistent with this idea, we showed that instrumentality of emotions for a higher-order goal may be more relevant for people in a high (vs. low) level of construal. This does not mean, however, that people who adopt a low-level construal would have similar preferences across emotions. Indeed, in Study 3, we found that people who were led to adopt a low-level construal preferred more excitement in a situation in which anger was instrumental. Although we did not predict this pattern, it suggests that people in a low-level construal may be more sensitive to the hedonic implications of emotions, preferring pleasant emotions in contexts in which unpleasant emotions are a plausible alternative.

As mentioned earlier, Eyal and Fishbach (2010) suggested that emotions vary by their level of abstractness. They propose that emotions such as pride and shame require taking an external perspective that is removed from the self and monitoring the pursuit of long-term

goals. In contrast, they propose that emotions such as joy and sadness monitor the pursuit of short-term goals (see also Katzir, Eyal, Meiran, & Kessler, 2010). In our study, we showed that high-level construal can lead people to consider instrumental aspects of emotions. It would be important to test, in the future, whether construal level has different effects on preferences for emotions whose underlying appraisals vary in their level of construal.

Also, Agerström and Björklund (2013) showed that some people use high-level construal more often than others. These people, who are more future-oriented, tend to view the world from a higher-level perspective. In this respect, it would be interesting to investigate if future-oriented individuals are better at making instrumental emotional choices.

7.4. Limitations and future directions

The current studies have several limitations. First, across studies, we used the same method to manipulate level of construal (the *how/why* paradigm of Freitas et al., 2004). In the future, it would be important to replicate our findings, using different construal level manipulations (see, for instance, Fujita et al., 2006). Second, we used the same explicit method to measure emotional preferences across studies. Although self-reported preferences have been found to converge with other forms of measurement (e.g., Tamir, Ford, & Ryan, 2013), it is important to use other measures of emotional preferences that are based on participant's behavior (e.g., Tamir et al., 2013; Tamir & Ford, 2012b).

Third, we did not find evidence for effects of construal level on goal importance. In Study 3, conditions did not differ in the importance of winning the game. It is possible that participants' responses were influenced by their tendency to respond in a socially desirable way. In future studies, it might be useful to use other, less direct measures of goal importance.

Fourth, we did not include a control condition for our construal level manipulation. A control condition might have allowed us to test whether high-level construal increases the effect of instrumentality on emotion preferences or whether low-level construal decreases it. We did this, however, because there are only a few studies in the construal level literature that include control conditions. Since unpredicted features of the study could influence construal levels (for example, instructions could be delivered in either a concrete or abstract manner), creating a neutral construal condition is difficult, and there is little control over the spontaneous construal level participants are likely to adopt in an empty control condition.

Finally, in the current investigation, we focused mainly on the effect of construal level on emotional preferences, which serve as the first stage in the process of emotion regulation (Gross, 2008). In the future, it would be helpful to assess the potential impact of construal levels on subsequent stages of emotion regulation. For instance, whether construal level will influence not only the way people want to feel, but also the way they actually feel.

8. Conclusion

The current investigation shows that, by altering the way people view the world, it is possible to influence the emotions they want to feel. In these three studies, we found that adopting a high-level of construal mindset motivates people to experience emotions that are more instrumental for achieving their higher-order goals. To the extent that instrumental emotion regulation has beneficial consequences, it may be helpful to adopt higher levels of construal when regulating emotions.

References

- Agerström, J., & Björklund, F. (2013). Why people with an eye toward the future are more moral: The role of abstract thinking. *Basic and Applied Social Psychology*, 35(4),

- 373–381. <http://dx.doi.org/10.1080/01973533.2013.803967>.
- Campos, J. J., Mumme, D. L., Kermoian, R., & Campos, R. G. (1994). A functionalist perspective on the nature of emotion. *Monographs of the Society for Research in Child Development*, 59, 284–303. <http://dx.doi.org/10.2307/1166150>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). *Handbook of child psychology*. Vol. 3, Hoboken, NJ: John Wiley & Sons 646–718.
- Eyal, T., & Fishbach, A. (2010). Do global and local systems feel different? *Psychological Inquiry*, 21(3), 213–215. <http://dx.doi.org/10.1080/1047840X.2010.503184>.
- Ford, B. Q., & Tamir, M. (2012). When getting angry is smart: Emotional preferences and emotional intelligence. *Emotion*, 12, 685–689. <http://dx.doi.org/10.1037/a0027149>.
- Ford, B. Q., & Tamir, M. (2013). Preferring familiar emotions: As you want (and like) it? *Cognition and Emotion*, 28, 311–324. <http://dx.doi.org/10.1080/02699931.2013.823381>.
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology*, 2(3), 300–319. <http://dx.doi.org/10.1037/1089-2680.2.3.300>.
- Freitas, A. L., Gollwitzer, P., & Trope, Y. (2004). The influence of abstract and concrete mindsets on anticipating and guiding others' self-regulatory efforts. *Journal of Experimental Social Psychology*, 40(6), 739–752. <http://dx.doi.org/10.1016/j.jesp.2004.04.003>.
- Fujita, K., & Carnevale, J. J. (2012). Transcending temptation through abstraction the role of construal level in self-control. *Current Directions in Psychological Science*, 21(4), 248–252. <http://dx.doi.org/10.1177/0963721412449169>.
- Fujita, K., & Han, H. A. (2009). Moving beyond deliberative control of impulses the effect of construal levels on evaluative associations in self-control conflicts. *Psychological Science*, 20(7), 799–804. <http://dx.doi.org/10.1111/j.1467-9280.2009.02372.x>.
- Fujita, K., & Roberts, J. C. (2010). Promoting prospective self-control through abstraction. *Journal of Experimental Social Psychology*, 46(6), 1049–1054. <http://dx.doi.org/10.1016/j.jesp.2010.05.013>.
- Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, 90(3), 351–367. <http://dx.doi.org/10.1037/0022-3514.90.3.351>.
- Gross, J. J. (2008). Emotion regulation. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.). *Handbook of emotions* (pp. 497–512). (3rd ed.). New York: Guilford Press.
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26, 1–26. <http://dx.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://dx.doi.org/10.1037/0022-3514.85.2.348>.
- Gross, J. J., & Muñoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, 2, 151–164. <http://dx.doi.org/10.1111/j.1468-2850.1995.tb00036.x>.
- Guala, F., & Mittone, L. (2010). Paradigmatic experiments: The dictator game. *The Journal of Socio-Economics*, 39(5), 578–584. <http://dx.doi.org/10.1016/j.socec.2009.05.007>.
- Karsh, N., & Eyal, T. (2014). How the consideration of positive emotions influences persuasion: The differential effect of pride versus joy. *Journal of Behavioral Decision Making*, 28(1), 27–35. <http://dx.doi.org/10.1002/bdm.1826>.
- Katzir, M., Eyal, T., Meiran, N., & Kessler, Y. (2010). Imagined positive emotions and inhibitory control: The differentiated effect of pride versus happiness. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36(5), 1314–1320. <http://dx.doi.org/10.1037/a0020120>.
- Kim, M. Y., Ford, B. Q., Mauss, I. B., & Tamir, M. (2014). Knowing when to seek anger: Psychological health and context-sensitive emotional preferences. *Cognition and Emotion*, 29(6), 1126–1136. <http://dx.doi.org/10.1080/02699931.2014.970519>.
- Kross, E., Ayduk, O., & Mischel, W. (2005). When asking “why” does not hurt distinguishing rumination from reflective processing of negative emotions. *Psychological Science*, 16(9), 709–715. <http://dx.doi.org/10.1111/j.1467-9280.2005.01600.x>.
- Millgram, Y., Joormann, J., Huppert, J. D., & Tamir, M. (2015). Sad as a matter of choice? Emotion regulation goals in depression. *Psychological Science*, 26(8), 1216–1228. <http://dx.doi.org/10.1177/0956797615583295>.
- Nyklíček, I., Vingerhoets, A. J. J. M., & Zeelenberg, M. (Eds.). (2011). *Emotion regulation and well-being*. New York, NY: Springer. <http://dx.doi.org/10.1007/978-1-4419-6953-8>.
- Porat, R., Halperin, E., & Tamir, M. (2016). What we want is what we get: Group-based emotional preferences and conflict resolution. *Journal of Personality and Social Psychology*, 110(2), 167–190. <http://dx.doi.org/10.1037/pspa0000043.supp>.
- Sinaceur, M., & Tiedens, L. (2006). Get mad and get more than even: When and why anger expression is effective in negotiations. *Journal of Experimental Social Psychology*, 42(3), 314–322. <http://dx.doi.org/10.1016/j.jesp.2005.05.002>.
- Tamir, M. (2009a). What do people want to feel and why? Pleasure and utility in emotion regulation. *Current Directions in Psychological Science*, 18(2), 101–105. <http://dx.doi.org/10.1111/j.1467-8721.2009.01617.x>.
- Tamir, M. (2009b). Differential preferences for happiness: Extraversion and trait-consistent emotion regulation. *Journal of Personality*, 77(2), 447–470. <http://dx.doi.org/10.1111/j.1467-6494.2008.00554.x>.
- Tamir, M. (2016). Why do people regulate their emotions? A taxonomy of motives in emotion regulation. *Personality and Social Psychology Review*, 20(3), 199–222. <http://dx.doi.org/10.1177/1088868315586325>.
- Tamir, M., & Bigman, Y. (2014). Why might people want to feel bad? Motives in contradidonic emotion regulation. In W. G. Parrott (Ed.). *The positive side of negative emotions* (pp. 201–223). New York, NY: Guilford Press.
- Tamir, M., & Ford, B. Q. (2009). Choosing to be afraid: Preferences for fear as a function of goal pursuit. *Emotion*, 9(4), 488–497. <http://dx.doi.org/10.1037/a0015882>.
- Tamir, M., & Ford, B. Q. (2012a). Should people pursue feelings that feel good or feelings that do good? Emotional preferences and well-being. *Emotion*, 12(5), 1061–1070. <http://dx.doi.org/10.1037/a0027223>.
- Tamir, M., & Ford, B. Q. (2012b). When feeling bad is expected to be good: Emotion regulation and outcome expectancies in social conflicts. *Emotion*, 12(4), 807–816. <http://dx.doi.org/10.1037/a0024443>.
- Tamir, M., Ford, B. Q., & Ryan, E. (2013). Nonconscious goals can shape what people want to feel. *Journal of Experimental Social Psychology*, 49(2), 292–297. <http://dx.doi.org/10.1016/j.jesp.2012.11.009>.
- Tamir, M., Mitchell, C., & Gross, J. J. (2008). Hedonic and instrumental motives in anger regulation. *Psychological Science*, 19(4), 324–328. <http://dx.doi.org/10.1111/j.1467-9280.2008.02088.x>.
- Trope, Y., & Fishbach, A. (2000). Counteractive self-control in overcoming temptation. *Journal of Personality and Social Psychology*, 79(4), 493–506. <http://dx.doi.org/10.1037/0022-3514.79.4.493>.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110(3), 403–421. <http://dx.doi.org/10.1037/0033-295X.110.3.403>.
- Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, 117(3), 440–463. <http://dx.doi.org/10.1037/a0018963>.
- Yip, J. A., & Martin, R. A. (2006). Sense of humor, emotional intelligence, and social competence. *Journal of Research in Personality*, 40(6), 1202–1208. <http://dx.doi.org/10.1016/j.jrp.2005.08.005>.