2020

Picture This: The Effect of Imagery Perspective on Affective Forecasting

Giselle Durand
gdurand@wlu.ca

PICTURE THIS: THE EFFECT OF IMAGERY PERSPECTIVE ON AFFECTIVE FORECASTING

By

Giselle Durand

THESIS

Submitted to the Faculty of Science

In partial fulfillment of the requirements for

Master of Arts, Psychology

Wilfrid Laurier University

Picture this: The effect of imagery perspective on affective forecasting

Abstract

This thesis examines whether or not the perspective that one takes when visualizing a future event influences one's affective forecasts about that target event. When imagining a future event, people can adopt a first person perspective (as they would see it through their own eyes as it was actually occurring) or a third person perspective (as an observer would see it). I ran five studies to test the hypothesis that the perspective adopted while visualizing a future event has a differential effect on the forecasts of self-conscious vs. hedonic emotions. Specifically, I hypothesized that people forecast stronger self-conscious emotions when visualizing a future event from the third person perspective than from the first person perspective, but that the opposite holds true when forecasting hedonic emotions. In each study, participants selected a significant, positive event that they expected to occur within the next month, imagined that event from one of the two perspectives, and then forecasted several different emotions, some of which were hedonic in nature, and others that were self-conscious. Results of the five studies did not provide clear or consistent support for my hypothesis. Limitations of the studies are discussed and suggestions for future research are provided.

Acknowledgements

The author gratefully acknowledges Roger Buehler for supervising this research and providing support and guidance throughout. The author also thanks Anne Wilson, Christian Jordan, Greta Valenti, and the social psychology faculty and graduate students at Wilfrid Laurier University for valuable feedback on research design and the contents of this paper.

Table of Contents

List of Tables

List of Figures

Picture this: The effect of imagery perspective on affective forecasting

Introduction

My thesis research examines people's predictions of their emotional reactions to future events. Such predictions, known as affective forecasts, are important because they drive many significant life decisions. For example, anticipating strong positive reactions to a future event increases the effort that people expend to produce the event (Morewedge & Buechel, 2013). Moreover, people have difficulty predicting future feelings accurately and often predict stronger emotional reactions than they actually experience, a phenomenon referred to as the impact bias (Wilson & Gilbert, 2003). Thus, researchers in psychology seek to identify factors that moderate people's affective forecasts. My research explores the visual perspective that people adopt while imagining a future event, and how this influences their affective forecasts. Specifically, I explore whether people predict stronger emotional reactions when they visualize an event from a first-person perspective (as they would see it from their own eyes when it was actually occurring) or from a third-person perspective (as if they were an observer watching themselves participating in the event). I also examine whether the effect of visual perspective on affective forecasting depends on the type of emotion being forecast. The remainder of this paper is organized as follows. First, I provide a brief overview of the research on affective forecasting, imagery perspective and emotions, and identify my hypotheses. Next, I introduce the method used for the five studies that I conducted, and discuss the results of these studies. Finally, I conclude with a discussion of the implications and limitations of my studies, and possible areas of future research.

Literature Review

Affective Forecasting

People make decisions that have significant implications for their futures, such as which jobs to take, which relationships to explore, and which goals to pursue. Decisions such as these are ultimately made in the pursuit of happiness, and therefore necessarily involve people's predictions of how various alternatives will make them feel. These emotional predictions, known as affective forecasts, have been studied extensively because they have important implications for human behaviour and decision-making (e.g., Morewedge & Buechel, 2013; Wilson & Gilbert, 2003). Research has identified that, although people can effectively predict the valence and types of emotions that future events will elicit, they are not particularly good at predicting the duration or intensity of these emotions (Wilson & Gilbert, 2003). More specifically, people tend to *overestimate* both the intensity and duration of their future emotions, a phenomenon known as the impact bias (e.g., Buehler & McFarland, 2001; Gilbert, Morewedge, Risen, & Wilson, 2004; Hoerger, Quirk, Lucas, & Carr, 2010; Wilson & Gilbert, 2003). For example, research has shown that people over-predict the intensity of their emotional reactions to exam grades (Buehler & McFarland, 2001), election results (Hoerger et al., 2010), contest results (Gilbert et al., 2004), and a variety of participant-elected events (Buehler & McFarland, 2001). Furthermore, the impact bias is asymmetrical, as it tends to be stronger (both in intensity and duration) for affective predictions to negative events than to positive ones (e.g., Finkenauer, Gallucci, van Dijk, & Pollman, 2007; Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998).

Research has identified two primary sources of the impact bias. The first, focalism, is the tendency to focus only on the target event itself when making affective forecasts, and to, therefore, underestimate the effect that other peripheral events will have on emotions when the

future target event occurs (Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). For example, Buehler & McFarland (2001) provide evidence that affective forecasts are more extreme when people focus on the event itself when making their predictions than when they focus on a set of similar past experiences. It is possible that this emphasis on a set of past experiences brings to mind other peripheral factors, beyond the target event itself, that can influence how we feel and therefore tempers affective forecasts. Priming participants with a low level construal encourages contemplation of such peripheral events and has been shown to reduce the extremity of affective forecasts (Ayton, Pott, & Elwakili, 2007; Wesp, Sandry, Prisco, & Kadey, 2009). The second source of the impact bias, immune neglect, is specific to emotional reactions to negative events. People have a psychological immune system that helps them to rationalize negative events, and they fail to appreciate the extent to which this psychological immune system will speed up their emotional recovery (Gilbert et al., 1998; Wilson & Gilbert, 2003).

The impact bias has been shown to generate both positive and negative outcomes. It can be functional as it serves motivational purposes. For example, making positive affective predictions can help to improve a currently negative mood when people are in a reflective state (Buehler, McFarland, Spyropoulos, & Lam, 2007). In addition, people demonstrate a stronger impact bias for future events to which they are more committed and over whose attainment they have influence, and this stronger impact bias leads to the exertion of more effort to produce the future event (Morewedge & Buechel, 2014). Finally, more extreme affective forecasts lead to greater goal persistence and performance (Greitemeyer, 2009). However, extreme affective forecasts can also lead to increased persistence even in the face of unattainable goals (Greitemeyer, 2009), which can result in wasted time and energy (Janoff-Bulman & Brickman, 1982), and emotional distress (Carver & Scheier, 1990). The impact bias has also been found

when forecasting regret, and forecasted affective regret is negatively related to overall well-being (Buchanan, Buchanan, & Kadey, 2019). Anticipated negative reactions to information that is contrary to a person's beliefs can result in selective exposure to information (Dorinson, Minson, & Rogers, 2019), and people often anticipate that interactions with outgroup members will be more negative than what they actually experience when such interactions occur (Mallett, Wilson, & Gilbert, 2008). Anticipation of such negative affect can reduce willingness to approach outgroup members (Mendoza-Denton, Downey, & Purdie, 2002), yet contact with outgroups is important for reducing prejudice (Petigrew & Tropp, 2000). Therefore, the consequences of the impact bias, both positive and negative, can be far-reaching.

Given the importance of affective forecasting to well-being and behaviour, I seek to add to this body of literature by exploring a potential moderator of affective forecasts, imagery perspective. Wilson and Gilbert (2003) identify that, when forecasting affect, people create a representation of the event that helps them assess their affective reaction to that event, which in turn guides their affective forecasts. One way that people can create a representation of the target event is by visualizing it, and they can do so from either a first-person perspective (as they would see it from their own eyes when it was actually occurring) or from a third-person perspective (as if they were an observer watching themselves participating in the event). Prior research and theory on imagery perspective suggests that the intensity of affective forecasts could be influenced by perspective.

Imagery Perspective

According to a framework developed by Libby and Eibach (2011a), the perspective adopted during visualization (i.e., first-person perspective (FPP) or third-person perspective (TPP)) "influences the information people incorporate into their representation of an event and

the subjective experience of simulating it" (p. 192). Specifically, FPP elicits bottom-up processing of an event, whereby the event is defined by its concrete features, whereas TPP elicits top-down processing of an event, whereby information outside of the focal event is incorporated into the sensory experience (Libby & Eibach, 2011a). This occurs in part because, relative to FPP, TPP induces people to construe actions at a higher level (Libby, Shaeffer, & Eibach, 2009; Shaeffer, Libby, & Eibach, 2015). Several studies support this assertion. For example, visualizing an upcoming task from the TPP tempers optimistic completion time estimates relative to FPP by focusing people on both the steps to complete the task *as well as obstacles to timely completion* (Buehler, Griffin, Lam, & Deslauriers, 2012). Moreover, this line of work found that feelings of motivation were dampened when people imagined themselves completing the task in TPP rather than FPP. In addition, visualizing the consumption of tempting but unhealthy food from a FPP results in imagery that is higher in sensory detail than does the TPP, and therefore higher value placed on the food and higher future food consumption (Christian, Miles, Kenyeri, Mattschey, and Macrae, 2016). Christian et al. (2016) contend that this is because, relative to the TPP, the FPP highlights the concrete details of the food being imagined, increasing its desirability.

These differences in information processing influence the subjective experience of the visualization. The focus on concrete details elicited by FPP makes people feel like they are experiencing the event, whereas TPP tends to highlight the broader meaning of the event to the self-concept (Libby & Eibach, 2011a). This effect has been shown in a variety of contexts. In studies of self-change for example, people who feel that they have changed over time are more likely to visualize their past selves from a TPP than from a FPP (Libby & Eibach, 2002; Libby & Eibach, 2011b), and visualizing a past self from TPP increases reports of self-change compared

with FPP (Libby, Eibach, & Gilovich, 2005). This occurs because imagining an inconsistent past self focuses people on its coherence with the self-concept, thus activating the TPP (Libby & Eibach, 2011b). Relative to the FPP, use of the TPP has also been shown to lead to a stronger pro-voting mindset and therefore more voting behaviour (Libby, Shaeffer, Eibach, & Slemmer, 2007), to increase achievement motivation (Vasquez & Buehler, 2007), and to increase purchase motivation and intentions for purchases of items relevant to the self-concept (Soliman, Buehler, & Peetz, 2017). Finally, Marigold, Eibach, Libby, Ross, and Holmes (2015) have found that people high in attachment anxiety report lower relationship quality after visualizing a relationship transgression from the TPP compared with the FPP. This is consistent with the notion that TPP highlights the meaning of the visualized event to the broader self-concept, as people high in attachment anxiety tend to have a lower quality global view of their relationships (Marigold et al., 2015).

What are the implications of these differences in information processing, and the subjective experience of imagery, for affect? Holmes and Mathews (2010) review literature that provides evidence that mental imagery evokes emotion, even in a more powerful way than verbal representations of events. This suggests a powerful connection between mental imagery and emotion. Furthermore, the effects of visual perspective on information processing suggest there may be a relationship between imagery perspective and affect. Notably, however, Libby and Eibach (2011a) theorize that one perspective will not consistently make emotions feel more intense than the other. Rather, the effect of perspective on emotional intensity depends on whether the emotional experience is driven more by the concrete features of the event, or by its broader meaning to the self. In the former circumstance, FPP should heighten emotional intensity. In the latter, TPP should intensify the affective experience. This assertion has been

supported in a variety of contexts. Libby, Valenti, Pfent, and Eibach (2011) have provided evidence that people with low self-esteem feel more shame when visualizing a failure from a TPP than from a FPP, and that this effect is opposite for people with high self-esteem. Visualizing a past regrettable inaction elicits stronger current feelings of regret when adopting a TPP than a FPP, presumably because inaction feels most painful when considering the effects of the potential missed opportunity to one's life as a whole (Valenti, Libby, & Eibach, 2011).

Many of the studies linking emotion to imagery perspective have explored the emotions felt *while* visualizing a *negative* event. I extend this literature to *forecasted* emotions relating to future *positive* events. To my knowledge, only one previous study has tested effects of imagery perspective on affective forecasting. In an unpublished thesis, Hines (2010) explored the relationship between affective forecasting and imagery perspective by manipulating the perspective from which students visualized receiving both a good grade and a bad grade on an upcoming midterm. Students then predicted how they would feel upon receiving each grade, and Hines (2010) later compared these forecasts with experienced affect. She expected that affective forecasts would be more accurate when visualizing receiving the grade from the TPP relative to the FPP, because our experiences are constantly affected by our self-theories, which are made salient by the TPP. Results in this study were reported as difference scores, so the effect of perspective on predicted affect is unclear. Hines (2010) found that the difference between forecasted and actual affect was smaller for participants in the TPP condition than for those in the FPP condition, supporting her hypothesis, for participants who received bad grades. This same relationship was observed for participants who received good grades, but it was only marginally significant. However, Hines' (2010) study measured general levels of positive and negative affect by asking participants how "good" or "bad" they thought each of the grades

would make them feel. Research suggests, however, that there are distinct types of emotions that differ from each other in a variety of ways (e.g., Ekman, 1999; Tracy & Robins, 2007), and I examine how different types of emotions interact with visual perspective when predicting affect.

The Nature of Emotions

Many emotion researchers have classified emotions into two categories. The first set of emotions, called "basic" or hedonic" emotions, are evolution-based in that they "evolved to deal with fundamental life tasks" (Ekman, 1999, p. 48) and require little cognitive contribution to be elicited (Hung & Mukhopadyay, 2011). Hedonic emotions include anger, fear, disgust, sadness, happiness and surprise (Ekman, 1992). The second set of emotions, namely shame, guilt, embarrassment, and pride, are referred to as self-conscious emotions (e.g., Tangney, 2003). Tracy and Robins (2004) proposed a theoretical model suggesting that we feel self-conscious emotions when an event occurs that is relevant to our self-concept and we attribute the cause of that event to ourselves. In other words, the experience of self-conscious emotions requires self-awareness and self-evaluation (Brown & Marshall, 2001; Tangney, 2003; Tracy & Robins, 2004). It has also been shown that self-conscious emotions arise due to our appraisals of how others will evaluate us (Leary, 2007). Together, these theoretical viewpoints suggest that we feel self-conscious emotions because self-relevant issues often have social implications, or that "self-conscious emotions arise … from the perception that something about the self may have implications for important social goals" (Baldwin & Baccus, 2004, p. 140).

If self-conscious emotions are elicited by self-relevant events, and if visualizing an event from a TPP highlights the meaning of the event to the self-concept, then this suggests a connection between visual perspective and the types of emotions elicited. Katzir and Eyal (2013) provide evidence to support this connection by examining the effect of an immersive versus a

self-distanced perspective on experienced emotions (anger and guilt in study 1; shame and sadness in Study 2) when thinking about a past event. A key component of the self-distanced perspective is that people adopt an observer perspective when reflecting on themselves. They found that the self-distanced perspective reduced the intensity of basic emotions (anger and sadness) relative to the self-immersive perspective, but it did not reduce the intensity of self-conscious emotions (guilt and shame).

Hung and Mukhopadyay (2011) conducted three studies on the effect of imagery perspective on hedonic vs. self-conscious felt emotions. Two of these studies employed a self-control scenario, one hypothetical, the other recalled. The third study employed a hypothetical scenario that was not a self-control dilemma, but was expected to induce positive hedonic emotions and negative self-conscious emotions. In all studies, participants rated the intensity of a variety of hedonic and self-conscious emotions that they felt during the visualization. In addition, participants also described what they were focused on during the visualization. Across all three studies, Hung and Mukhopadyay (2011) showed that imagining the scenario from a TPP (FPP) increased the intensity of felt self-conscious (hedonic) emotions more than did imagining the event from the FPP (TPP). Further, they found that participants in the FPP condition tended to focus on the features of the scenario, whereas participants in the TPP condition tended to focus on how others would evaluate them, and that these appraisals of the scenarios mediated the effect of imagery perspective on felt emotions. This study provides convincing evidence of a link between imagery perspective and the intensity of different types of emotions.

These studies concentrate on measuring *felt* emotions during mental simulation of either *past* or *hypothetical* events, with Katzir and Eyal (2013) specifically examining *negative* emotions. I extend this body of literature to *predicted positive* emotions related to *expected*

future events. Research has shown that our affective forecasts are influenced by our current emotional state (see Wilson & Gilbert (2003) for a review), suggesting that the effects observed in these aforementioned studies should apply to affective forecasts. I would expect that perspective will exert effects on forecasted emotions that are similar to those observed for felt emotions, with overall forecasted emotions being stronger than felt emotions, given the documented tendency to overestimate our emotional reactions (i.e., the impact bias). Specifically, I postulate that if use of the TPP emphasizes the significance of an event to the self-concept, then visualizing an anticipated future event from that perspective should intensify the self-conscious emotions that the event is expected to elicit, more so than should visualizing it from the FPP. Similarly, if use of the FPP makes salient the concrete details of an event, then visualizing an anticipated future event from that perspective should intensify the hedonic emotions that the event is expected to elicit, compared with use of the TPP. My hypothesis, formally stated, is therefore:

H1: The perspective adopted while visualizing an anticipated positive event will have a differential effect on the forecasts of self-conscious vs. hedonic emotions. Specifically:

H1A: People will predict stronger self-conscious emotions when they adopt a third-person (vs. first-person) perspective.

H1B: People will predict stronger hedonic emotions when they adopt a first-person (vs. third-person) perspective.

Study 1A

The objective of the first study was to examine the effect of visual perspective on affective forecasts about a self-nominated, anticipated positive future event. Participants were asked to nominate a positive event that they expected to occur within the next month, and that is personally significant to them. They were then asked to imagine this event from either a FPP or a TPP, and then to forecast several hedonic and self-conscious emotions. I expected that

participants who visualized the event from the TPP would forecast stronger self-conscious emotions than would participants who visualized the event from the FPP, but that the opposite effect would occur for the prediction of hedonic emotions. Appendix A contains the experimental materials used in Study 1A.

Method

Participants

Participants were recruited from Amazon Mechanical Turk (MTurk) and were compensated with $1 USD for taking part in the study. Responses were collected from 139 participants. However, 35 responses were excluded as the participants exited the survey before providing their affective forecasts, and 43 responses were excluded because participants answered all of the survey questions without actually identifying an event.[1] Therefore, I could not be sure that they thoughtfully answered the questions.[2] The final sample consisted of 61 participants (61% male) between the ages of 20 and 62 (M = 33.18, SD = 8.91).

Procedure

The experiment was administered online using Qualtrics™ and used a 2 (visual perspective: FPP vs. TPP) x 2 (emotion type: hedonic vs. self-conscious) mixed design. Visual perspective was a between-subjects factor and participants were randomly assigned to conditions. Emotion type was a within-subjects factor.

Participants were told that the study was about the types of events that people experience in their lives, and their perceptions of those events. In this vein, they were asked to think about one specific positive event or situation that they expected to actually take place within the next month. They were also told that the event should be one that is personally significant to them.

---

[1] The same criteria for excluding participants from the final sample were used in all studies in this paper.
[2] Results of all primary analyses (manipulation checks, factor analyses, main hypothesis test, etc.) are qualitatively similar when these 43 participants are included in the analysis.

Participants then wrote a description of the event, and rated several characteristics of the event on a 7-point scale (*1 = not at all, 7 = extremely*). These characteristics were the positivity of the event, the likelihood that the event will occur, the importance of the event to the participant, the extent to which the participant can control whether or not the event occurs, and the similarity of the event to past experiences. They were also asked in how many days they expected the event to occur. These ratings were obtained for exploratory purposes, to include as possible moderators or covariates in the analyses.

Next, participants were asked to take a moment and form a clear, visual image of themselves actually engaging in the event. Participants assigned to the FPP condition were given the following instructions:

Specifically, please try to picture yourself engaging in the event from a **first person perspective.** From this point of view, you see events unfolding **through your own eyes** just as you would see them if they were actually occurring. That is, you are looking out at your surroundings and seeing only what would be visible to you as the event takes place (e.g., you see your surroundings during the event).

Participants assigned to the TPP condition were given the following instructions:

Specifically, please try to picture yourself engaging in the event from an **observer perspective** (third person perspective). From this point of view, you are able to **'see yourself'** as well as your surroundings, just as if you were an observer to the situation. That is, you are looking at yourself and seeing what an observer would see as the event takes place (e.g., you see yourself standing in your surroundings during the event).

Participants were held on the visualization screen for 45 seconds to encourage them to spend time visualizing the event, rather than simply clicking to move on to the next screen. In order to strengthen the manipulation, participants wrote about what they saw during their visualization. As a manipulation check, participants were asked to what extent they saw their engagement in the event through their own eyes or as an observer would. They replied to this question on a 7-point scale anchored at *1* (*through your own eyes*) and *7* (*through the eyes of an*

observer), with the midpoint labeled "*partially through your own eyes and partially through the eyes of an observer*". Therefore, higher scores on this question indicate greater use of the TPP. They were also asked to rate the extent to which they experienced feelings and emotions they would experience when the event actually occurs (*1 = not at all, 4 = moderately, 7 = very clearly and vividly*).

At this point participants completed the main dependent measures by generating affective forecasts for the nominated event. They were presented, in random order, with six different emotion items: happy, excited, joyful, proud, competent and self-worth. These items are similar to the items used in other emotion studies (e.g., Richins, 1997; Giner-Sorolla, 2001; Ramanathan & Williams, 2007) and include three hedonic emotion items (happy, excited, joyful) and three self-conscious emotion items (proud, competent, self-worth).[3] Participants indicated the degree to which they expected to feel each emotion as the event is unfolding on a 7-point scale (*1 = not at all, 7 = extremely*). As additional, supplementary measures, participants also indicated how long after the event occurs they would still be experiencing the feelings of happiness, excitement, and joy (hedonic emotions), and how long they would still be experiencing the feelings of pride, self-competence, and self-worth (self-conscious emotions) (*1 = only for a few seconds, 7 = for days/weeks*). Finally, participants completed the Behavior Identification Form (BIF) which assesses individual differences in the level at which people identify actions (Vallacher & Wegner, 1989). We included this measure to test the possibility that TPP would elicit a more abstract level of construal in participants.[4] Alternatively, the BIF could be conceptualized as a

[3] Brown and Marshall (2001) found that the self-conscious emotion of pride is strongly related to self-esteem, presumably because pride explicitly involves an evaluation of one's self-worth. Therefore, 'self-worth' and 'competent' were chosen as self-conscious emotion items, along with 'proud'.

[4] BIF scores did not vary significantly across perspective condition, $F(1,59) = .07$, $MSE = .69$, $p = .795$.

measure of chronic individual differences in construal that might moderate the impact of imagery perspective. Participants were then thanked for their participation, debriefed, and compensated.

Results

Descriptive Statistics

Table 1 presents the means, standard deviations (SDs) and zero order correlations for all measures included in the study. Table 2 presents the means and SDs for each imagery perspective condition.

Event Characteristics

As shown in Table 1, the events participants selected were rated as highly positive, likely to occur, and important, suggesting that participants followed the instructions to select a positive, significant event that they expect to occur. The events were also rated as highly controllable.

To confirm that these event characteristics, which were rated before the visual perspective manipulation, did not differ across condition, each of the ratings was submitted to a one-way analysis of variance (ANOVA) with perspective as the independent variable (see Table 2 for means). There were no significant differences across conditions.

Manipulation Check

A one-way analysis of variance (ANOVA), with participants' self-reported visual perspective as the dependent variable, and assigned perspective condition as the independent variable, suggests that the imagery perspective manipulation was successful. Participants were more likely to report using the TPP in the TPP condition ($M = 5.79$, $SD = 1.45$) than in the FPP condition ($M = 2.00$, $SD = 1.54$), $F(1, 59) = 96.51$, $MSE = 217.09$, $p < .001$.[5]

[5] Results of the main hypothesis test remain qualitatively similar if participants who failed the manipulation check (n = 4) are excluded from the analysis. Participants assigned to the FPP (TPP) condition failed the manipulation check if they reported 5 or higher (3 or lower) on the self-report visual perspective scale.

Affective Forecasts

I averaged participants' affective forecasts for 'happy', 'joyful' and 'excited' to create a hedonic emotions index (α = .79, *M* = 6.10, *SD* = .87), and their affective forecasts for 'proud', 'competent' and 'self-worth' to create a self-conscious emotions index (α = .77, *M* = 5.82, *SD* = .89). To examine empirically whether the emotion items represented two distinct types I also performed a varimax-rotated, principal components factor analysis. The analysis identified only one factor with an eigenvalue exceeding one, and this factor explained 55.5% of the variance in the emotion measures. However, a second factor with an eigenvalue slightly less than one emerged. Therefore, I performed a second factor analysis with varimax rotation, forcing two factors. As expected, 'proud', 'competent' and 'self-worth' loaded significantly on the first factor, which explained 37.3% of the variance, while 'happy', 'excited' and 'joyful' loaded significantly on the second factor, which explained 33.4% of the variance. This pattern of results provides some limited evidence that the hedonic emotion items are measuring something distinct from the self-conscious emotion items. The small sample size may have impeded the second factor from emerging naturally during the first factor analysis.

To test the two hypotheses, I submitted the emotion indices to a 2 x 2 mixed-model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (hedonic vs. self-conscious) as a within-subjects factor. According to my hypothesis, there should be an interaction between perspective and emotion-type. The ANOVA revealed a main effect of emotion-type, $F(1, 59) = 7.11$, $MSE = 2.33$, $p = .010$, in that participants expected to feel stronger hedonic emotions (*M* = 6.10, *SD* = .87) than self-conscious emotions (*M* = 5.82, *SD* = .89). However, there was no main effect of perspective condition, $F(1, 59) = .001$, $MSE = .001$, $p = .982$, and the hypothesized interaction between visual perspective and emotion type did not

occur, $F(1, 59) = .69$, $MSE = .28$, $p = .408$.[6] Examining the means of each type of emotion in each condition revealed that the pattern of results was directionally consistent with my predictions. Participants forecasted slightly stronger self-conscious emotions in the TPP condition ($M = 5.87$, $SD = .84$) than in the FPP condition ($M = 5.78$, $SD = .94$), and they forecasted slightly stronger hedonic emotions in the FPP condition ($M = 6.14$, $SD = .80$) than in the TPP condition ($M = 6.06$, $SD = .95$). However, these differences were not significant.[7]

Supplementary Analyses

Pride and Joy. For exploratory purposes, I conducted follow-up analyses that examined the effect of imagery perspective on each individual emotion item (see Table 2 for means). I was particularly interested in the items of pride and joy because, in hindsight, it seemed these were the two items that best represented the two emotion types. As indicated above, theory on emotions suggests six basic (or hedonic) emotions of anger, fear, disgust, sadness, happiness and surprise (Ekman, 1992), and four self-conscious emotions of shame, guilt, embarrassment, and pride (e.g., Tangney, 2003). Joy and pride may be the items that best match these typologies whereas the fit of other items is arguably less clear.[8] Therefore, I tested my hypotheses again using only the hedonic emotion of joy and the self-conscious emotion of pride. That is, I submitted these two emotion items to a 2 x 2 mixed-model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (joy vs. pride) as a within-subjects

---

[6] As the self-conscious and hedonic emotions were highly correlated, I also tested my hypothesis using one emotion as the dependent variable while controlling for the other. That is, I used an analysis of covariance (ANCOVA) with self-conscious emotions as the dependent variable, perspective condition as the independent variable, and hedonic emotions as a covariate. There was no significant main effect of perspective condition, $F(1, 58) = .55$, $MSE = .30$, $p = .461$, therefore my hypothesis was not supported.

[7] As an internal check on the effect of visual perspective on forecasted affect, I regressed self-conscious emotions on participants' self-reported visual perspective (a continuous variable) and hedonic emotions, expecting a significant regression coefficient on the self-report variable if my hypothesis was supported. This predicted relationship was not observed, $\beta = .04$, $SE = .04$, $p = .283$.

[8] Joy is a synonym for happiness and was used as a proxy for hedonic emotions by Hung and Mukhopadyay (2011), therefore I selected joy instead of happiness for this analysis.

factor. There was no main effect of emotion-type, $F(1, 59) = .03$, $MSE = .02$, $p = .876$, or of perspective condition, $F(1, 59) = .06$, $MSE = .12$, $p = .812$, but there was a trending interaction between visual perspective condition and emotion, $F(1, 59) = 2.67$, $MSE = 2.32$, $p = .107$.[9] As predicted, participants appeared, qualitatively, to forecast stronger pride in the TPP condition ($M = 6.04$, $SD = 1.20$) than in the FPP condition ($M = 5.70$, $SD = 1.29$), $F = 1.11$, $MSE = 1.74$, $p = .295$, and to forecast stronger joy in the FPP condition ($M = 6.00$, $SD = 1.12$) than in the TPP condition ($M = 5.79$, $SD = 1.23$), $F = .51$, $MSE = .70$, $p = .479$, but again neither of these simple effects was significant.[10]

Event Characteristics as Covariates. I tested whether the inclusion of event characteristics as covariates would help to reduce error variability that may have obscured effects of the manipulation. The zero order correlations indicated that hedonic emotions were forecasted to be stronger for events perceived to be more positive ($r = .46$, $p < .001$), more important ($r = .43$, $p = .001$), and more controllable ($r = .29$, $p = .023$), but weaker for events that are more similar to past events ($r = -.24$, $p = .059$). Self-conscious emotions were forecast to be stronger for events perceived to be more important ($r = .26$, $p = .043$) and more controllable ($r = .31$, $p = .014$). Given that several of the event ratings were correlated significantly with the affective predictions, I went on to include the event ratings as covariates. However, including each of these variables individually as a covariate in a 2 x 2 mixed-model ANCOVA did not result in a significant interaction between emotion-type and perspective condition (p's ranged from .375 to .507) or a significant main effect of perspective (p's ranged from .709 to .994).

---

[9] As pride and joy were highly correlated, I also tested my hypothesis by performing an ANCOVA with pride as the dependent variable, perspective condition as the independent variable, and joy as a covariate. There was no significant main effect of perspective condition on pride when controlling for joy, $F(1, 58) = 2.13$, $MSE = 2.81$, $p = .150$.

[10] As an internal check on the effect of visual perspective on forecasted affect, I regressed pride on participants' self-reported visual perspective and joy. Consistent with the results of the mixed model ANOVA, there was a marginally significant relationship between self-reported visual perspective and forecasted pride, $\beta = .11$, $SE = .06$, $p = .087$.

Moderator Analysis. I tested whether any of the six measured event characteristics moderated the effect of visual perspective on forecasted self-conscious affect and on forecasted hedonic affect. Specifically, for each event characteristic, I regressed, separately, each emotion index on visual perspective condition, the event characteristic, and the interaction of perspective and event characteristic. I also tested the BIF as a moderator in the same way. These analyses provided evidence that the effects of visual perspective on forecasted emotions appear to be moderated by the temporal distance, likelihood, and controllability of the target event. These moderators are difficult to understand, and given that the effects were not predicted a priori and power is low due to the small sample, they should be interpreted with caution until they are replicated in future studies. Full details of the analyses are reported in Appendix F.

Discussion

The findings of this study did not support the hypotheses, as predictions of hedonic and self-conscious emotions were not affected differentially by the visual perspective manipulation. Although a manipulation check suggested that participants did adopt the assigned perspective when imagining the upcoming positive event, this did not influence their predicted emotional reactions.

However, further exploratory analyses revealed some potentially interesting patterns. First, although the interaction was not significant, it is worth noting that the pattern of means was directionally consistent with the hypotheses, in that participants predicted stronger self-conscious emotions when the event was visualized from the TPP compared with the FPP, and the opposite occurred for hedonic emotions. This trend in the means was most apparent when focusing on the specific emotions of pride and joy, which arguably may have been the items that best captured the distinction between the two emotion types.

A noteworthy limitation of the study is that the sample size was relatively small and thus it is possible that it did not provide sufficient power to detect the hypothesized effects. Power analysis revealed that the power to detect a small condition by emotion-type interaction effect was 34%. Power analysis also indicated that a sample size of 200 would be needed to have 80% power to detect a small interaction effect. Therefore, in Study 1B, I ran the experiment again with a larger sample size to see if the pattern of results would replicate and reach significance.

Study 1B

The main objective of Study 1B was again to test the guiding hypotheses, and to see if the interaction pattern observed qualitatively in Study 1A would replicate and reach significance in a larger sample. The study design and procedures were the same as Study 1A, except that I added the Rosenberg Self-Esteem scale (RSE) (Rosenberg, 1965) after the BIF as an additional individual difference measure that could serve as a covariate or a potential moderating variable (see Appendix B for Study 1B materials).

Method

Participants

Participants were recruited from Amazon Mechanical Turk Prime (Turk Prime) and were compensated with $1 USD for taking part in the study. Responses were collected from 216 participants. However, 28 responses were excluded as the participants exited the survey before providing their affective forecasts, and 20 responses were excluded because participants answered all of the survey questions without actually identifying an event. Therefore, I could not be sure that they thoughtfully answered the questions.[11] The final sample consisted of 168 participants (52% male) between the ages of 20 and 67 (M = 34.76, SD = 10.66).

[11] Results of all primary analyses (manipulation checks, factor analyses, main hypothesis test, etc.) are qualitatively similar when these 20 participants are included in the analysis.

Procedure

The study used a 2 (visual perspective: FPP vs. TPP) x 2 (emotion type: hedonic vs. self-conscious) mixed design. Visual perspective was a between-subjects factor and participants were randomly assigned across conditions. Emotion type was a within-subjects factor. The experiment was administered online using Qualtrics™ and the procedures that participants followed were identical to those in Study 1A except for the addition of the RSE as indicated above.

Results

Descriptive Statistics

Table 3 presents the means, SDs and zero order correlations for all measures included in the study. Table 4 presents the means and SDs for each imagery perspective condition.

Event Characteristics

As shown in Table 3, the events participants selected were rated as highly positive, likely to occur, and important, suggesting that participants followed the instructions to select a positive, significant event that they expect to occur. The events were also rated as highly controllable.

To confirm that these event characteristics, which were rated before the visual perspective manipulation, did not differ across condition, each of the ratings was submitted to a one-way ANOVA with perspective as the independent variable (see Table 4 for means). There were no significant differences across conditions.

Manipulation Check

A one-way ANOVA, with participants' self-reported visual perspective as the dependent variable and assigned perspective condition as the independent variable suggests that the imagery perspective manipulation was successful. Participants reported using the TPP more in the TPP

condition (M = 5.21, SD = 1.86) than in the FPP condition (M = 2.24, SD = 1.77), $F(1, 166)$ = 112.40, MSE = 370.63, $p < .001$.[12]

Affective Forecasts

I averaged participants' affective forecasts for 'happy', 'joyful' and 'excited' to create a hedonic emotions index (α = .86, M = 6.40, SD = .87), and their affective forecasts for 'proud', 'competent' and 'self-worth' to create a self-conscious emotions index (α = .77, M = 5.95, SD = .96). To examine empirically whether the emotion items represented two distinct types I also performed a varimax-rotated, principal components factor analysis. The analysis identified two factors with an eigenvalue exceeding one. As expected, 'happy', 'joyful' and 'excited' loaded heavily on the first factor, which explained 55.6% of the variance in the emotion measures, and 'proud', 'competent' and 'self-worth' loaded significantly on the second factor, which explained a further 19.6% of the variance. This provides some further evidence that the hedonic emotion items are measuring something different than are the self-conscious emotion items, and suggests that the small sample size in Study 1A may explain why two factors did not emerge naturally in that study.

To test the two hypotheses, the emotion measures were submitted to a 2 x 2 mixed-model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (hedonic vs. self-conscious) as a within-subjects factor. There was a main effect of emotion-type, $F(1, 166)$ = 39.46, MSE = 16.74, $p < .001$, in that participants expected to feel stronger hedonic emotions (M = 6.40, SD = .87) than self-conscious emotions (M = 5.95, SD = .96). There was also a significant main effect of perspective condition, as participants generally predicted stronger emotional reactions in the FPP condition (M = 6.31) than in the TPP condition (M =

[12] Results of the main hypothesis test remain qualitatively similar if participants who failed the manipulation check (n = 26) are excluded from the analysis.

6.05), $F(1, 166) = 4.60$, $MSE = 5.68$, $p = .033$. However, the hypothesized interaction between visual perspective condition and emotion type did not occur, $F(1, 166) = .002$, $MSE = .001$, $p = .963$.[13] Examining the means of each type of emotion in each condition revealed that both types of emotions were predicted to be stronger in the FPP condition than in the TPP condition. Therefore, the pattern of means observed in Study 1A did not replicate in Study 1B. Although the interaction was not significant, I tested the simple effects in order to explore these main effects further. These tests showed that hedonic emotions were forecasted to be significantly stronger in the FPP condition ($M = 6.53$, $SD = .66$) than in the TPP condition ($M = 6.27$, $SD = 1.02$), $F(1, 166) = 3.90$, $MSE = 2.92$, $p = .050$, supporting H1B. However, self-conscious emotions were also forecasted to be marginally stronger in the FPP condition ($M = 6.08$, $SD = .85$) than in the TPP condition ($M = 5.82$, $SD = 1.05$), $F(1, 166) = 3.03$, $MSE = 2.77$, $p = .083$, which is counter to H1A. Thus, there was no support for the overall hypothesis that perspective would have differential effects depending on the type of emotion.[14]

Supplementary Analyses

Pride and Joy. Consistent with Study 1A, I conducted exploratory follow up analyses that examined the effect of imagery perspective on each individual emotion item (see Table 4 for means). I was again particularly interested in the items of pride and joy because these were the two items that seemed to best represent the two emotion types. Therefore, I tested my hypotheses again using only the hedonic emotion of joy and the self-conscious emotion of pride. That is, I submitted these two emotion items to a 2 x 2 mixed-model ANOVA with visual perspective

[13] Consistent with Study 1A, I also performed an ANCOVA with self-conscious emotions as the dependent variable, perspective condition as the independent variable, and hedonic emotions as a covariate. There was no significant relationship between perspective condition and self-conscious emotions when controlling for hedonic emotions, $F(1, 165) = .76$, $MSE = .53$, $p = .384$.

[14] Consistent with the internal check performed in Study 1A, I regressed self-conscious emotions on participants' self-reported visual perspective and hedonic emotions, expecting a significant regression coefficient on the self-report variable if my hypothesis was supported. This predicted relationship was not observed, $\beta = .001$, $SE = .03$, $p = .959$.

(FPP vs. TPP) as a between-subjects factor and emotion-type (joy vs. pride) as a within-subjects factor. Results are qualitatively similar to using the composite emotion indices. Overall, joy (M = 6.38, SD = 1.03) was predicted to be stronger than pride (M = 5.96, SD = 1.29), and this main effect was significant, $F(1, 166) = 19.59$, $MSE = 14.54$, $p < .001$. Emotions were also forecasted to be stronger in the FPP condition (M = 6.36) than in the TPP condition (M = 5.99), $F(1, 166) = 6.03$, $MSE = 11.70$, $p = .015$. The predicted interaction between emotion-type and visual perspective was not observed, $F(1, 166) = .34$, $MSE = .25$, $p = .562$, as both emotions were predicted to be stronger in the FPP condition than in the TPP condition.[15] Examination of the simple effects reveals that joy was forecasted to be stronger in the FPP condition (M = 6.54, SD = .74) than in the TPP condition (M = 6.22, SD = 1.24), $F(1, 166) = 4.08$, $MSE = 4.26$, $p = .045$, but that pride was also forecasted to be stronger in the FPP condition (M = 6.18, SD = 1.08) than in the TPP condition (M = 5.75, SD = 1.45), $F(1, 166) = 4.69$, $MSE = 7.69$, $p = .032$). Therefore, H1B is supported when using pride and joy rather than the composite emotion indices, but H1A is not.[16]

Event Characteristics as Covariates. Also consistent with Study 1A, I conducted additional exploratory analyses to test whether the inclusion of event characteristics as covariates would help to reduce error variability that may have obscured effects of the manipulation. Given that several of the event ratings were correlated significantly with the affective predictions (See Table 3), I went on to include the event ratings as covariates. However, including each of these variables individually as a covariate in a 2 x 2 mixed-model ANCOVA did not result in a

[15] As in Study 1A, I performed an ANCOVA with pride as the dependent variable, perspective condition as the independent variable, and joy as a covariate. There was no significant main effect of perspective condition on pride when controlling for joy, $F(1, 165) = 1.89$, $MSE = 2.46$, $p = .172$.

[16] Consistent with the internal check performed in Study 1A, I regressed pride on participants' self-reported visual perspective and joy. There was no relationship between self-reported visual perspective and forecasted pride, $\beta = -.004$, $SE = .04$, $p = .907$, consistent with the results of the mixed model ANOVA.

significant interaction between emotion-type and perspective condition (*p*'s ranged from .927 to .998) and did not alter substantively the main effects of perspective condition on predicted affect.

Moderator Analysis. I also tested whether any of the measured event characteristics, the BIF and the RSE moderated the effect of visual perspective on forecasted self-conscious affect and on hedonic affect. Specifically, for each potential moderator, I regressed the self-conscious emotion index (and separately, the hedonic emotion index) on visual perspective condition, the moderator variable, and the interaction of condition and the potential moderator. The perceived positivity of the event moderates the relationship between visual perspective and both self-conscious and hedonic emotions. This relationship was not predicted a priori and is different than the moderators identified in Study 1A. Full results and a discussion of this analysis are included in Appendix F.

Event Analysis. In both Studies 1A and 1B, hedonic emotions were predicted to be stronger overall than were self-conscious emotions, and this could relate to the types of events that participants nominated. Therefore, I examined the types of anticipated future events that participants chose to visualize, and this examination revealed a broad range of events. Examples of events included upcoming visits with friends and/or family, an upcoming vacation, taking a class, starting a new job, completing a project, buying a car, graduating from school, and finishing an exam, among others. While all of these events were nominated because they are significant to the participant, they might not be considered events that are significant to the participants' *self-concept*. As such, while the events seem likely to elicit hedonic emotions, some of the events might not reasonably be expected to elicit self-conscious emotions such as pride, thus limiting the differential effect of imagery perspective on affective forecasts. To further explore this possibility, I merged the data sets from Studies 1A and 1B and coded the nature of

events, based on the descriptions provided by participants, into three categories: 1) mostly hedonic events, such as vacations and visiting friends (n = 119); 2) events that relate to accomplishments and are therefore expected to be pride-inducing, such as graduating from school and finishing a project (n = 71); and 3) ambiguous events that did not seem to lean toward one type of emotion over the other, such as family visits and taking classes (n = 39).[17] Note that the coding was done based on my subjective assessment of the nature of the event for exploratory purposes only. After excluding the 39 participants whose events were too ambiguous to classify, I tested whether inclusion of the event-type factor in analyses would alter the effects of the experimental manipulations. Specifically, I conducted a 2 (event type: hedonic vs. pride-inducing) x 2 (emotion type: hedonic vs. self-conscious) x 2 (perspective condition: FPP vs. TPP) mixed model ANOVA, with event type and perspective condition as between-subjects factors, and emotion type as a within-subjects factor. See Table 5 for means and SDs of the forecasted emotions by event type and perspective condition. The analysis did not alter the effects of the experimental manipulation, as the interaction between perspective condition and emotion-type remained non-significant, $F(1, 186) = 1.13$, $MSE = .43$, $p = .290$, and there was no interaction between event type, emotion type and perspective condition, $F(1, 186) = 1.95$, $MSE = .74$, $p = .165$. There was a significant two-way interaction between emotion type and event type, $F(1, 186) = 19.77$, $MSE = 7.56$, $p < .001$, whereby predicted self-conscious emotions were stronger for pride-inducing events ($M = 6.16$, $SD = .73$) than for hedonic events ($M = 5.75$, $SD = .96$), and predicted hedonic emotions were stronger for hedonic events ($M = 6.41$, $SD = .74$) than for pride-inducing events ($M = 6.24$, $SD = .96$).[18] This lends some support to my coding and

[17] I merged the data sets from Studies 1A and 1B for this analysis because participants were asked the same questions in both studies and because of the small sample size in Study 1A. Results of the event analysis are qualitatively the same for the individual data sets as they are for the merged data set.

[18] These results are qualitatively the same when I control for which study the data came from.

to the intuition that not all events are expected to induce equally strong self-conscious emotions. I also noticed that only 31% of the events nominated in Study 1B were pride-inducing events, compared with 41% in Study 1A, which may at least partially explain why the predicted pattern of means was observed in Study 1A but not in Study 1B.

Discussion

Although the findings of this study support H1B, in that hedonic emotions were forecasted to be stronger in the FPP condition than in the TPP condition, this is due to a main effect of perspective condition. Therefore, overall the findings of this study did not support the hypotheses, as predictions of hedonic and self-conscious emotions were not affected differentially by the visual perspective manipulation. These effects were slightly stronger when focusing only on the emotion items 'pride' and 'joy', which is consistent with Study 1A. Although a manipulation check again suggested that participants did adopt the assigned perspective when imagining the upcoming positive event, this did not influence their predicted emotional reactions in the hypothesized manner. Moreover, by recruiting a larger sample, I ensured that this study had higher power than the previous study. The power to detect a small condition by emotion-type interaction effect in this study was 73%. Thus it is less likely that the study simply did not have sufficient power to detect the hypothesized effects.

Exploratory analyses on the merged data sets from Studies 1A and 1B also identified that some types of events that were nominated were more likely than others to induce a sense of pride. It is possible that this hindered my ability to detect effects of visual perspective on affective forecasts of self-conscious emotions. Indeed, Hung and Mukhopadyay (2011) found that visual perspective did not affect emotions that were not relevant to the event. Therefore, Study 2A tests my hypotheses using anticipated future events that can reasonably be expected to

induce positive self-conscious emotions. Note that these events are also expected to induce positive hedonic emotions, as "a person who feels proud also is apt to feel happy, but the reverse is not necessarily true" (Brown & Marshall, 2001, p. 576).

Study 2A

The objective of Study 2A was to examine the effect of visual perspectives on affective forecasts about a self-nominated, anticipated positive future event that is expected to induce both self-conscious and hedonic emotions. Participants were asked to nominate a positive event that they expected to occur within the next month, and that reflects an accomplishment or induces a feeling of pride. They were then asked to imagine this event from either a FPP or a TPP, and then to forecast hedonic and self-conscious emotions. I expected that participants who visualized the event from the TPP would forecast stronger self-conscious emotions than would participants who visualized the event from the FPP, but that the opposite effect would occur for the prediction of hedonic emotions. Appendix C contains the experimental materials used in Study 2A.

Method

Participants

Participants were recruited from Turk Prime and were compensated with $1 USD for taking part in the study. Responses were collected from 282 participants. However, 88 responses were excluded as the participants exited the survey before providing their affective forecasts, and 38 were excluded because participants completed the survey without actually identifying an event. Therefore, I could not be sure that they thoughtfully answered the questions.[19] The final

[19] Results of all primary analyses (manipulation checks, factor analyses, main hypothesis test, etc.) are qualitatively similar when these 38 participants are included in the analysis.

sample consisted of 156 participants (53% male) between the ages of 19 and 78 (M = 36.74, SD = 12.77).

Procedure

The experiment was administered online using Qualtrics™ and used a 2 (visual perspective: FPP vs. TPP) x 2 (emotion type: hedonic vs. pride) mixed design. Visual perspective was a between-subjects factor and participants were randomly assigned across conditions. Emotion type was a within-subjects factor.

The procedures followed in Study 2A were identical to Study 1B, with three exceptions. First, the type of event that participants were asked to choose was more clearly defined to ensure selection of events that would elicit both hedonic and self-conscious emotions. Specifically, participants were given the following instructions:

> Think of an event that you expect to take place in the next month that would be **personally significant to you** because it reflects **an accomplishment or something that induces a feeling of pride**. The event you identify could be something that has deep personal significance for you, something that reflects your own values or personal goals, something that tells others who you are as a person, something that reflects an outcome of your efforts, etc. The main thing is that this event has personal significance for you because it reflects an accomplishment and/or induces a feeling of pride.

The second change to the experimental procedures was that participants were only asked to predict their pride, joy and excitement. This change was made to simplify the experiment since the first two studies showed similar results with pride and joy as with the previous composite measures. These particular three emotion items were chosen to mirror the positive hedonic (joy, excitement) and self-conscious (pride) emotions used by Hung and Mukhopadhyay's (2011) Experiment 1.[20]

[20] Hung and Mukhopadhyay (2011) used pride and relief as proxies for positive self-conscious emotions. I excluded relief, as the events that my participants were asked to nominate were not necessarily intended to elicit relief.

Finally, the BIF was removed from the experiment in order to shorten and simplify it, since there were no differences across conditions in BIF scores in the previous two studies.

Results

Descriptive Statistics

Table 6 presents the means, SDs and zero order correlations for all measures included in the study. Table 7 presents the means and SDs for each imagery perspective condition.

Event Characteristics

As shown in Table 6, the events participants selected were rated as highly positive, likely to occur, and important, suggesting that participants followed the instructions to select a positive, significant event that they expect to occur. The events were also rated as highly controllable. To confirm that these event characteristics, which were rated before the visual perspective manipulation, did not differ across condition, each of the ratings was submitted to a one-way ANOVA with perspective as the independent variable (see Table 7 for means). There were no significant differences across conditions.

Manipulation Check

A one-way ANOVA, with participants' self-reported visual perspective as the dependent variable, and assigned perspective condition as the independent variable, suggests that the imagery perspective manipulation was successful. Participants were more likely to report using the TPP in the TPP condition ($M = 5.26$; $SD = 1.93$) than in the FPP condition ($M = 2.28$; $SD = 1.72$), $F(1, 154) = 103.99$, $MSE = 347.55$, $p < .001$).[21]

[21] Results of the main hypothesis test remain qualitatively similar if participants who failed the manipulation check (n = 26) are excluded from the analysis.

Affective Forecasts

I averaged participants' affective forecasts for 'joyful' and 'excited' to create a hedonic emotions index (α = .81, *M* = 6.13, *SD* = 1.05). To examine empirically whether the emotion items represented two distinct types I also performed a varimax-rotated, principal components factor analysis. The analysis identified only one factor with an eigenvalue exceeding one, and this factor explained 73.52% of the variance in the emotion measures. These results suggest that the three emotion items are not measuring different things. For exploratory purposes, I performed a second factor analysis with varimax rotation, forcing two factors, and as expected, 'excited' and 'joyful' loaded significantly on the first factor, which explained 73.52% of the variance. 'Pride' loaded significantly on the second factor, and this factor explained a further 16.09% of the variance. This pattern of results provides some limited evidence that the hedonic emotion items are measuring something distinct from pride.

To test the hypotheses, the emotion indices were submitted to a 2 x 2 mixed-model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (pride vs. hedonic) as a within-subjects factor. There was no main effect of emotion-type, $F(1, 154) = .80$, $MSE = .37$, $p = .372$, nor of perspective condition, $F(1, 154) = 2.07$, $MSE = 3.85$, $p = .152$, and there was no interaction between emotion type and condition, $F(1, 154) = .96$, $MSE = .44$, $p = .328$.[22] Examination of the means of each type of emotion in each condition revealed that the pattern of means was directionally consistent with my predictions for pride, but not for hedonic emotions. Participants forecasted marginally stronger pride in the TPP condition ($M = 6.35$, $SD = .87$) than in the FPP condition ($M = 6.05$, $SD = 1.30$), $F(1, 154) = 2.85$, $MSE = 3.45$, p

[22] Consistent with prior studies, I also performed an ANCOVA with pride as the dependent variable, perspective condition as the independent variable, and hedonic emotions as a covariate. There was no significant relationship between perspective condition and pride when controlling for hedonic emotions, $F(1, 153) = 2.11$, $MSE = 1.62$, $p = .149$.

= .093, which is consistent with H1A. However, they also forecasted slightly stronger hedonic emotions in the TPP condition (M = 6.21, SD = 1.01) than in the FPP condition (M = 6.06, SD = 1.09), $F(1, 154) = .76$, $MSE = .84$, $p = .385$, which is contrary to H1B.[23]

Supplementary Analyses

Pride and joy. As in Studies 1A and 1B, for exploratory purposes I conducted follow up analyses that examined the effect of imagery perspective on pride and joy specifically (see Table 7 for means). That is, I submitted these emotion items to a 2 x 2 mixed model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (joy vs. pride) as a within-subjects factor. There was no main effect of emotion type, $F(1, 154) = .00$, $MSE = .00$, $p = .975$, nor of perspective condition, $F(1, 154) = .92$, $MSE = 1.75$, $p = .340$, but there was a marginally significant interaction between emotion type and visual perspective, $F(1, 154) = 3.11$, $MSE = 1.69$, $p = .080$.[24] Further analysis identified that this interaction was driven by predicted pride. Specifically, participants forecasted marginally stronger feelings of pride in the TPP condition (M = 6.35; SD = .873) than in the FPP condition (M = 6.05; SD = 1.30), $F(1, 154) = 2.85$, $MSE = 3.45$, $p = .093$, consistent with H1A. However, there were no significant differences in predicted joy across visual perspective condition, $F(1, 154) = .00$, $MSE = .00$, $p = .988$. Therefore, H1B was not supported. Although the two sub-hypotheses were not both supported, these results do demonstrate a marginally significant differential effect of visual perspective on forecasted emotions, consistent with my overall hypothesis.[25]

---

[23] Consistent with the internal checks performed in the prior studies, I regressed pride on participants' self-reported visual perspective and hedonic emotions, expecting a significant regression coefficient on the self-report variable if my hypothesis was supported. This predicted relationship was not observed, $\beta = .05$, $SE = .03$, $p = .123$.

[24] As in prior studies, I performed an ANCOVA with pride as the dependent variable, perspective condition as the independent variable, and joy as a covariate. There was a significant main effect of perspective condition on pride when controlling for joy, $F(1, 153) = 4.08$, $MSE = 3.41$, $p = .045$.

[25] Consistent with the internal checks performed in the prior studies, I regressed pride on participants' self-reported visual perspective and joy, expecting a significant regression coefficient on the self-report variable if my hypothesis was supported. This predicted relationship was not observed, $\beta = .05$, $SE = .03$, $p = .110$.

Event Characteristics as Covariates. As in the first two studies, I conducted additional exploratory analyses to test whether the inclusion of event characteristics as covariates would help to reduce error variability that may have obscured effects of the manipulation. Given that several of the event ratings were correlated significantly with the affective predictions (see Table 6), I went on to include the event ratings as covariates. However, including each of these variables individually as a covariate in a 2 x 2 mixed-model ANCOVA did not result in a significant interaction between emotion-type and perspective condition (*p*'s ranged from .202 to .439) and nor a main effect of perspective (*p*'s ranged from .143 to .546).

Moderator Analysis. I also tested whether any of the measured event characteristics and the RSE moderated the effect of visual perspective on forecasted pride and on hedonic affect. Specifically, for each potential moderator, I regressed pride (and separately, the hedonic emotion index) on visual perspective condition, the moderator variable, and the interaction of condition and the potential moderator. The perceived likelihood of the event moderates the relationship between visual perspective and both pride and hedonic emotions. This is, once again, different than the moderators identified in the prior two studies. Full results and a discussion of this analysis are included in Appendix F.

Discussion

Although the findings of this study provided partial support for H1A, as pride was predicted to be marginally stronger when the event was visualized from the TPP than from the FPP, the interaction between emotion type and perspective condition was not significant. Therefore, the findings of this study did not support the overall hypothesis, as predictions of hedonic and self-conscious emotions were not affected differentially by visual perspective. Although a manipulation check again suggested that participants did adopt the visual perspective

when imagining the upcoming positive event, this did not differentially influence their predicted emotional reactions.

Further exploratory analyses revealed stronger support for H1 when focusing on the emotions of pride and joy, as a marginally significant interaction between emotion type and perspective was observed. As predicted in H1A, participants anticipated marginally stronger feelings of pride when they visualized their future event from the TPP compared with the FPP. However, there were no significant differences in predicted hedonic emotions across perspective conditions. Therefore, pride and joy provide partial, albeit weak, support for my overall hypothesis.

Additionally, the main effect of emotion-type that was observed in Studies 1A and 1B did not replicate in Study 2A, which could be explained by the change in event-type to focus on events expected to induce both hedonic and self-conscious emotions. Finally, the potential moderator identified in Study 2A is different than the potential moderators identified in the first two studies. Given the inconsistency in results across the first 3 studies, and the stronger results observed in those studies when focusing on pride and joy, I decided to run the experiment one more time using only those two emotions.

Study 2B

Method

Participants

Participants were recruited from Turk Prime and were compensated with $1 USD for taking part in the study. Responses were collected from 210 participants. However, 17 responses were excluded as the participants exited the survey before providing their affective forecasts, and 35 were excluded as participants completed the survey without actually nominating an event.

Therefore, I could not be sure that they thoughtfully answered the questions.[26] The final sample consisted of 158 participants (51% male) between the ages of 19 and 73 (M = 36.15, SD = 11.66).[27]

Procedure

The experiment was administered online using Qualtrics™ and used a 2 (visual perspective: FPP vs. TPP) x 2 (emotion type: joy vs. pride) mixed design. Visual perspective was a between-subjects factor and participants were randomly assigned across conditions. Emotion type was a within-subjects factor. The procedures followed in Study 2B were identical to those in Study 2A except that participants were only asked to forecast pride and joy, as these are the most direct proxies of self-conscious and hedonic emotions and showed the strongest results in my previous studies.

Results

Descriptive Statistics

Table 8 presents the means, SDs and zero order correlations for all measures included in the study. Table 9 presents the means and SDs for each imagery perspective condition.

Event Characteristics

As shown in Table 8, the events participants selected were rated as highly positive, likely to occur, and important, suggesting that participants followed the instructions to select a positive, significant event that they expect to occur. The events were also rated as highly controllable. To confirm that these event characteristics, which were rated before the visual perspective manipulation, did not differ across condition, each of the ratings was submitted to a one-way

[26] Results of all primary analyses (manipulation checks, main hypothesis test, etc.) are qualitatively similar when these 35 participants are included in the analysis

[27] One participant indicated that the target event was expected to occur 3,650 days into the future, even though participants were asked for an event that was expected to occur within the next 30 days. All results are qualitatively the same if this significant outlier is excluded from analyses.

ANOVA with perspective as the independent variable (see Table 9 for means). There were no significant differences across conditions.

Manipulation Check

A one-way ANOVA, with participants' self-reported visual perspective as the dependent variable, and assigned perspective condition as the independent variable, suggests that the imagery perspective manipulation was successful. Participants were more likely to report using the TPP in the TPP condition ($M = 4.83$; $SD = 1.89$) than in the FPP condition ($M = 2.03$; $SD = 1.73$), and this difference was significant, $F(1, 156) = 94.14$, $MSE = 309.92$, $p < .001$.[28]

Affective Forecasts

To test my hypothesis, the emotion measures were submitted to a 2 x 2 mixed-model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (pride vs. joy) as a within-subjects factor. There was no main effect of perspective condition, $F(1, 156) = 2.10$, $MSE = 4.26$, $p = .149$, but there was a marginally significant main effect of emotion-type, $F(1, 156) = 3.35$, $MSE = 1.47$, $p = .069$, whereby pride ($M = 6.41$, $SD = 1.03$) was predicted to be stronger than joy ($M = 6.27$, $SD = 1.19$). The interaction of visual perspective and emotion-type was not significant, $F(1, 156) = .57$, $MSE = .25$, $p = .450$.[29] Examination of the means shows the same pattern as in Study 2A. Pride was forecasted to be marginally stronger in the TPP condition ($M = 6.54$, $SD = .82$) than in the FPP condition ($M = 6.25$, $SD = 1.21$), $F(1, 156) = 3.15$, $MSE = 3.29$, $p = .078$, consistent with H1A. However, there was no significant

[28] Results of the main hypothesis test remain qualitatively similar if participants who failed the manipulation check (n = 22) are excluded from the analysis.

[29] Consistent with prior studies, I also performed an ANCOVA with pride as the dependent variable, perspective as the independent variable, and joy as a covariate. There was no significant relationship between visual perspective and pride when controlling for joy, $F(1, 155) = 2.36$, $MSE = 1.42$, $p = .127$.

relationship between forecasted joy and imagery perspective, $F(1, 156) = .86$, $MSE = 1.22$, $p = .355$.[30]

Supplementary Analyses

I performed exploratory analyses consistent with the first three studies to test for possible effects of the experimental manipulation.

Event Characteristics as Covariates. I started by testing whether the inclusion of event characteristics as covariates would help to reduce the error variability that may have obscured effects of the manipulation. Given that several of the event ratings were correlated significantly with the affective predictions (see Table 8), I went on to include the event ratings as covariates. However, including each of these variables individually as a covariate in a 2 x 2 mixed-model ANCOVA did not result in a significant interaction between emotion-type and perspective (p's ranged from .420 to .538) or a significant main effect of perspective (p's ranged from .062 to .192).

Moderator Analysis. I also tested whether any of the event characteristics and the RSE moderated the effect of visual perspective on forecasted pride and on forecasted joy. Specifically, for each potential moderator, I regressed pride (and separately, joy) on visual perspective condition, the moderator variable, and the interaction of condition and the potential moderator. The perceived importance of the event moderates the relationship between visual perspective and both pride and joy. This is once again different than the moderators identified in the prior three studies. Full results and a discussion of this analysis are included in Appendix F.

[30] Consistent with the internal checks performed in the prior studies, I regressed pride on participants' self-reported visual perspective and joy, expecting a significant regression coefficient on the self-report variable if my hypothesis was supported. This predicted relationship was not observed, $\beta = .00$, $SE = .03$, $p = .986$.

Discussion

The findings of this study showed a similar pattern of results as Study 2A. Although the study provided partial support for H1A, as pride was predicted to be marginally stronger when the event was visualized from the TPP than from the FPP, the interaction between emotion type and perspective condition was not significant. Therefore, the findings of this study did not support the overall hypothesis as predictions of hedonic and self-conscious emotions were not affected differentially by visual perspective. Although a manipulation check again suggested that participants did adopt the visual perspective when imagining the upcoming positive event, this did not differentially influence their predicted emotional reactions. Additionally, the potential moderator identified in Study 2B is different than the potential moderators identified in the first three studies.

The results of my first four studies are inconsistent with each other and provide inclusive evidence regarding my hypothesis. Table 10 presents a summary of the means of pride and joy in each visual perspective condition for each study. I focused on pride and joy since these are the two emotions that were consistently measured across all four studies. In order to get a global view of the findings of the first four studies, which all had similar methodologies, I merged all four data sets and present the overall means of pride and joy by condition in Table 10. Using this merged data set, I ran a 2 (perspective condition: FPP vs. TPP) by 2 (emotion type: joy vs. pride) mixed model ANOVA, with perspective condition as a between-subjects factor and emotion-type as a within subjects factor. I also included study number as a between subjects factor, since there were some differences in design across the four studies. This analysis revealed a significant interaction between emotion type and study, $F(1, 535) = 7.52$, $MSE = 4.59$, $p < .001$, which is not surprising given that joy was overall stronger than pride in Studies 1A and 1B, but the

reversed was true when the event type was changed in Studies 2A and 2B. This analysis also revealed a significant interaction between emotion type and perspective condition, $F(1, 535) = 4.22$, $MSE = 2.57$, $p = .040$. The simple effects, while not significant, demonstrate the means going in the predicted direction (see Table 10), providing some limited support for my overall hypothesis.

Taken together, the results of these four studies suggest that my experiments may not have been designed appropriately to detect the hypothesized relationships, given that some of my studies provide partial support for my hypotheses. Common to all four studies is the use of online platforms (MTurk and Turk Prime) to recruit participants. While many researchers have had success with these participant pools, my experiment requires that participants spend time visualizing the event. In order to encourage this, I held participants to the screen with the visualization instructions for 45 seconds. However, I have no way of knowing whether or not participants spent that time visualizing the event as instructed or if they engaged in other tasks while waiting to move on to the next screen. If time was not spent visualizing the event, then imagery perspective will not influence affective forecasts as hypothesized. Therefore, in order to have more control over whether or not participants engage in visualizing their nominated event, I ran the experiment again (Study 3), using participants from the university's Psychology Research Experience Program (PREP). I used the same experimental procedures as in study 2B. However, rather than administer the experiment online using Qualtrics™, I administered it on paper in the lab. This enabled me to bring participants into the lab in small groups and walk them through the visualization procedure. It also allowed me to observe whether or not they appeared to be attempting to visualize the event by watching for cues such as eyes being closed, body being relaxed, etc.

Study 3

The purpose of Study 3 was to test the effect of visual perspective on affective forecasts in the lab instead of online, in order to have more control over whether participants spent time visualizing their events. Experimental materials were identical to those in Study 2B, except that the experiment was completed on paper rather than online.

Method

Participants

Participants were recruited from Wilfrid Laurier University's (WLU's) PREP system and were compensated with course credit for taking part in the study. Responses were collected from 119 participants (13% male) between the ages of 17 and 26 (M = 18.80, SD = 1.51).

Procedure

The experiment used a 2 (visual perspective: FPP vs. TPP) x 2 (emotion type: joy vs. pride) mixed design, where visual perspective was a between-subjects factor, emotion type was a within-subjects factor, and participants were randomly assigned across perspective conditions. The experimental materials were identical to those used in Study 2B. However, the experiment was administered in lab on paper, instead of online. Participants were brought into the lab by an experimenter in groups of 4-6 participants. They were seated at tables with dividers so that other participants could not see their responses. After signing the consent form, each participant received an envelope containing the instructions for event nomination and the related event characteristics questions. The experimenter asked participants to read the instructions on the first page (which contained the event nomination instructions) and then to answer the questions on the second page. They were asked to put their pencils down and turn their questionnaires over when they were finished.

Once all participants had finished the first part of the experiment, the experimenter, blind to visual perspective condition, handed each participant a second questionnaire containing the rest of the survey questions. The experimenter asked participants to read the first page (which contained the visual perspective manipulation) and then to await further instruction. Once everyone had finished reading their visualization instructions, the experimenter led participants through the visualization exercise by telling them the following:

"I hope everyone is clear about how we want you to visualize your event. I would now like to lead you through the visualization procedure, and I want you to try to picture the event in your mind just as your instructions indicated. To begin, please relax, take some deep breaths, and close your eyes. Place your hands on your desk. Try to see everything from the perspective or point of view you were asked to take. From this perspective, try to picture your future event as clearly and vividly as possible, as if it is actually happening. Please take at least a minute to visualize the event, and again, be sure to picture the event from the point of view you were instructed to take. Once you have formed a clear image, continue to follow the rest of the instructions on the questionnaire until you are finished."

After visualizing their event, participants completed the remainder of the questions, placed both questionnaires in the provided envelope, returned it to the experimenter and were thanked and dismissed. Experimental materials for Study 3 are found in Appendix E.

Results

Descriptive Statistics

Table 11 presents the means, SDs and zero order correlations for all measures included in the study. Table 12 presents the means and SDs for each imagery perspective condition.

Event Characteristics

As shown in Table 11, the events participants selected were rated as highly positive, likely to occur, and important, suggesting that participants followed the instructions to select a positive, significant event that they expect to occur. The events were also rated as highly controllable. To confirm that these event characteristics, which were rated before the visual

perspective manipulation, did not differ across condition, each of the ratings was submitted to a one-way ANOVA with perspective as the independent variable (see Table 12 for means). There were no significant differences across conditions.

Manipulation Check

A one-way ANOVA, with participants' self-reported visual perspective as the dependent variable, and assigned perspective condition as the independent variable, suggests that the imagery perspective manipulation was successful. Participants were more likely to report using the TPP in the TPP condition ($M = 5.19$; $SD = 1.44$) than in the FPP condition ($M = 2.63$; $SD = 1.81$), and this difference was significant, $F(1, 117) = 72.13$, $MSE = 193.23$, $p < .001$.[31]

Affective Forecasts

To test my hypothesis, the emotion measures were submitted to a 2 x 2 mixed-model ANOVA with visual perspective (FPP vs. TPP) as a between-subjects factor and emotion-type (pride vs. joy) as a within-subjects factor. There was no main effect of perspective condition, $F(1, 117) = .16$, $MSE = .42$, $p = .691$, no main effect of emotion-type, $F(1, 117) = 1.61$, $MSE = .84$, $p = .206$, and no interaction between visual perspective and emotion-type, $F(1, 117) = 1.19$, $MSE = .62$, $p = .277$.[32] The means do not show the predicted pattern. That is, forecasted pride was virtually the same in the FPP condition ($M = 6.08$, $SD = 1.15$) as it was in the TPP condition ($M = 6.07$, $SD = 1.07$), whereas joy was forecasted to be stronger in the TPP condition ($M = 6.05$, $SD = 1.29$) than in the FPP condition ($M = 5.86$, $SD = 1.47$).[33]

---

[31] Results of the main hypothesis test remain qualitatively similar if participants who failed the manipulation check (n = 17) are excluded from the analysis.

[32] Consistent with prior studies, I also performed an ANCOVA with pride as the dependent variable, perspective as the independent variable, and joy as a covariate. There was no significant relationship between visual perspective and pride when controlling for joy, $F(1, 117) = .66$, $MSE = .43$, $p = .420$.

[33] Consistent with the internal checks performed in the prior studies, I regressed pride on participants' self-reported visual perspective and joy, expecting a significant regression coefficient on the self-report variable if my hypothesis was supported. This predicted relationship was not observed, $\beta = -.04$, $SE = .04$, $p = .228$.

Supplementary Analyses

I performed exploratory analyses consistent with the prior studies to test for possible effects of the experimental manipulation.

Event Characteristics as Covariates. I started by testing whether the inclusion of event characteristics as covariates would help to reduce the error variability that may have obscured effects of the manipulation. Given that several of the event ratings were correlated significantly with the affective predictions (see Table 11), I went on to include the event ratings as covariates. However, including each of these variables individually as a covariate in a 2 x 2 mixed-model ANCOVA did not result in a significant interaction between emotion-type and perspective (*p*'s ranged from .210 to .318) or a significant main effect of perspective (*p*'s ranged from .202 to .726).

Moderator Analysis. I also tested whether any of the event characteristics and the RSE moderated the effect of visual perspective on forecasted pride and on forecasted joy. Specifically, for each potential moderator, I regressed pride (and separately, joy) on visual perspective condition, the moderator variable, and the interaction of condition and the potential moderator. The perceived amount of control over the occurrence of the event moderates the relationship between visual perspective and joy. This is once again different than the moderators identified in the prior three studies. Full results and a discussion of this analysis are included in Appendix F.

Experimental control variables. Since this study was run in lab in small sessions on different dates run by two different experimenters, I tested my main hypothesis controlling for variables relating to 1) the date the experimental session was held; 2) the session number; and 3) the experimenter who ran the session. That is, I ran the mixed model ANOVA again with

emotion type as a within subjects factor and visual perspective as a between subjects factor, and I added each of the three control variables as another between subjects factor. Results are qualitatively the same as when these control variables are not included, as there were no significant main effects or interactions observed.

Order effects. Participants were asked to predict their pride and joy in random order, whereby 61 participants predicted joy before pride, and 58 participants predicted pride before joy. To determine whether the order in which emotions were predicted influenced my results, I ran a 2 (perspective: FPP vs. TPP) x 2 (emotion-type: joy vs. proud) x 2 (order: joy first vs. pride first) mixed model ANOVA, where emotion-type is a within subjects factor, and perspective and order are between subjects factors. There was a significant interaction between order and visual perspective, $F(1, 115) = 5.57$, $MSE = 14.19$, $p = .020$.

To explore this interaction further, I split the data based on order, and then submitted the emotion forecasts to a one-way ANOVA with perspective as the independent variable. A pattern emerged whereby, participants who saw joy first forecasted that both joy and pride would be stronger in the FPP condition than in the TPP condition, whereas participants who saw pride first forecasted that both joy and pride would be stronger in the TPP condition than in the FPP condition. Taken together, these results suggest that the order in which participants viewed the emotions influenced their affective forecasts. Specifically, their affective forecast for whichever emotion they saw first influenced their forecast for whichever emotion they saw second, as the effect of visual perspective on the second forecasted emotion was in the same direction as it was for the first forecasted emotion. See Table 13 for a summary of means and SDs of forecasted emotions by order and condition.

In light of these findings, I tested my hypothesis again but this time, to avoid contamination from previous emotion ratings, treated emotion-type as a between-subjects factor. That is, I placed participants who predicted joy first in the "joy" condition, and participants who predicted pride first in the "pride" condition and used only the emotion predicted first as the dependent variable in a 2 (perspective: FPP vs. TPP) x 2 (emotion type: joy vs. pride) between-subjects ANOVA. Although treating emotion-type as a between-subjects factor reduces the sample size in each emotion condition, and therefore the overall power of the study, it may provide a cleaner test of emotion-type. There was no main effect of emotion-type, $F(1, 115) = .63$, $MSE = .92$, $p = .430$, nor of visual perspective, $F(1, 115) = .17$, $MSE = .24$, $p = .685$, but there was a marginally significant interaction between perspective condition and emotion-type, $F(1, 115) = 3.09$, $MSE = 4.53$, $p = .082$, that was consistent with the overall hypothesis. Examination of the simple effects shows that participants predicted stronger joy in the FPP condition ($M = 6.00$, $SD = 1.18$) condition than in the TPP condition ($M = 5.70$, $SD = 1.18$), $F(1, 59) = .98$, $MSE = 1.37$, $p = .325$, and stronger pride in the TPP condition ($M = 6.27$, $SD = 1.05$) than in the FPP condition ($M = 5.79$, $SD = 1.42$), $F(1, 56) = 2.17$, $MSE = 3.35$, $p = .147$. Although these simple effects are not significant, they are directionally consistent with H1A and H1B respectively.[34]

Discussion

When analyzed in the same way as the first four studies, the findings of Study 3 do not support my hypothesis of a differential effect of visual perspective on forecasted emotions based

[34] I also analyzed order effects in the first four studies. In studies, 1A, 1B and 2A, participants saw more emotions than just pride and joy. Therefore, if they saw one of the hedonic emotions first, I coded them into a "hedonic" group, and if they saw one of the self-conscious emotions first, I coded them into a "self-conscious" group. I then ran the same ANOVA as in study 3, with the first emotion-type predicted as the dependent variable, and visual perspective and emotion-type as between-subjects factors. There were no significant interactions between order and perspective in any of these first four studies.

on emotion-type, as there was no interaction between visual perspective and emotion-type. Furthermore, the pattern of means was opposite to what I predicted. However, when considering the effect of the order in which emotions were forecasted, Study 3 provides weak support for my hypothesis. Treating emotion type as a between subjects factor in order to eliminate the influence of one emotional prediction on another, resulted in a marginally significant interaction between perspective and emotion-type, with means going in the predicted direction.

General Discussion

I ran five studies to test my prediction that the perspective adopted while visualizing an anticipated positive event will have a differential effect on the forecasts of self-conscious vs. hedonic emotions. Specifically, I hypothesized that forecasted self-conscious emotions would be stronger when visualizing an anticipated future event from the TPP than from the FPP (H1A) and that forecasted hedonic emotions would be stronger when visualizing an anticipated future event from the FPP than from the TPP (H1B). Results from the studies were inconsistent and, overall, did not provide strong support for these hypotheses. In Study 1A, results were directionally consistent with the hypotheses, but not significant. The interaction between visual perspective and emotion-type was marginally significant when focusing only on pride and joy. In study 1B, participants' affective forecasts were stronger in the FPP condition than in the TPP perspective condition for both self-conscious and hedonic emotions. This supports H1B, but does not provide support for the overall hypothesis as the effect of visual perspective was the same for both hedonic and self-conscious emotions. Studies 2A and 2B refined the type of event that participants were asked to nominate, in order to ensure that both self-conscious and hedonic emotions would be relevant. Both studies provide weak support for H1A, as pride was forecasted to be marginally stronger in the TPP condition than in the FPP condition, but again did not show

a differential effect of visual perspective on forecasts of hedonic vs. self-conscious emotions. Finally, Study 3 was conducted in lab instead of online in order to have more control over whether or not participants spent time visualizing the target event, but once again the interaction between visual perspective and emotion-type was not significant.

Taken together, the results of my five studies seem inconsistent with each other and do not appear to support my hypothesis of a differential effect of imagery perspective on affective forecasts of differing types of emotions. However, a pattern emerges when focusing only on the emotions of pride and joy. In all but Study 1B, use of the TPP strengthens the forecasts of pride relative to the FPP, but does not have this effect on joy. Therefore, four of the five studies provide weak evidence of a differential effect of visual perspective on the forecasts of hedonic vs. self-conscious emotions. There are several limitations to my studies that may have hindered my ability to detect significant effects.

One set of limitations relates to design choices regarding the target event. First, I chose to have participants self-nominate an event that is significant to them in order to avoid making assumptions about what might be significant to participants. However, not all participants likely had a truly significant event that they expected to occur within the next month, thus limiting my ability to elicit emotions of personal significance. Furthermore, many other affective forecasting and imagery perspective studies employ a pre-determined event rather than having participants nominate one, allowing them more control over this aspect of the experiment. Future research might explore the relationship between imagery perspective and the forecasting of different types of emotions in the context of a pre-determined event that all participants will experience (for example, upcoming convocation for university graduates). Second, I also gave all participants the same event-nomination instructions, in the hopes that they would select events that would

reasonably be expected to elicit both hedonic and self-conscious emotions. However, people's appraisals of events influence the emotions they experience, and different appraisals trigger different emotions (Roseman, 1991). For example, joy is often elicited in response to certainty about the presence of a reward, whereas pride tends to be elicited by self-caused positive outcomes (Roseman, 1991). Therefore, the events nominated by participants may not result in all of the appraisals that elicit both pride and joy. My ability to detect a differential effect of imagery perspective on forecasts of different types of emotions may have been strengthened if I had instead manipulated the type of event that participants chose. That is, I might have treated event-type has another between-subjects factor and asked some participants to select a purely hedonic event, and others a purely pride-inducing event. Larger sample sizes would have been needed for such an analysis in order to have sufficient power to detect an effect.

Another set of limitations of my study relates to the emotion items themselves. Whereas researchers distinguish between the different types of emotions, people experiencing and forecasting emotions in their day-to-day lives may not as readily do so. The high correlations between the different types of emotions in each of my studies provide support for this idea. There may be other measurement procedures that would help participants distinguish between the types of emotions they are experiencing. Rather than only including a small list of positive emotions, future studies could ask participants to forecast a variety of positive and negative emotions, including the emotions of interest (i.e., pride and joy in this case). This might induce participants to think more critically about the different types of emotions and to what extent (if at all) each one applies to their target event. For example, participants could be provided with an emotion scale like the Positive and Negative Affect Schedule (PANAS) (Watson, Clark & Tellegen, 1988). Furthermore, I only included two emotions in several of my studies because

these seemed to represent the most relevant operationalization of the constructs of self-conscious and hedonic emotions for the types of events nominated by participants. This may have further reduced the reliability of the emotion measures, and in future studies it may be advisable to use measures that include more items in an attempt to improve reliability. For example, pride could be measured using Tracy and Robins' (2007) 7-item Authentic Pride Scale.

It is also possible that having participants visualize a significant, positive upcoming event elicits a general overall feeling of positive affect, which may bleed into their forecasts of specific types of emotions. Future studies could measure participants' current positive affect before the visual perspective manipulation, for use as a control variable. This may help to partition out the variance related to current, general positive affect in order to more easily detect differences in the forecasts of differing types of emotions. Furthermore, Study 3 provides evidence that the forecast for the first emotion that participants saw tended to influence their forecast of the second emotion. Instead of having all participants forecast both self-conscious and hedonic emotions, future studies could treat emotion-type as a between-subjects factor, with participants only predicting one or the other. This would alleviate the potential problem of forecasts of one type of emotion bleeding into forecasts of the other, but would require larger sample sizes in order to have sufficient power to detect the hypothesized effects.

These studies contain several other limitations. First, power analyses indicated that a sample of 200 is needed to have 80% power to detect a small interaction effect, but all of my sample sizes were less than 200. Given the high correlations between emotions and the aforementioned study limitations, larger sample sizes may be needed to detect the hypothesized relationship between affective forecasts and imagery perspective. Second, since all participants were asked to select a positive, significant event, all of their affective forecasts were quite strong,

with means generally above 5 on a 7-point scale. This ceiling effect limits the variability in responses, making it difficult to detect the effects of visual perspective. Future research might explore using a more granular scale for the affective forecasts, anchored at extreme points such as "the most pride I've ever felt in my life" for example, in order to avoid ceiling effects and capture more of the variability in affective forecasts. Alternately, asking participants to nominate a moderately significant event, or selecting an event for them, may also increase variability in emotional predictions. Third, participants for four of the five studies were recruited from MTurk or Turk Prime, and I cannot be sure that the participants engaged attentively in the visualization task, which would limit the effect of this manipulation. While research shows that MTurk workers are at least as, if not more, attentive to survey instructions as are participants from other participant pools (Hauser & Schwarz, 2015; Peer, Brandimarte, Samat, & Acquisti, 2017), MTurk workers have self-reported multi-tasking and/or being distracted while completing assignments (Hauser & Schwarz, 2015). Furthermore, MTurk workers with better reputations provide higher quality data than do low-reputation MTurk workers (Peer, Vosgerau & Acquisti, 2014), and I did not filter MTurk workers by reputation status. Therefore, it is difficult to know how much effort was put into visualizing the target event and what level of data quality I received from those MTurk samples. Conducting the study again in person in the lab with a larger sample may help to alleviate this concern.

Overall, the nature of the effect of imagery perspective on forecasts of different types of emotions remains unclear. Although I found some evidence that imagery perspective can have a different effect on affective forecasts for pride than on affective forecasts for joy, these effects were weak and inconsistent. More research, addressing the limitations noted above, is needed in

order to be able to truly understand the relationship between imagery perspective and positive affective forecasts.

Table 1

Zero-order correlations, means (M) and standard deviations (SD) for the main study variables in Study 1A.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Condition	--																			
2. Positivity	.01	--																		
3. Likelihood	.01	.33*	--																	
4. Days to event	.09	-.04	-.02	--																
5. Importance	.04	.80**	.30*	-.11	--															
6. Controllability	-.05	.24	.22	.14	.33**	--														
7. Similarity to past events	.21	-.17	.08	.05	-.14	.15	--													
8. Manipulation check	.79**	-.11	-.10	.03	-.10	.01	.16	--												
9. Feeling intensity	.15	.05	.06	.08	.18	-.03	-.13	.07	--											
10. Happy	-.03	.50**	.28*	.07	.43**	.20	-.19	-.17	.26*	--										
11. Excited	.01	.38**	.04	.11	.36**	.23	-.25	-.03	.04	.48**	--									
12. Joyful	-.09	.32*	.11	.01	.32*	.30*	-.18	-.17	.24	.67**	.54**	--								
13. Hedonic	-.05	.46**	.17	.07	.43**	.29*	-.24	-.15	.21	.84**	.80**	.89**	--							
14. Proud	.14	.15	.26*	.18	.17	.28*	-.20	.14	.19	.46**	.36**	.39**	.48**	--						
15. Competent	-.03	.23	.12	-.00	.27*	.33**	.03	-.07	.03	.48**	.22	.46**	.46**	.47**	--					
16. Self-worth	-.01	.14	.07	-.05	.21	.14	-.17	-.02	.15	.47**	.31*	.49**	.50**	.52**	.59**	--				
17. Self-Conscious	.05	.21	.19	.07	.26*	.31*	-.14	.03	.15	.57**	.36**	.54**	.58**	.83**	.83**	.82**	--			
18. BIF	-.03	.29*	.16	.18	.25	.20	.03	-.08	-.19	.09	.14	.23	.19	.10	.27*	.08	.18	--		
19. Age	-.18	.18	.17	-.04	.17	-.03	-.07	-.26*	-.12	.18	-.08	.10	.08	.01	.01	.03	.02	.12	--	
20. Gender	-.14	-.00	.11	-.02	-.16	-.09	.06	-.07	-.13	.16	.06	.19	.16	.15	-.00	.14	.11	-.03	.15	--
M	.46	6.46	6.58	2.44	6.25	4.98	4.08	3.74	5.33	6.28	6.13	5.90	6.10	5.85	5.67	5.93	5.82	7.51	33.18	1.39
SD	.50	.89	.83	22.86	1.06	1.78	1.88	2.42	1.52	0.92	1.01	1.17	.87	1.25	1.09	.89	.89	3.16	8.91	.49

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Table 2

Means (M) and Standard Deviations (SD) of the Main Study Variables by Condition for Study 1A

Measure	First Person *M (SD)*	Third Person *M (SD)*	*p*
Event Characteristics			
Positivity	6.45 (.91)	6.64 (.88)	.966
Likelihood	6.58 (.94)	6.59 (.69)	.938
Days to event	18.64 (9.94)	22.57 (32.18)	.507
Importance	6.21 (1.14)	6.29 (.98)	.789
Controllability	5.06 (1.82)	4.89 (1.77)	.718
Similarity to past events	3.73 (1.72)	4.50 (2.01)	.111
Hedonic Emotions	6.14 (.80)	6.06 (.95)	.717
Happy	6.30 (.95)	6.25 (.89)	.824
Excited	6.12 (.93)	6.14 (1.11)	.934
Joyful	6.00 (1.12)	5.79 (1.17)	.479
Duration (hedonic)	5.64 (1.27)	5.11 (1.13)	.094
Self-Conscious Emotions	5.78 (.94)	5.87 (.84)	.693
Proud	5.70 (1.29)	6.04 (1.20)	.295
Competent	5.70 (1.13)	5.64 (1.06)	.849
Self-worth	5.94 (.86)	5.93 (.94)	.963
Duration (self-conscious)	5.58 (1.35)	5.11 (1.67)	.238
Other			
Manipulation check	2.00 (1.54)	5.79 (1.45)	< .001
Feeling intensity	5.12 (1.50)	5.57 (1.55)	.254
BIF	7.61 (3.13)	7.39 (3.22)	.795
Age	34.64 (10.02)	31.46 (7.19)	.168
Gender	1.45 (.51)	1.32 (.48)	.297

Table 3

Zero-order correlations, means (M) and standard deviations (SD) for the main study variables in Study 1B.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Condition	--																				
2. Positivity	-.02	--																			
3. Likelihood	-.06	.22**	--																		
4. Days to event	-.07	.05	-.27**	--																	
5. Importance	-.06	.62**	.29**	.07	--																
6. Controllability	-.01	-.00	-.04	.10	-.03	--															
7. Similarity to past events	-.09	-.16*	-.05	-.03	-.19*	.00	--														
8. Manipulation check	.64**	-.04	-.23**	.06	-.14	.07	-.03	--													
9. Feeling intensity	-.17*	.21**	.07	-.04	.19*	-.07	.06	-.21**	--												
10. Happy	-.11	.50**	.21**	-.12	.48**	-.08	-.04	-.16*	.42**	--											
11. Excited	-.14	.43**	.10	.06	.50**	.02	-.10	-.19*	.33**	.64**	--										
12. Joyful	-.16*	.46**	.07	.05	.47**	-.01	-.04	-.15*	.42**	.71**	.71**	--									
13. Hedonic	-.15*	.52**	.13	.01	.54**	-.02	-.07	-.19*	.43**	.86**	.89**	.91**	--								
14. Proud	-.17*	.29**	.07	.06	.38**	.00	-.08	-.08	.38**	.44**	.49**	.47**	.53**	--							
15. Competent	-.09	.12	-.10	.04	.09	.13	.02	-.11	.32**	.25**	.15	.22**	.23**	.50**	--						
16. Self-worth	-.06	.34**	.05	.01	.31**	.21**	-.02	-.04	.39**	.43**	.38**	.44**	.47**	.54**	.53**	--					
17. Self-Conscious	-.13	.31**	.01	.04	.33**	.13	-.04	-.09	.44**	.46**	.42**	.46**	.50**	.85**	.80**	.83**	--				
18. BIF	-.10	.13	.11	-.04	.12	.06	.03	-.11	.12	.21**	.21**	.29**	.27**	.18*	.14	.19*	.20**	--			
19. RSE	-.20*	.29**	.25**	-.18*	.27**	.02	-.04	-.26**	.35**	.37**	.28**	.40**	.39**	.22**	.28**	.41**	.36**	.21**	--		
20. Age	.00	.09	.11	-.09	.20**	-.13	-.11	-.18*	.08	.08	.01	.07	.05	.06	.00	.03	.04	.06	.17*	--	
21. Gender	.01	.20**	.13	-.05	.22**	-.02	-.06	-.02	.10	.08	.11	.04	.09	.12	.04	.10	.11	-.01	.04	.12	--
M	.51	6.51	6.62	21.57	6.38	4.62	4.21	3.74	5.57	6.56	6.25	6.38	6.40	5.96	5.99	5.89	5.95	.62	3.12	34.76	1.47
SD	.50	.90	.84	16.74	.86	2.23	1.86	2.35	1.49	.83	1.08	1.03	.87	1.29	1.08	1.12	.96	.29	.68	10.66	.50

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 4

Means (M) and Standard Deviations (SD) of the Main Study Variables by Condition for Study 1B

Measure	First Person *M (SD)*	Third Person *M (SD)*	*p*
Event Characteristics			
Positivity	6.53 (.95)	6.49 (.84)	.795
Likelihood	6.66 (.91)	6.56 (.77)	.430
Days to event	22.77 (18.19)	20.40 (15.21)	.360
Importance	6.43 (.83)	6.33 (.89)	.434
Controllability	4.64 (2.22)	4.60 (2.25)	.911
Similarity to past events	4.37 (1.83)	4.06 (1.89)	.275
Hedonic Emotions	6.53 (.66)	6.27 (1.02)	.050
Happy	6.65 (.69)	6.47 (.95)	.161
Excited	6.40 (.88)	6.11 (1.23)	.079
Joyful	6.65 (.74)	6.22 (1.24)	.045
Duration (hedonic)	5.70 (1.16)	5.69 (1.30)	.965
Self-Conscious Emotions	6.08 (.85)	5.82 (1.05)	.083
Proud	6.18 (1.08)	5.75 (1.45)	.032
Competent	6.10 (1.04)	5.89 (1.10)	.224
Self-worth	5.96 (1.09)	(5.82 1.15)	.417
Duration (self-conscious)	5.42 (1.35)	5.34 (1.49)	.714
Other			
Manipulation check	2.24 (1.77)	5.21 (1.86)	< .001
Feeling intensity	5.82 (1.38)	5.32 (1.56)	.029
BIF	.65 (.28)	.60 (.30)	.222
RSE	3.26 (.57)	2.98 (.76)	.010
Age	34.76 (10.57)	34.77 (10.81)	.994
Gender	1.46 (.50)	1.48 (.50)	.877

Table 5

Means (M) and Standard Deviations (SDs) of Forecasted Hedonic and Self-Conscious Emotions by Event-Type and Perspective Condition (Studies 1A and 1B)

Measure	**First Person** *M (SD)*	**Third Person** *M (SD)*
Pride-Inducing Events		
Hedonic Emotions	6.40	6.07
	(.72)	(1.15)
Self-Conscious Emotion	6.16	6.16
	(.76)	(.70)
Hedonic Events		
Hedonic Emotions	6.45	6.37
	(.73)	(.76)
Self-Conscious Emotion	5.81	5.69
	(.91)	(1.02)

Table 6

Zero-order correlations, means (M) and standard deviations (SD) for the main study variables in Study 2A.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Condition	--															
2. Positivity	.12	--														
3. Likelihood	.08	.50**	--													
4. Days to event	-.04	.10	-.16*	--												
5. Importance	.11	.56**	.52**	.08	--											
6. Controllability	-.04	.03	.02	.05	.17*	--										
7. Similarity to past events	-.11	-.13	-.06	-.17*	-.19*	-.09	--									
8. Manipulation check	.64**	-.05	.02	-.08	.08	-.06	-.08	--								
9. Feeling intensity	-.02	.29**	.27**	.14	.25**	.06	.02	-.02	--							
10. Excited	.12	.56**	.40**	.09	.52**	.10	-.18*	-.03	.19*	--						
11. Joyful	.00	.65**	.37**	.08	.50**	.16	-.11	-.08	.29**	.69**	--					
12. Hedonic	.07	.65**	.42**	.09	.56**	.14	-.16*	-.06	.26**	.92**	.91**	--				
13. Proud	.14	.48**	.38**	.07	.56**	.04	-.06	.06	.22**	.57**	.55**	.61**	--			
14. RSE	.19*	.19*	.27**	-.18*	.18*	-.06	-.08	.10	.22**	.14	.20*	.19*	.22**	--		
15. Age	-.05	.13	.03	.13	.10	-.24**	.05	-.12	.06	.06	.11	.09	.16*	.14	--	
16. Gender	.00	.05	-.01	.04	.06	-.10	.05	-.01	.08	-.08	.12	.02	.09	-.08	.05	--
M	.51	6.38	6.55	26	6.47	5.17	3.78	3.81	5.48	6.07	6.20	6.14	6.21	3.05	36.74	1.50
SD	.50	1.03	.80	49.72	.89	1.86	1.76	2.36	1.31	1.18	1.12	1.05	1.11	.67	12.77	.56

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 7
Means (M) and Standard Deviations (SD) of the Main Study Variables by Condition for Study 2A

Measure	**First Person** *M (SD)*	**Third Person** *M (SD)*	***p***
Event Characteristics			
Positivity	6.26 (1.18)	6.50 (.86)	.144
Likelihood	6.49 (.90)	6.62 (.69)	.300
Days to event	27.84 (63.16)	24.25 (32.52)	.656
Importance	6.37 (1.07)	6.56 (.67)	.174
Controllability	5.25 (1.92)	5.09 (1.81)	.588
Similarity to past events	3.97 (1.70)	3.60 (1.81)	.189
Hedonic Emotions	6.06 (1.09)	6.21 (1.01)	.385
Excited	5.92 (1.25)	6.21 (1.09)	.122
Joyful	6.20 (1.10)	6.20 (1.14)	.988
Duration (hedonic)	5.61 (1.34)	5.64 (1.21)	.875
Self-Conscious Emotions			
Proud	6.05 (1.30)	6.35 (.87)	.093
Duration (self-conscious)	5.50 (1.47)	5.75 (1.16)	.239
Other			
Manipulation check	2.28 (1.72)	5.26 (1.93)	< .001
Feeling intensity	5.51 (1.30)	5.45 (1.32)	.764
RSE	2.92 (.76)	3.17 (.56)	.017
Age	37.39 (12.31)	36.13 (13.24)	.536
Gender	1.50 (.55)	1.50 (.57)	1.00

Table 8

Zero-order correlations, means (M) and standard deviations (SD) for the main study variables in Study 2B.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Condition	--													
2. Positivity	.00	--												
3. Likelihood	-.07	.38**	--											
4. Days to event	.07	.05	-.05	--										
5. Importance	.05	.52**	.35**	.05	--									
6. Controllability	.05	-.11	.02	.05	-.09	--								
7. Similarity to past events	-.00	-.23**	-.22**	-.02	-.08	0.01	--							
8. Manipulation check	.61**	-.09	-.08	.08	-.04	.05	.12	--						
9. Feeling intensity	-.14	.18*	.24**	-.02	.40**	.05	-.13	-.18*	--					
10. Joyful	.07	.32**	.33**	-.02	.31**	.11	-.10	.01	.25**	--				
11. Proud	.14	.34**	.37**	.05	.29**	.11	-.15	.01	.20*	.66**	--			
12. RSE	.05	.23**	.25**	.02	.21**	.17*	-.06	.03	.27**	.28**	.31**	--		
13. Age	-.07	.03	-.02	-.04	.02	-.01	-.01	-.05	.14	-.22**	-.10	.17*	--	
14. Gender	-.07	.18*	.22**	-.08	.07	-.09	-.12	-.01	.11	.07	.02	-.02	.13	--
M	.53	6.48	6.56	43.03	6.49	4.98	3.52	3.50	5.46	6.27	6.41	3.22	36.15	1.49
SD	.50	.87	.86	289.10	.90	1.93	1.87	2.29	1.42	1.19	1.03	.60	11.66	.51

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 9
Means (M) and Standard Deviations (SD) of the Main Study Variables by Condition for Study 2B

Measure	**First Person** *M (SD)*	**Third Person** *M (SD)*	***p***
Event Characteristics			
Positivity	6.48 (.74)	6.48 (.97)	.989
Likelihood	6.63 (.79)	6.50 (.93)	.362
Days to event	20.92 (15.41)	63.00 (398.69)	.363
Importance	6.44 (1.00)	6.53 (.80)	.532
Controllability	4.88 (1.90)	5.07 (1.97)	.532
Similarity to past events	3.52 (1.83)	3.51 (1.92)	.979
Hedonic Emotions			
Joyful	6.17 (1.41)	6.35 (.96)	.355
Duration (joyful)	5.59 (1.49)	5.42 (1.53)	.494
Self-Conscious Emotions			
Proud	6.25 (1.21)	6.54 (.82)	.078
Duration (self-proud)	5.65 (1.47)	5.70 (1.48)	.859
Other			
Manipulation check	2.03 (1.73)	4.83 (1.89)	< .001
Feeling intensity	5.67 (1.36)	5.28 (1.45)	.084
RSE	3.19 (.62)	3.24 (.57)	.544
Age	37.01 (11.00)	35.36 (12.24)	.376
Gender	1.53 (.53)	1.46 (.50)	.358

Table 10
Means (M) of Pride and Joy by Perspective Condition for Studies 1A, 1B, 2A and 2B

Measure	First Person *M*	Third Person *M*	*p*
Study 1A (*n* = 61)			
Joy	6.00	5.79	.479
Pride	5.70	6.04	.295
Study 1B (*n* = 168)			
Joy	6.54	6.22	.045
Pride	6.18	5.75	.032
Study 2A (*n* = 156)			
Joy	6.20	6.20	.988
Pride	6.05	6.35	.093
Study 2B (*n* = 158)			
Joy	6.17	6.35	.355
Pride	6.25	6.54	.078
Overall (*n* = 543)			
Joy	6.27	6.21	.513
Pride	6.10	6.19	.389

Table 11

Zero-order correlations, means (M) and standard deviations (SD) for the main study variables in Study 3.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Condition	--													
2. Positivity	-0.09	--												
3. Likelihood	-0.00	-0.01	--											
4. Days to event	-0.12	0.17	-.21*	--										
5. Importance	-0.10	.43**	-0.14	0.06	--									
6. Controllability	0.01	0.14	-.21*	0.06	0.17	--								
7. Similarity to past events	-0.02	-0.08	-.29**	-0.07	0.00	0.09	--							
8. Manipulation check	.62**	-0.16	0.10	0.11	-.31**	-0.14	-0.11	--						
9. Feeling intensity	-0.13	.24**	-0.06	-0.04	.22*	0.07	0.14	-.24**	--					
10. Joyful	0.07	.57**	-0.02	.19*	.25**	.36**	-0.18	-0.06	.24*	--				
11. Proud	-0.01	.57**	-0.01	0.14	.39**	.32**	-.25**	-0.12	0.15	.69**	--			
12. RSE	0.04	.24**	0.09	0.08	0.06	0.07	0.13	-0.12	0.11	0.17	.22*	--		
13. Age	0.14	0.03	-0.07	0.09	0.07	.19*	.28**	0.15	-0.05	0.04	-0.02	.19*	--	
14. Gender	0.12	-0.00	.23*	-.19*	0.03	0.10	-.22*	0.09	0.02	.28**	.23*	-0.14	-0.12	--
M	.50	6.15	6.39	17.69	6.34	4.34	4.24	3.91	5.01	5.96	6.08	2.97	18.80	1.89
SD	.50	.96	.80	13.66	.89	2.14	2.00	2.08	1.42	1.38	1.11	.57	1.51	.37

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 12
Means (M) and Standard Deviations (SD) of the Main Study Variables by Condition for Study 3

Measure	First Person *M (SD)*	Third Person *M (SD)*	*p*
Event Characteristics			
Positivity	6.24 (.86)	6.07 (1.06)	.336
Likelihood	6.39 (.79)	6.38 (.83)	.965
Days to event	19.32 (15.75)	16.08 (11.13)	.196
Importance	6.42 (.77)	6.25 (.99)	.287
Controllability	4.32 (2.26)	4.37 (2.03)	.910
Similarity to past events	4.29 (1.95)	4.20 (2.06)	.811
Hedonic Emotions			
Joyful	5.86 (1.47)	6.05 (1.29)	.466
Duration (joyful)	5.17 (1.51)	4.98 (1.63)	.514
Self-Conscious Emotions			
Proud	6.08 (1.15)	6.07 (1.07)	.929
Duration (self-proud)	5.46 (1.33)	4.93 (1.63)	.057
Other			
Manipulation check	2.63 (1.81)	5.19 (1.44)	< .001
Feeling intensity	5.19 (1.31)	4.83 (1.51)	.174
RSE	2.95 (.45)	2.99 (.67)	.657
Age	18.59 (1.35)	19.00 (1.64)	.144
Gender	1.85 (.36)	1.93 (.37)	.208

Table 13
Means and (SDs) by Emotion Order by Visual Perspective Condition for Study 3

OVERALL	First person	Third person	p
Forecasted joy	5.86 (1.47)	6.05 (1.29)	.466
Forecasted pride	6.08 (1.15)	6.07 (1.07)	.929

JOY FIRST	First person	Third person	p
Forecasted joy*	6.00 (1.18)	5.70 (1.18)	.325
Forecasted pride	6.35 (.76)	5.87 (1.07)	.044

PRIDE FIRST	First person	Third person	p
Forecasted joy	5.71 (1.74)	6.40 (1.33)	.096
Forecasted pride*	5.79 (1.42)	6.27 (1.05)	.147

APPENDICES

APPENDIX A
Study 1A Materials[35]

Information

We are interested in learning about the kinds of events that people experience in their lives, and the perceptions of those events. We want to include a wide variety of events, so participants are being asked about specific types of events.

Today, you will be asked to identify a particular type of event (a significant positive event that you expect to occur within the next month), to describe the event briefly, and then to rate it on several dimensions. In addition, you will be asked about several personal characteristics (age, sex, etc.) that may be related to the types of events that people experience.

Instructions

Please complete the items in the order they are presented. You will not be able to go back to previous screens.

Please note that your responses are entirely anonymous and that we greatly appreciate your honesty and thoughtfulness in answering these questions.

Positive Upcoming Event

Please take a moment to think about one specific positive event or situation that you expect will actually take place within the next month. An expected positive event might be a school-related event, a personal or social event, or a work-related event. Also, we would like the upcoming positive event that you identify to be of a particular type.

Think of an event that you expect to take place in the next month that would be **personally significant to you**. The event you identify could be something that has deep personal significance for you, something that reflects your own values or personal goals, something that tells others who you are as a person, something that will make you feel good about yourself, etc. (e.g., reading a book because it will enhance your knowledge). The main thing is that you would participate in this event because it has personal significance for you.

When you have the event in mind, please provide a description of it in the space below. Point form is fine.

_____
_____
_____
_____
_____

[35] This appendix contains the experimental materials that participants in Study 1A completed. Experimental manipulations are *italicized.*

Event Characteristics

Please answer the following questions about the positive event that you described above:

How positive is the event?

1	2	3	4	5	6	7
Slightly Positive						Extremely Positive

How likely is it that the event will actually take place?

1	2	3	4	5	6	7
Not at All Likely						Extremely Likely

How many days from now do you expect the event to take place?

_____

How important is the event to you?

1	2	3	4	5	6	7
Not at all Important						Extremely Important

How much control do you have over whether the event occurs?

1	2	3	4	5	6	7
No Control						Complete Control

How often have you experienced events similar to this in the past?

1	2	3	4	5	6	7
Never before						Very often

Visualization Exercise

Now that you have identified an event that you expect to occur within the next month, we would like you to take a moment and form a clear, visual image of yourself actually engaging in the event. Also, as you picture your future event in your mind, we would like you to try to see things from a particular visual perspective or point of view.

*Specifically, please try to picture yourself engaging in the event from a **first person perspective.** From this point of view, you see events unfolding **through your own eyes** just as you would see them if they were actually occurring. That is, you are looking out at your surroundings and seeing only what would be visible to you as the event takes place (e.g. you see your surroundings during the event).*

OR

*Specifically, please try to picture yourself engaging in the event from an **observer perspective** (third person perspective). From this point of view, you are able to **'see yourself'** as well as your surroundings, just as if you were an observer to the situation. That is, you are looking at yourself and seeing what an observer would see as the event takes place (e.g. you see yourself standing in your surroundings during the event).*

To ensure that you take time to visualize the event, you will be held on this screen for 45 seconds before the "NEXT" button appears. When you have finished visualizing the event and the "NEXT" button appears, you may click on it.

Please describe in detail the visual image you had of yourself engaging in the event.

As I imagine myself engaging in, and completing the activity, what I see around me is…

_____
_____
_____
_____
_____

Manipulation Check

Although you were instructed to take a particular visual perspective *(i.e., a first person perspective OR i.e., a third person perspective)*, this may sometimes be hard to do. Please answer the following questions concerning the images that you had during the visualization exercise.

To what extent did you see your engagement and completion of the activity "through your own eyes as if it was actually occurring", or did you "see yourself and your surroundings as an observer would"?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Through your own eyes			Partially through your own eyes and partially through the eyes of an observer			Through the eyes of an observer

To what extent did you experience feelings and emotions that you would experience when the event actually occurs?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Not at all			Moderately			Very clearly and vividly

Dependent Variables

Now that you have envisioned a personally significant positive event, we are curious as to how you expect you will feel when that event actually occurs. Please rate the accuracy of the adjectives in the screens that follow in describing how you expect you will feel as the event is unfolding.

As the expected event is unfolding, I will feel ...[36]

Happy

1	2	3	4	5	6	7
Not at all Happy						Extremely Happy

Excited

1	2	3	4	5	6	7
Not at all Excited						Extremely Excited

Joyful

1	2	3	4	5	6	7
Not at all Joyful						Extremely Joyful

Proud

1	2	3	4	5	6	7
Not at all Proud						Extremely Proud

Competent

1	2	3	4	5	6	7
Not at all Competent						Extremely Competent

[36] Emotion items were presented in random order.

Self-Worth

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Not at all						Extremely

We are also interested in your thoughts about how long you expect your moods and feelings will continue to be affected by the event.

In general, how long after the event occurs would you still be experiencing feelings of happiness, excitement and joy?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

In general, how long after the event occurs would you still be experiencing feelings of pride, competence and self-worth?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

If you are reading this, please click the number 2.[37]

O	O	O	O	O	O	O
1	2	3	4	5	6	7

[37] This question served as an attention check to ensure participants were paying attention to the survey questions.

Behaviour Identification Form

Any behavior can be identified in many ways, and this scale assesses how people tend to identify behaviors. Several different behaviors are listed below along with two different ways in which each behavior might be described. Choose the statement that best describes the behavior for you.

Of course, there are no right or wrong answers. Remember, choose the description that *you personally believe* is more appropriate in each pair.

Making a list
- Getting organized
- Writing things down

Reading
- Following lines of print
- Gaining knowledge

Joining the army
- Helping the Nation's defense
- Signing up

Washing clothes
- Putting clothes in the machine
- Removing odors from clothes

Picking an apple
- Getting something to eat
- Pulling an apple off a branch

Chopping down a tree
- Wielding an axe
- Getting firewood

Measuring a room for carpeting
- Getting ready to remodel
- Using a yardstick

Cleaning the house
- Vacuuming the floor
- Showing one's cleanliness

Painting a room
- Making the room look fresh
- Applying the brush strokes

Paying the rent
- Maintaining a place to live
- Writing a check

Caring for house plants
- Watering plants
- Making the room look nice

Demographics

What is your age in years? _____

What is your gender?
- Male
- Female
- Other
- Prefer not to say

APPENDIX B
Study 1B Materials[38]

Information

We are interested in learning about the kinds of events that people experience in their lives, and the perceptions of those events. We want to include a wide variety of events, so participants are being asked about specific types of events.

Today, you will be asked to identify a particular type of event (a significant positive event that you expect to occur within the next month), to describe the event briefly, and then to rate it on several dimensions. In addition, you will be asked about several personal characteristics (age, sex, etc.) that may be related to the types of events that people experience.

Instructions

Please complete the items in the order they are presented. You will not be able to go back to previous screens.

Please note that your responses are entirely anonymous and that we greatly appreciate your honesty and thoughtfulness in answering these questions.

Positive Upcoming Event

Please take a moment to think about one specific positive event or situation that you expect will actually take place within the next month. An expected positive event might be a school-related event, a personal or social event, or a work-related event. Also, we would like the upcoming positive event that you identify to be of a particular type.

Think of an event that you expect to take place in the next month that would be **personally significant to you**. The event you identify could be something that has deep personal significance for you, something that reflects your own values or personal goals, something that tells others who you are as a person, something that will make you feel good about yourself, etc. (e.g., reading a book because it will enhance your knowledge). The main thing is that you would participate in this event because it has personal significance for you.

When you have the event in mind, please provide a description of it in the space below. Point form is fine.

_____
_____
_____
_____
_____

[38] This appendix contains the experimental materials that participants in Study 1B completed. Experimental manipulations are *italicized.*

Event Characteristics

Please answer the following questions about the positive event that you described above:

How positive is the event?

1	2	3	4	5	6	7
Slightly Positive						Extremely Positive

How likely is it that the event will actually take place?

1	2	3	4	5	6	7
Not at All Likely						Extremely Likely

How many days from now do you expect the event to take place?

_____

How important is the event to you?

1	2	3	4	5	6	7
Not at all Important						Extremely Important

How much control do you have over whether the event occurs?

1	2	3	4	5	6	7
No Control						Complete Control

How often have you experienced events similar to this in the past?

1	2	3	4	5	6	7
Never before						Very often

Visualization Exercise

Now that you have identified an event that you expect to occur within the next month, we would like you to take a moment and form a clear, visual image of yourself actually engaging in the event. Also, as you picture your future event in your mind, we would like you to try to see things from a particular visual perspective or point of view.

*Specifically, please try to picture yourself engaging in the event from a **first person perspective.** From this point of view, you see events unfolding **through your own eyes** just as you would see them if they were actually occurring. That is, you are looking out at your surroundings and seeing only what would be visible to you as the event takes place (e.g. you see your surroundings during the event).*

OR

*Specifically, please try to picture yourself engaging in the event from an **observer perspective** (third person perspective). From this point of view, you are able to **'see yourself'** as well as your surroundings, just as if you were an observer to the situation. That is, you are looking at yourself and seeing what an observer would see as the event takes place (e.g. you see yourself standing in your surroundings during the event).*

To ensure that you take time to visualize the event, you will be held on this screen for 45 seconds before the "NEXT" button appears. When you have finished visualizing the event and the "NEXT" button appears, you may click on it.

Please describe in detail the visual image you had of yourself engaging in the event.

As I imagine myself engaging in, and completing the activity, what I see around me is…

_____
_____
_____
_____
_____

Manipulation Check

Although you were instructed to take a particular visual perspective *(i.e., a first person perspective OR i.e., a third person perspective)*, this may sometimes be hard to do. Please answer the following questions concerning the images that you had during the visualization exercise.

To what extent did you see your engagement and completion of the activity "through your own eyes as if it was actually occurring", or did you "see yourself and your surroundings as an observer would"?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Through your own eyes			Partially through your own eyes and partially through the eyes of an observer			Through the eyes of an observer

To what extent did you experience feelings and emotions that you would experience when the event actually occurs?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Not at all			Moderately			Very clearly and vividly

Dependent Variables

Now that you have envisioned a personally significant positive event, we are curious as to how you expect you will feel when that event actually occurs. Please rate the accuracy of the adjectives in the screens that follow in describing how you expect you will feel as the event is unfolding.

As the expected event is unfolding, I will feel ...[39]

Happy

1	2	3	4	5	6	7
Not at all Happy						Extremely Happy

Excited

1	2	3	4	5	6	7
Not at all Excited						Extremely Excited

Joyful

1	2	3	4	5	6	7
Not at all Joyful						Extremely Joyful

Proud

1	2	3	4	5	6	7
Not at all Proud						Extremely Proud

Competent

1	2	3	4	5	6	7
Not at all Competent						Extremely Competent

[39] Emotion items were presented in random order.

Self-Worth

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Not at all						Extremely

We are also interested in your thoughts about how long you expect your moods and feelings will continue to be affected by the event.

In general, how long after the event occurs would you still be experiencing feelings of happiness, excitement and joy?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

In general, how long after the event occurs would you still be experiencing feelings of pride, competence and self-worth?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

If you are reading this, please click the number 2.[40]

O	O	O	O	O	O	O
1	2	3	4	5	6	7

[40] This question served as an attention check to ensure participants were paying attention to the survey questions.

Behaviour Identification Form

Any behavior can be identified in many ways, and this scale assesses how people tend to identify behaviors. Several different behaviors are listed below along with two different ways in which each behavior might be described. Choose the statement that best describes the behavior for you.

Of course, there are no right or wrong answers. Remember, choose the description that *you personally believe* is more appropriate in each pair.

Making a list
- Getting organized
- Writing things down

Reading
- Following lines of print
- Gaining knowledge

Joining the army
- Helping the Nation's defense
- Signing up

Washing clothes
- Putting clothes in the machine
- Removing odors from clothes

Picking an apple
- Getting something to eat
- Pulling an apple off a branch

Chopping down a tree
- Wielding an axe
- Getting firewood

Measuring a room for carpeting
- Getting ready to remodel
- Using a yardstick

Cleaning the house
- Vacuuming the floor
- Showing one's cleanliness

Painting a room
- Making the room look fresh
- Applying the brush strokes

Paying the rent
- Maintaining a place to live
- Writing a check

Caring for house plants
- Watering plants
- Making the room look nice

Rosenberg Self-Esteem Scale

For each statement below, please indicate the extent to which you agree with the statement by selecting **one** of the four options (strongly agree, agree, disagree, strongly disagree).

	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)
On the whole, I am satisfied with myself.	○	○	○	○
At times I think I am no good at all.	○	○	○	○
I feel that I have a number of good qualities.	○	○	○	○
I am able to do things as well as most other people.	○	○	○	○
I feel I do not have much to be proud of.	○	○	○	○
I certainly feel useless at times.	○	○	○	○
If you are paying attention please select "disagree".	○	○	○	○
I feel that I am a person of worth, at least on an equal plane with others.	○	○	○	○
I wish I could have more respect for myself.	○	○	○	○

All in all, I am inclined to feel that I am a failure.	○	○	○	○
I take a positive attitude toward myself.	○	○	○	○

Demographics

What is your age in years? _____

What is your gender?

- Male
- Female
- Other
- Prefer not to say

APPENDIX C
Study 2A Materials[41]

Information

We are interested in learning about the kinds of events that people experience in their lives, and the perceptions of those events. We want to include a wide variety of events, so participants are being asked about specific types of events.

Today, you will be asked to identify a particular type of event (a significant positive event that reflects an accomplishment or induces a feeling of pride, and that you expect to occur within the next month), to describe the event briefly, and then to rate it on several dimensions. In addition, you will be asked about several personal characteristics (age, sex, etc.) that may be related to the types of events that people experience.

Instructions

Please complete the items in the order they are presented. You will not be able to go back to previous screens.

Please note that your responses are entirely anonymous and that we greatly appreciate your honesty and thoughtfulness in answering these questions.

Positive Upcoming Event

Please take a moment to think about one specific positive event or situation that you expect will actually take place within the next month. An expected positive event might be a school-related event, a personal or social event, or a work-related event. Also, we would like the upcoming positive event that you identify to be of a particular type.

Think of an event that you expect to take place in the next month that would be **personally significant to you** because it reflects **an accomplishment or something that induces a feeling of pride**. The event you identify could be something that has deep personal significance for you, something that reflects your own values or personal goals, something that tells others who you are as a person, something that reflects an outcome of your efforts, etc. The main thing is that this event has personal significance for you because it reflects an accomplishment and/or induces a feeling of pride.

When you have the event in mind, please provide a description of it in the space below. Point form is fine.

_____
_____
_____

[41] This appendix contains the experimental materials that participants in Study 2A completed. Experimental manipulations are *italicized.*

Event Characteristics

Please answer the following questions about the positive event that you described above:

How positive is the event?

1	2	3	4	5	6	7
Slightly Positive						Extremely Positive

How likely is it that the event will actually take place?

1	2	3	4	5	6	7
Not at All Likely						Extremely Likely

How many days from now do you expect the event to take place?

_____

How important is the event to you?

1	2	3	4	5	6	7
Not at all Important						Extremely Important

How much control do you have over whether the event occurs?

1	2	3	4	5	6	7
No Control						Complete Control

How often have you experienced events similar to this in the past?

1	2	3	4	5	6	7
Never before						Very often

Visualization Exercise

Now that you have identified an event that you expect to occur within the next month, we would like you to take a moment and form a clear, visual image of yourself actually engaging in the event. Also, as you picture your future event in your mind, we would like you to try to see things from a particular visual perspective or point of view.

*Specifically, please try to picture yourself engaging in the event from a **first person perspective.** From this point of view, you see events unfolding **through your own eyes** just as you would see them if they were actually occurring. That is, you are looking out at your surroundings and seeing only what would be visible to you as the event takes place (e.g. you see your surroundings during the event).*

OR

*Specifically, please try to picture yourself engaging in the event from an **observer perspective** (third person perspective). From this point of view, you are able to **'see yourself'** as well as your surroundings, just as if you were an observer to the situation. That is, you are looking at yourself and seeing what an observer would see as the event takes place (e.g. you see yourself standing in your surroundings during the event).*

To ensure that you take time to visualize the event, you will be held on this screen for 45 seconds before the "NEXT" button appears. When you have finished visualizing the event and the "NEXT" button appears, you may click on it.

Please describe in detail the visual image you had of yourself engaging in the event.

As I imagine myself engaging in, and completing the activity, what I see around me is…

_____
_____
_____
_____
_____

Manipulation Check

Although you were instructed to take a particular visual perspective *(i.e., a first person perspective OR i.e., a third person perspective)*, this may sometimes be hard to do. Please answer the following questions concerning the images that you had during the visualization exercise.

To what extent did you see your engagement and completion of the activity "through your own eyes as if it was actually occurring", or did you "see yourself and your surroundings as an observer would"?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Through your own eyes			Partially through your own eyes and partially through the eyes of an observer			Through the eyes of an observer

To what extent did you experience feelings and emotions that you would experience when the event actually occurs?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Not at all			Moderately			Very clearly and vividly

Dependent Variables

Now that you have envisioned a personally significant positive event, we are curious as to how you expect you will feel when that event actually occurs. Please rate the accuracy of the adjectives in the screens that follow in describing how you expect you will feel as the event is unfolding.

As the expected event is unfolding, I will feel ...[42]

Excited

1	2	3	4	5	6	7
Not at all Excited						Extremely Excited

Joyful

1	2	3	4	5	6	7
Not at all Joyful						Extremely Joyful

Proud

1	2	3	4	5	6	7
Not at all Proud						Extremely Proud

[42] Emotion items were presented in random order.

We are also interested in your thoughts about how long you expect your moods and feelings will continue to be affected by the event.

In general, how long after the event occurs would you still be experiencing feelings of excitement and joy?

1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

In general, how long after the event occurs would you still be experiencing feelings of pride?

1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

If you are reading this, please click the number 2.[43]

1	2	3	4	5	6	7

[43] This question served as an attention check to ensure participants were paying attention to the survey questions.

Rosenberg Self-Esteem Scale

For each statement below, please indicate the extent to which you agree with the statement by selecting **one** of the four options (strongly agree, agree, disagree, strongly disagree).

	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)
On the whole, I am satisfied with myself.	○	○	○	○
At times I think I am no good at all.	○	○	○	○
I feel that I have a number of good qualities.	○	○	○	○
I am able to do things as well as most other people.	○	○	○	○
I feel I do not have much to be proud of.	○	○	○	○
I certainly feel useless at times.	○	○	○	○
If you are paying attention please select "disagree".	○	○	○	○
I feel that I am a person of worth, at least on an equal plane with others.	○	○	○	○
I wish I could have more respect for myself.	○	○	○	○
All in all, I am inclined to feel that I am a failure.	○	○	○	○
I take a positive attitude toward myself.	○	○	○	○

Demographics

What is your age in years? _____

What is your gender?

- Male
- Female
- Other
- Prefer not to say

APPENDIX D
Study 2B Materials[44]

Information

We are interested in learning about the kinds of events that people experience in their lives, and the perceptions of those events. We want to include a wide variety of events, so participants are being asked about specific types of events.

Today, you will be asked to identify a particular type of event (a significant positive event that reflects an accomplishment or induces a feeling of pride, and that you expect to occur within the next month), to describe the event briefly, and then to rate it on several dimensions. In addition, you will be asked about several personal characteristics (age, sex, etc.) that may be related to the types of events that people experience.

Instructions

Please complete the items in the order they are presented. You will not be able to go back to previous screens.

Please note that your responses are entirely anonymous and that we greatly appreciate your honesty and thoughtfulness in answering these questions.

Positive Upcoming Event

Please take a moment to think about one specific positive event or situation that you expect will actually take place within the next month. An expected positive event might be a school-related event, a personal or social event, or a work-related event. Also, we would like the upcoming positive event that you identify to be of a particular type.

Think of an event that you expect to take place in the next month that would be **personally significant to you** because it reflects **an accomplishment or something that induces a feeling of pride**. The event you identify could be something that has deep personal significance for you, something that reflects your own values or personal goals, something that tells others who you are as a person, something that reflects an outcome of your efforts, etc. The main thing is that this event has personal significance for you because it reflects an accomplishment and/or induces a feeling of pride.

When you have the event in mind, please provide a description of it in the space below. Point form is fine.

_____
_____
_____

[44] This appendix contains the experimental materials that participants in Study 2B completed. Experimental manipulations are *italicized.*

Event Characteristics

Please answer the following questions about the positive event that you described above:

How positive is the event?

1	2	3	4	5	6	7
Slightly Positive						Extremely Positive

How likely is it that the event will actually take place?

1	2	3	4	5	6	7
Not at All Likely						Extremely Likely

How many days from now do you expect the event to take place?

_____

How important is the event to you?

1	2	3	4	5	6	7
Not at all Important						Extremely Important

How much control do you have over whether the event occurs?

1	2	3	4	5	6	7
No Control						Complete Control

How often have you experienced events similar to this in the past?

1	2	3	4	5	6	7
Never before						Very often

Visualization Exercise

Now that you have identified an event that you expect to occur within the next month, we would like you to take a moment and form a clear, visual image of yourself actually engaging in the event. Also, as you picture your future event in your mind, we would like you to try to see things from a particular visual perspective or point of view.

*Specifically, please try to picture yourself engaging in the event from a **first person perspective.** From this point of view, you see events unfolding **through your own eyes** just as you would see them if they were actually occurring. That is, you are looking out at your surroundings and seeing only what would be visible to you as the event takes place (e.g. you see your surroundings during the event).*

OR

*Specifically, please try to picture yourself engaging in the event from an **observer perspective** (third person perspective). From this point of view, you are able to **'see yourself'** as well as your surroundings, just as if you were an observer to the situation. That is, you are looking at yourself and seeing what an observer would see as the event takes place (e.g. you see yourself standing in your surroundings during the event).*

To ensure that you take time to visualize the event, you will be held on this screen for 45 seconds before the "NEXT" button appears. When you have finished visualizing the event and the "NEXT" button appears, you may click on it.

Please describe in detail the visual image you had of yourself engaging in the event.

As I imagine myself engaging in, and completing the activity, what I see around me is…

_____
_____
_____
_____
_____

Manipulation Check

Although you were instructed to take a particular visual perspective *(i.e., a first person perspective OR i.e., a third person perspective)*, this may sometimes be hard to do. Please answer the following questions concerning the images that you had during the visualization exercise.

To what extent did you see your engagement and completion of the activity "through your own eyes as if it was actually occurring", or did you "see yourself and your surroundings as an observer would"?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Through your own eyes			Partially through your own eyes and partially through the eyes of an observer			Through the eyes of an observer

To what extent did you experience feelings and emotions that you would experience when the event actually occurs?

O	O	O	O	O	O	O
1	2	3	4	5	6	7
Not at all			Moderately			Very clearly and vividly

Dependent Variables

Now that you have envisioned a personally significant positive event, we are curious as to how you expect you will feel when that event actually occurs. Please rate the accuracy of the adjectives in the screens that follow in describing how you expect you will feel as the event is unfolding.

As the expected event is unfolding, I will feel ...[45]

Joyful

1	2	3	4	5	6	7
Not at all Joyful						Extremely Joyful

Proud

1	2	3	4	5	6	7
Not at all Proud						Extremely Proud

[45] Emotion items were presented in random order.

We are also interested in your thoughts about how long you expect your moods and feelings will continue to be affected by the event.

In general, how long after the event occurs would you still be experiencing feelings of joy?

1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

In general, how long after the event occurs would you still be experiencing feelings of pride?

1	2	3	4	5	6	7
Only for a few seconds						For days/weeks

If you are reading this, please click the number 2.[46]

1	2	3	4	5	6	7

[46] This question served as an attention check to ensure participants were paying attention to the survey questions.

Rosenberg Self-Esteem Scale

For each statement below, please indicate the extent to which you agree with the statement by selecting **one** of the four options (strongly agree, agree, disagree, strongly disagree).

	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)
On the whole, I am satisfied with myself.	○	○	○	○
At times I think I am no good at all.	○	○	○	○
I feel that I have a number of good qualities.	○	○	○	○
I am able to do things as well as most other people.	○	○	○	○
I feel I do not have much to be proud of.	○	○	○	○
I certainly feel useless at times.	○	○	○	○
If you are paying attention please select "disagree".	○	○	○	○
I feel that I am a person of worth, at least on an equal plane with others.	○	○	○	○
I wish I could have more respect for myself.	○	○	○	○
All in all, I am inclined to feel that I am a failure.	○	○	○	○
I take a positive attitude toward myself.	○	○	○	○

Demographics

What is your age in years? _____

What is your gender?

- Male
- Female
- Other
- Prefer not to say

APPENDIX E
Study 3 Materials[47]

Questionnaire #1

INFORMATION

We are interested in learning about the kinds of events that people experience in their lives, and the perceptions of those events. We want to include a wide variety of events, so participants are being asked about specific types of events.

Today, you will be asked to identify a particular type of event (a significant positive event that reflects an accomplishment or induces a feeling of pride, and that you expect to occur within the next month), to describe the event briefly, and then to rate it on several dimensions. In addition, you will be asked about several personal characteristics (age, sex, etc.) that may be related to the types of events that people experience.

INSTRUCTIONS

Please complete the items in the order they are presented.

Please note that your responses are entirely anonymous and that we greatly appreciate your honesty and thoughtfulness in answering these questions.

[47] This appendix contains the experimental materials that participants in Study 3 completed. Experimental manipulations are *italicized.*

POSITIVE UPCOMING EVENT

Please take a moment to think about one specific positive event or situation that you expect will actually take place within the next month. An expected positive event might be a school-related event, a personal or social event, or a work-related event. Also, we would like the upcoming positive event that you identify to be of a particular type.

Think of an event that you expect to take place in the next month that would be **personally significant to you** because it reflects **an accomplishment or something that induces a feeling of pride**. The event you identify could be something that has deep personal significance for you, something that reflects your own values or personal goals, something that tells others who you are as a person, something that reflects an outcome of your efforts, etc. The main thing is that this event has personal significance for you because it reflects an accomplishment and/or induces a feeling of pride.

When you have the event in mind, please provide a description of it in the space below. Point form is fine.

_____

_____

_____

_____

_____

_____

_____

_____

EVENT RATINGS

Please answer the following questions about the positive event that you described above:

How positive is the event?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Slightly positive						Extremely positive

How likely is it that the event will actually take place?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not at all likely						Extremely likely

How soon do you expect the event will take place? _____ days from now

---

How important is the event to you?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Not at all important						Extremely Important

How much control do you have over whether the event occurs?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
No control						Complete control

How often have you experienced events similar to this in the past?

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7
Never before						Very often

Questionnaire #2

VISUALIZATION EXERCISE

Now that you have identified an event that you expect to occur within the next month, we would like you to take a moment and form a clear, visual image of yourself actually engaging in the event. Also, as you picture your future event in your mind, we would like you to try to see things from a particular visual perspective or point of view.

*Specifically, please try to picture yourself engaging in the event from a **first person perspective.** From this point of view, you see events unfolding **through your own eyes** just as you would see them if they were actually occurring. That is, you are looking out at your surroundings and seeing only what would be visible to you as the event takes place (e.g. you see your surroundings during the event, other people's reactions, etc.).*

OR

*Specifically, please try to picture yourself engaging in the event from an **observer perspective** (third person perspective). From this point of view, you are able to '**see yourself**' as well as your surroundings, just as if you were an observer to the situation. That is, you are looking at yourself and seeing what an observer would see as the event takes place (e.g. you see yourself standing in your surroundings during the event, other people's reactions, etc.).*

VISUALIZATION DETAILS

Please describe in detail the visual image you had of yourself engaging in the event.

As I imagine myself engaging in, and completing the activity, what I see around me is…

_____

_____

_____

_____

_____

_____

EXPECTED FUTURE MOODS

Now that you have envisioned a personally significant positive event, we are curious as to how you expect you will feel when that event actually occurs. Please rate the accuracy of the following adjectives in describing how you expect you will feel as the event is unfolding.

As the expected event is unfolding, I will feel:

Joyful

□	□	□	□	□	□	□
1	2	3	4	5	6	7
Not at all joyful						Extremely joyful

Proud

□	□	□	□	□	□	□
1	2	3	4	5	6	7
Not at all proud						Extremely proud

Note – these emotions were presented in random order, so some participants forecasted pride before joy.

We are also interested in your thoughts about how long you expect your moods and feelings will continue to be affected by the event.

In general, how long after the event occurs would you still be experiencing feelings of **joy**?

□	□	□	□	□	□	□
1	2	3	4	5	6	7
For only a few seconds						For days/weeks

In general, how long after the event occurs would you still be experiencing feelings of **pride**?

□	□	□	□	□	□	□
1	2	3	4	5	6	7
For only a few seconds						For days/weeks

Note – These items were presented in the same order as the emotions on the previous page.

FOLLOW UP QUESTIONS

Although you were instructed to take a particular visual perspective *(i.e., a first person perspective* OR *i.e., a third person perspective)* this may sometimes be hard to do. Please answer the following questions concerning the images that you had during the visualization exercise.

To what extent did you see your engagement and completion of the activity "through your own eyes as if it was actually occurring", or did you "see yourself and your surroundings as an observer would"?

□	□	□	□	□	□	□
1	2	3	4	5	6	7
Through your own eyes		Partially through your own eyes and partially through the eyes of an observer				Through the eyes of an observer

---

To what extent did you experience feelings and emotions that you would experience when the event actually occurs?

□	□	□	□	□	□	□
1	2	3	4	5	6	7
Not at all			Moderately			Very clear and vivid

For each statement below, please indicate the extent to which you agree with the statement by selecting one of the four options (strongly agree, agree, disagree, strongly disagree).

On the whole I am satisfied with myself.

□	□	□	□
Strongly agree	Agree	Disagree	Strongly disagree

At times I think I am no good at all.

□	□	□	□
Strongly agree	Agree	Disagree	Strongly disagree

I feel that I have a number of good qualities.

□	□	□	□
Strongly agree	Agree	Disagree	Strongly disagree

I am able to do things as well as most other people.

□	□	□	□
Strongly agree	Agree	Disagree	Strongly disagree

I feel I do not have much to be proud of.

□	□	□	□
Strongly agree	Agree	Disagree	Strongly disagree

I certainly feel useless at times.

☐	☐	☐	☐
Strongly agree	Agree	Disagree	Strongly disagree

I feel that I am a person of worth, at least on an equal plane with others.

☐	☐	☐	☐
Strongly agree	Agree	Disagree	Strongly disagree

I wish I could have more respect for myself.

☐	☐	☐	☐
Strongly agree	Agree	Disagree	Strongly disagree

All in all, I am inclined to feel that I am a failure.

☐	☐	☐	☐
Strongly agree	Agree	Disagree	Strongly disagree

I take a positive attitude toward myself.

☐	☐	☐	☐
Strongly agree	Agree	Disagree	Strongly disagree

What is your age in years? _____

What is your sex?

☐	☐	☐	☐
Male	Female	Other	Prefer not to say

APPENDIX F
Summary of Moderation Analyses[48]

In all five studies, I tested whether any of the event characteristics (positivity, likelihood, temporal distance, importance, controllability, and similarity to past events) moderated the effect of visual perspective on forecasted affect. I also tested whether the BIF scores (Studies 1A and 1B) and the RSE scores (all studies except 1A) moderated the same effect. Specifically, for each potential moderator, I regressed each emotion index separately on visual perspective condition, the moderator, and the interaction of perspective and the moderator. A significant interaction between perspective and the moderating variable of interest provided evidence of possible moderation. Table 1F provides a summary of moderators identified in each study, and a summary of results, by study, is presented below.

Study 1A

Self-Conscious Affect

In Study 1A, when the self-conscious emotions index was used as the dependent variable in the regression analyses, two moderators emerged: 1) the number of days into the future that the event is expected to take place (temporal distance); and 2) perceived controllability of the event.

Temporal Distance. There was no main effect of perspective condition, $\beta = .03$, $SE = .23$, $p = .890$, but self-conscious emotions were forecasted to be stronger as the temporal distance of the event increased, $\beta = .04$, $SE = .02$, $p = .030$. This main effect was qualified by a significant interaction between temporal distance and visual perspective, $\beta = -.04$, $SE = .02$, $p = .033$. As seen in Figure 1F, for events in the distant future, participants predicted stronger self-conscious emotions in the FPP condition than in the TPP condition, $t = -3.51$, $p = .001$, which is counter to

[48] This appendix contains the results of moderation analyses performed in all five studies.

H1A. However, for events in the near future the opposite was true, $t = 3.78$, $p < .001$, which supports H1A.

Controllability. There was no main effect of visual perspective, $\beta = .12$, $SE = .22$, $p = .597$, but self-conscious emotions were forecasted to be stronger as the perceived control increased, $\beta = .26$, $SE = .08$, $p = .003$. This main effect was qualified by a marginally significant interaction between controllability and visual perspective condition, $\beta = -.22$, $SE = .12$, $p = .076$. As seen in Figure 2F, high control events elicited slightly stronger forecasts of self-conscious emotions in the FPP condition than in the TPP condition, $t = -.91$, $p = .369$, counter to H1A, whereas the opposite was true for events perceived as low in controllability, $t = -1.65$, $p = .104$.

Hedonic Affect

In Study 1A, when the hedonic emotions index was used as the dependent variable in the regression analyses, again two moderators emerged: 1) temporal distance of the event; and 2) perceived likelihood of the event.

Temporal Distance. Consistent with self-conscious affect, temporal distance of the event appeared as a potential moderator of the relationship between hedonic affective forecasts and imagery perspective. Specifically, there was no main effect of perspective condition, $\beta = -.13$, $SE = .22$, $p = .551$, but hedonic emotions were forecasted to be marginally stronger as the temporal distance of the event increased, $\beta = .03$, $SE = .02$, $p = .064$. This main effect was qualified by a marginally significant interaction between temporal distance and visual perspective, $\beta = -.03$, $SE = .02$, $p = .079$. As seen in Figure 3F, the pattern observed for forecasted self-conscious affect replicated for forecasted hedonic affect. For events in the distant future, participants predicted stronger hedonic emotions in the FPP condition than in the TPP condition, $t = -3.56$, $p = .001$,

which supports H1B. However, for events in the near future, the opposite was true, $t = 2.37$, $p = .021$, counter to H1B.

Likelihood. There was no main effect of perspective condition, $\beta = -.11$, $SE = .22$, $p = .602$, nor of event likelihood, $\beta = -.06$, $SE = .16$, $p = .703$, but there was a significant interaction between event likelihood and visual perspective condition, $\beta = .76$, $SE = .28$, $p = .009$. As seen in Figure 4F, highly likely events elicited similar forecasts of hedonic emotions in both perspective conditions, $t = 1.64$, $p = .106$, whereas for less likely events, forecasts of hedonic emotions were stronger in the FPP condition than in the TPP condition, $t = -2.31$, $p = .024$, consistent with H1B.

Study 1B

Self-Conscious Affect

In Study 1B, when the self-conscious emotions index was used as the dependent variable in the regression analyses, only the perceived positivity of the event provided evidence of moderation. There was a marginally significant main effect of visual perspective, $\beta = -.25$, $SE = .14$, $p = .075$, which was qualified by a significant interaction between positivity and visual perspective, $\beta = .51$, $SE = .15$, $p = .001$. As seen in Figure 5F, for events low in positivity, self-conscious emotions were forecasted to be stronger in the FPP condition than in the TPP condition, $t = -3.58$, $p < .001$, whereas for events high in positivity, self-conscious emotions were forecasted to be similar across both visual perspective conditions, $t = 1.08$, $p = .281$.

Hedonic Affect.

Consistent with self-conscious emotions, when the hedonic emotions index was used as the dependent variable in the regression analyses, only the perceived positivity of the event provided evidence of moderation. Specifically, there was a main effect of visual perspective, $\beta = -.25$, $SE = .11$, $p = .026$, a main effect of event positivity, $\beta = .27$, $SE = .08$, $p = .001$, and a

significant interaction between positivity and visual perspective, β = .51, *SE* = .12, *p* < .001. As seen in Figure 6F, for events low in positivity, hedonic emotions were forecasted to be stronger in the FPP condition than in the TPP condition, *t* = -4.54, *p* < .001, whereas for events high in positivity, hedonic emotions were forecasted to be similar across both visual perspective conditions, *t* = 1.38, *p* = .170. This pattern is consistent with the pattern observed for self-conscious emotions.

Study 2A

Self-Conscious Affect

In Study 2A, the only self-conscious emotion that participants forecasted was pride. When pride was included as the dependent variable in the regression analyses, only the perceived likelihood of the event occurring appeared to moderate the relationship between visual perspective and affective forecasts. Specifically, forecasted pride was not significantly related to visual perspective, β = .23, *SE* = .16, *p* = .159. However, pride was forecasted to be stronger as the likelihood that the event will occur increased, β = .71, *SE* = .13, *p* < .001. This main effect was qualified by a significant interaction between event likelihood and perspective condition, β = -.51, *SE* = .21, *p* = .017. As seen in Figure 7F, for events with a low likelihood of occurrence, pride was forecasted to be stronger in the TPP condition than in the FPP condition, *t* = 2.68, *p* = .008, consistent with H1A. However, visual perspective did not have a significant influence on forecasted pride for events with a high likelihood of occurrence, *t* = -.77, *p* = .444.

Hedonic Affect

Consistent with pride, when the hedonic emotions index was used as the dependent variable in the regression analyses, only the perceived likelihood of the event provided evidence of moderation. Specifically, there was no main effect of perspective condition, β = .11, *SE* = .15,

p = .462, but there was a main effect of event likelihood, β = .69, SE = .53, p < .001. This main effect was qualified by a significant interaction between event likelihood and perspective condition, β = -.42, SE = .20, p = .035. As seen in Figure 8F, the same pattern as for pride emerged. Specifically, for events with a low likelihood of occurrence, hedonic emotions were forecasted to be stronger in the TPP condition than in the FPP condition, t = 2.01, p = .046, consistent with H1A. However, visual perspective did not have a significant influence on forecasted hedonic emotions for events with a high likelihood of occurrence, t = -1.05, p = .298.

Study 2B

Self-Conscious Affect

As with Study 2A, participants forecasted pride as a proxy for self-conscious emotions. When pride was used as the dependent variable in the regression analyses, only the perceived importance of the event provided evidence of possible moderation. Specifically, there was a trending main effect of event importance on predicted pride, β = .18, SE = .11, p = .107, and a marginally significant main effect of perspective condition, β = .26, SE = .16, p = .098. These main effects were qualified by a marginally significant interaction between importance and perspective condition, β = .33, SE = .18, p = .060. As seen in Figure 9F, pride was forecasted to be stronger when visualizing the event from the TPP compared with the FPP when the events were perceived to be highly important, t = 2.52, p = .013, consistent with H1A. However, when the event was perceived to be of low importance, there was no significant difference in predicted pride between perspective conditions, t = -.19, p = .854.

Hedonic Affect

In Study 2B, participants forecasted only joy as a proxy for hedonic emotions. When joy was included as the dependent variable in the regression analyses, only event importance

emerged as a potential moderator, consistent with the results for pride. There was no main effect of event importance on predicted joy, β = .17, *SE* = .13, *p* = .202, nor a main effect of perspective condition, β = .14, *SE* = .18, *p* = .438. However, there was a significant interaction between importance and perspective condition, β = .59, *SE* = .20, *p* = .004. As seen in Figure 10F, joy was forecasted to be stronger when visualizing the event from the TPP compared with the FPP when the event was perceived to be highly important, *t* = 2.65, *p* = .009, counter to H1A. However, when the event was of low importance, there was no significant difference in predicted joy between perspective conditions, *t* = -1.56, *p* = .122.

Study 3

Self-Conscious Affect

As in Studies 2A and 2B, only pride was included in the experimental materials to represent self-conscious emotions, and regression analyses did not identify any moderators of the relationship between forecasted pride and visual perspective.

Hedonic Affect.

As in Study 2B, only joy was included in the experimental materials to represent hedonic emotions. Regression analyses identified perceived event controllability as a moderator of the relationship between forecasted joy and visual perspective. There was no main effect of visual perspective, β = .18, *SE* = .23, *p* = .447, but there was a significant main effect of controllability, β = .36, *SE* = .07, *p* < .001. This main effect was qualified by a significant interaction between controllability and visual perspective, β = -.28, *SE* = .11, *p* = .012. As seen in Figure 11F, for events low in controllability, joy is forecasted to be stronger in the TPP condition than in the FPP condition, *t* = 2.06, *p* = .041. For events high in controllability, there is no significant difference in forecasted joy across perspective conditions, *t* = -.81, *p* = .418.

Discussion

Regression analyses across all five studies identify a plethora of possible moderators of the relationship between visual perspective and forecasted affect. The moderators identified include the temporal distance of the target event, as well as the event's perceived controllability, likelihood, positivity, and importance. Only the similarity of the event to past events, BIF and RSE did not show any evidence of moderation across all studies. Despite the identification of many potential moderators, there is no consistency in the moderators identified in each study. Furthermore, the moderation effects were not theorized a prior, and thus any interpretations would be speculative. For example, I would have expected the controllability of the event to elicit stronger self-conscious emotions such as pride, since pride is an emotion that is "generated by appraisals that one is responsible for a socially valued outcome or for being a socially valued person" (Mascolo & Fischer, 1995). This definition implies a level of responsibility for, or control over the outcome. Therefore, the fact that the TPP *weakens* predicted self-conscious emotions for highly controllable events in Study 1A is surprising. Given the lack of consistency in moderators across studies, and then fact that the effects were not theorized a prior and are difficult to understand, I cannot conclude that any of these variables reliably moderate the relationship between visual perspective and affective forecasts.

Table 1F
Summary of Moderators Identified Across All Studies

Study	Dependent Variable	Moderator	p
1A	Self-conscious emotions index	Temporal distance	.033
1A	Self-conscious emotions index	Controllability	.076
1A	Hedonic emotions index	Temporal distance	.079
1A	Hedonic emotions index	Likelihood	.009
1B	Self-conscious emotions index	Positivity	.001
1B	Hedonic emotions index	Positivity	.001
2A	Pride	Likelihood	.017
2A	Hedonic emotions index	Likelihood	.035
2B	Pride	Importance	.060
2B	Joy	Importance	.004
3	Pride	None	N/A
3	Joy	Controllability	.012

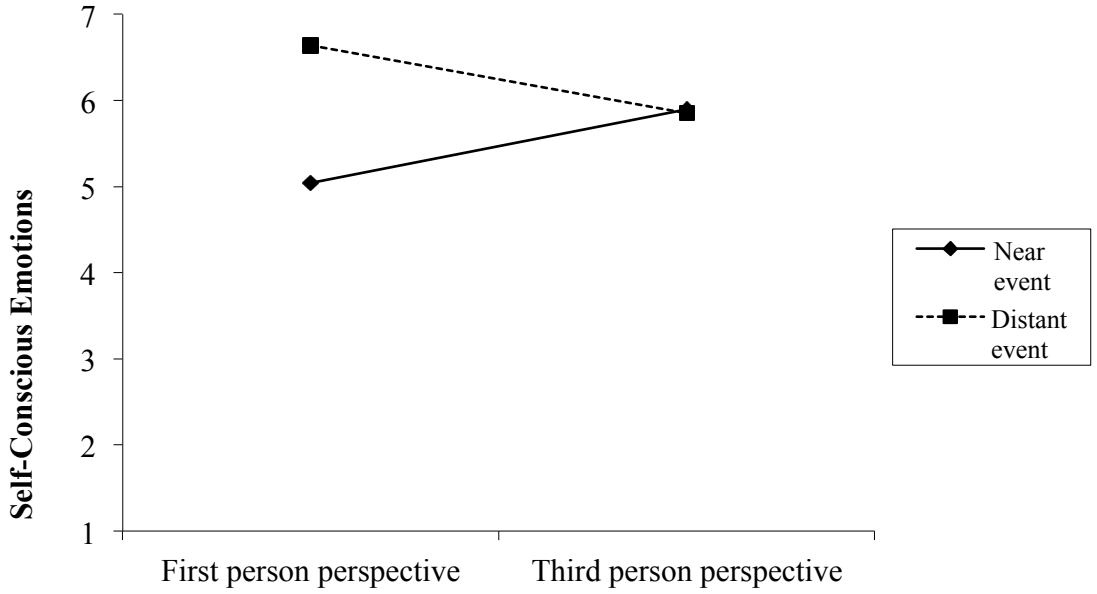

Figure 1F. *Temporal distance of the target event as a moderator of the relationship between visual perspective and forecasted self-conscious affect (Study 1A)*

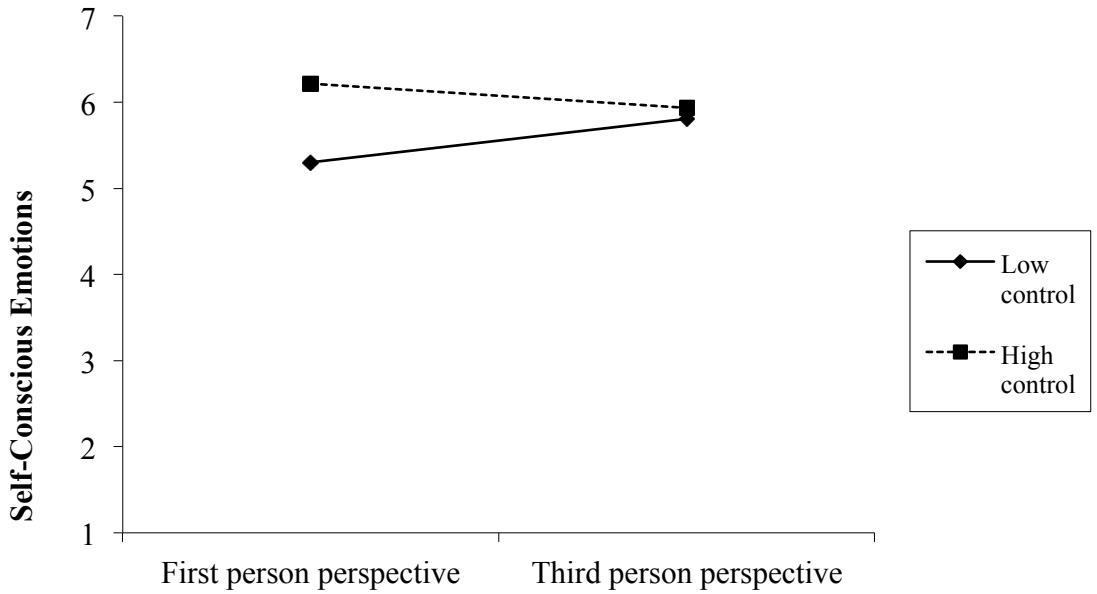

Figure 2F. *Perceived control over the target event as a moderator of the relationship between visual perspective and forecasted self-conscious affect (Study 1A)*

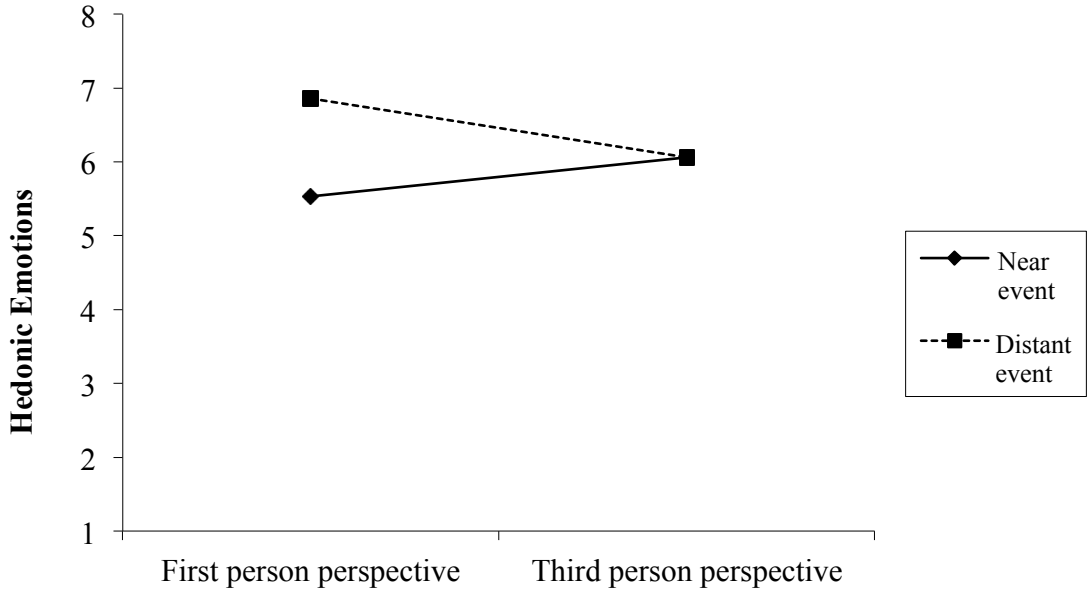

Figure 3F. *Temporal distance of the target event as a moderator of the relationship between visual perspective and forecasted hedonic affect (Study 1A)*

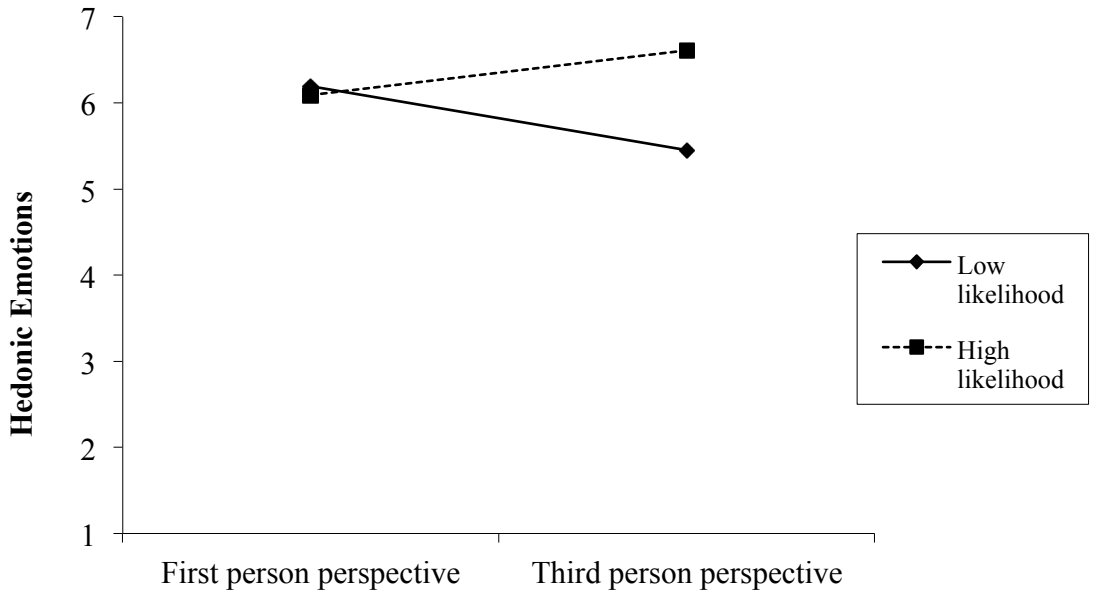

Figure 4F. *Event likelihood as a moderator of the relationship between visual perspective and forecasted hedonic affect (Study 1A)*

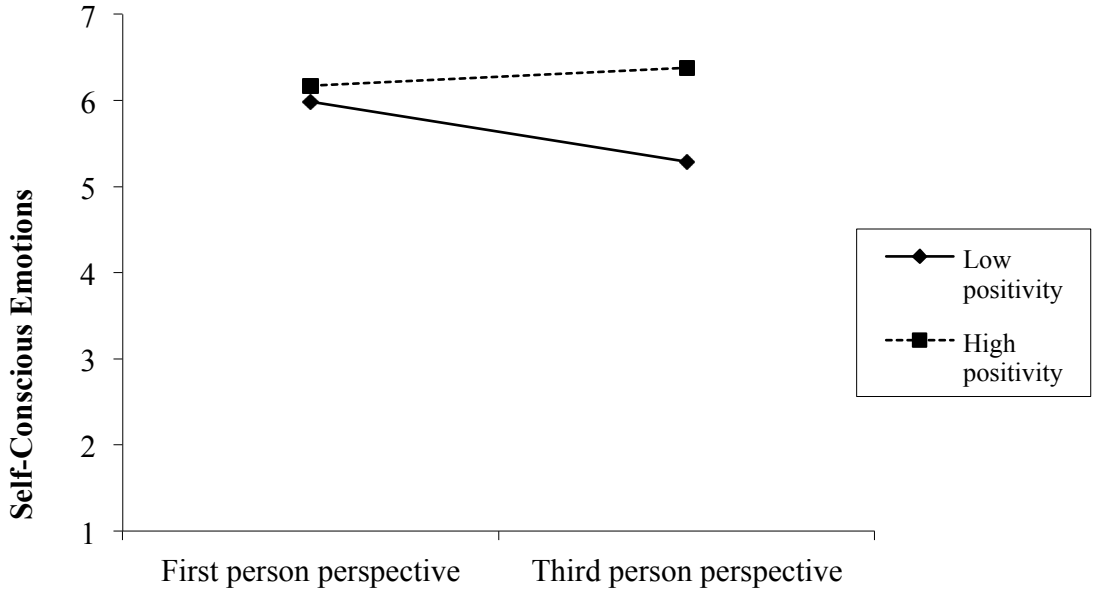

Figure 5F. *Perceived positivity of the target event as a moderator of the relationship between visual perspective and forecasted self-conscious affect (Study 1B)*

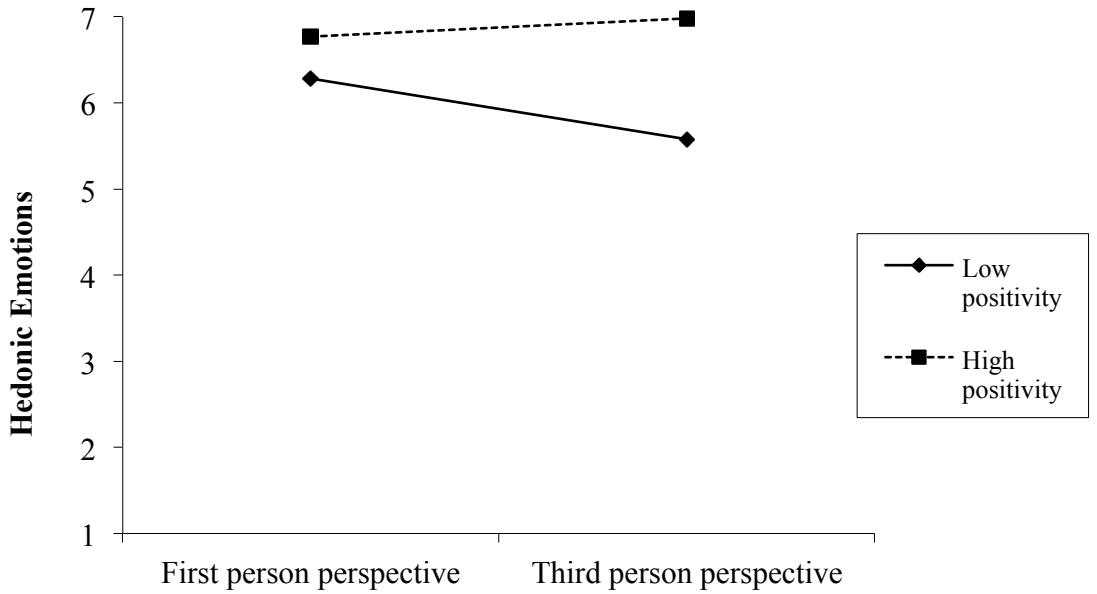

Figure 6F. *Perceived positivity of the target event has a moderator of the relationship between visual perspective and forecasted hedonic affect (Study 1B)*

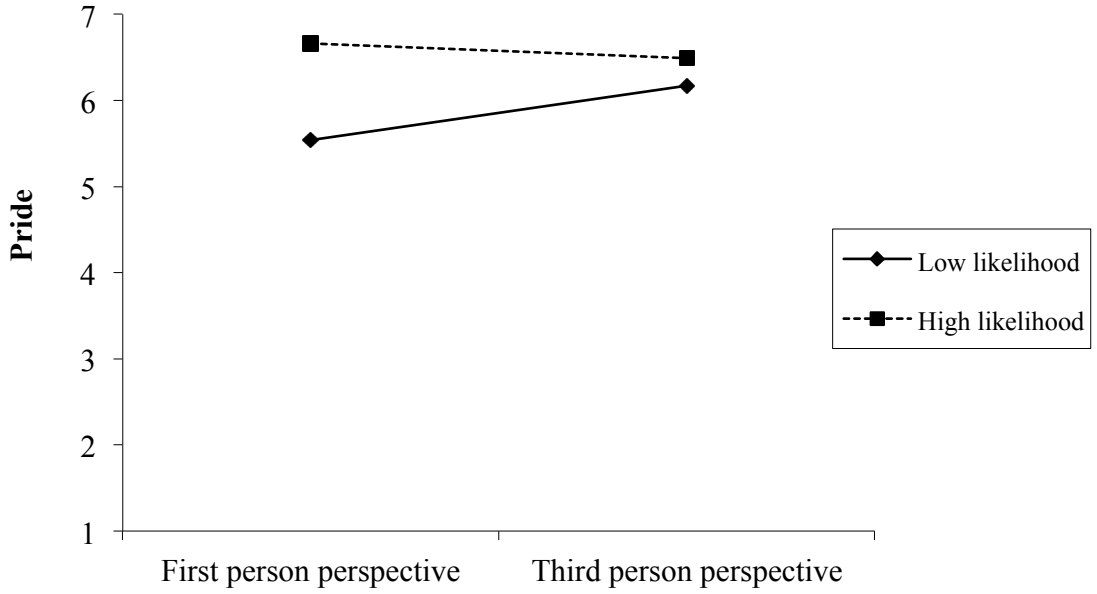

Figure 7F. *Event likelihood as a moderator of the relationship between visual perspective and forecasted pride (Study 2A)*

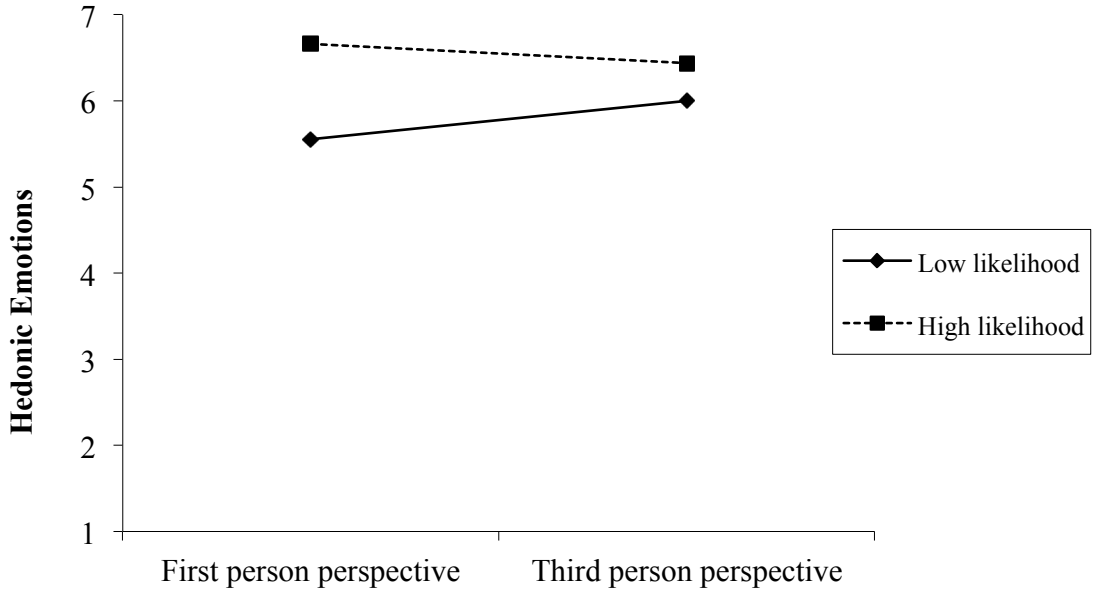

Figure 8F. *Event likelihood as a moderator of the relationship between visual perspective and forecasted hedonic emotions (Study 2A)*

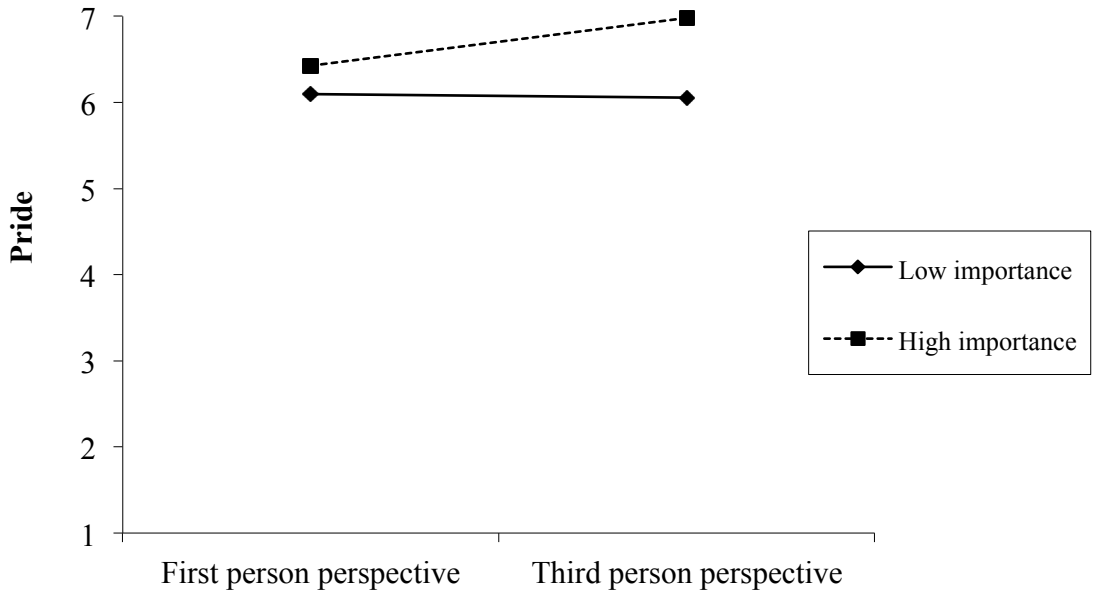

Figure 9F. *Perceived event importance as a moderator of the relationship between visual perspective and forecasted pride (Study 2B)*

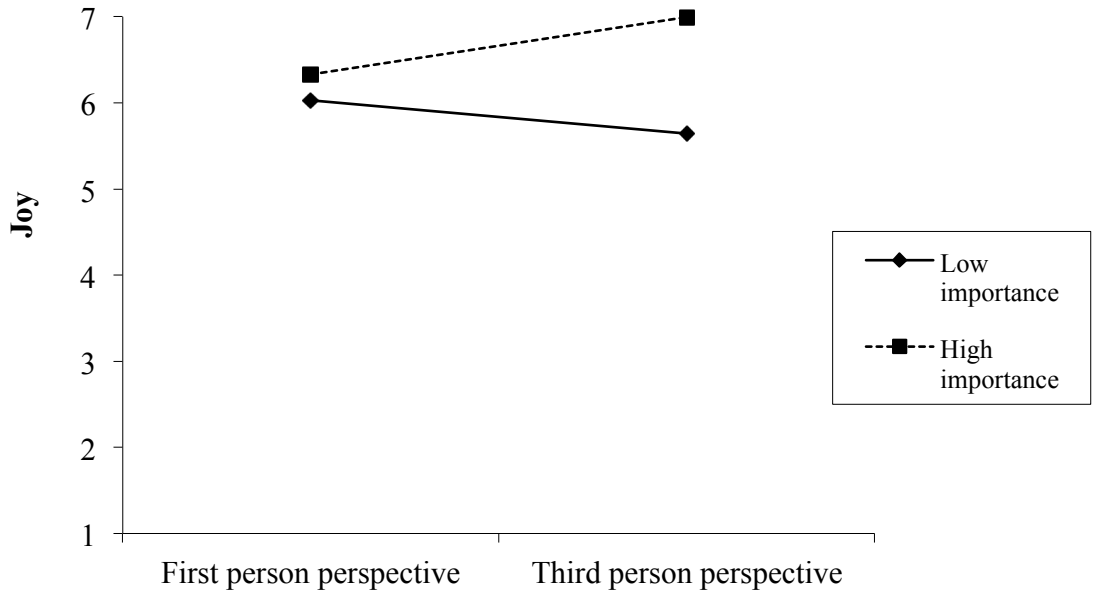

Figure 10F. *Perceived event importance as a moderator of the relationship between visual perspective and forecasted joy (Study 2B)*

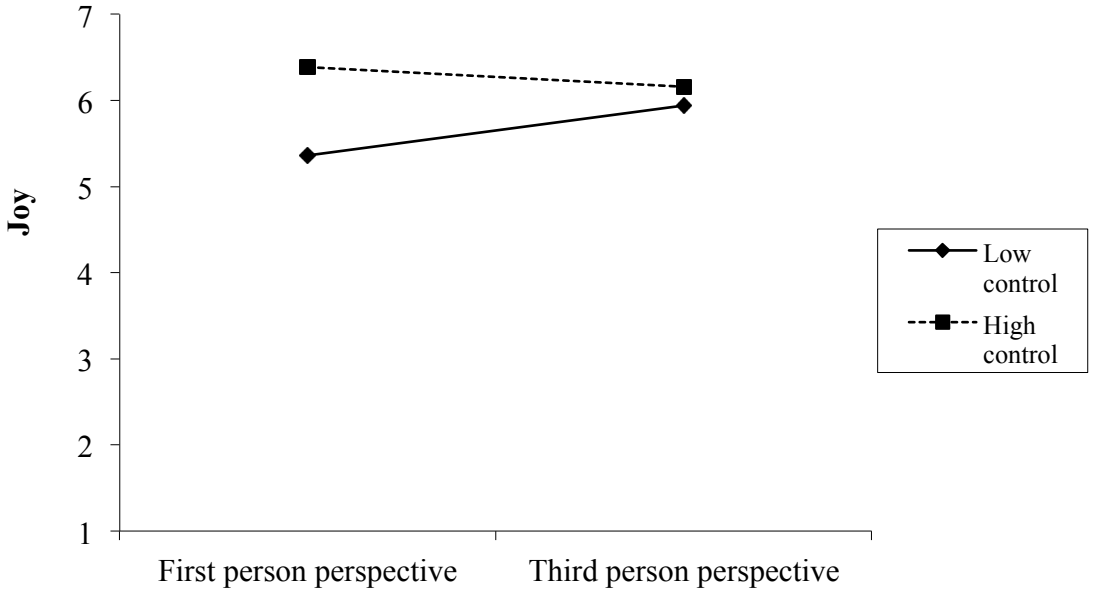

Figure 11F. *Perceived event controllability as a moderator of the relationship between visual perspective and forecasted joy (Study 3)*

REFERENCES

Ayton, P., Pott, A., & Elwakili, N. (2007). Affective forecasting: Why can't people predict their emotions? *Thinking & Reasoning, 13*(1), 62-80.

Baldwin, M. W., & Baccus, J. R. (2004). Maintaining a focus on the social goals of underlying self-conscious emotions. *Psychological Inquiry, 15*(2), 139-144.

Brown, J. D., & Marshall, M. A. (2001). Self-esteem and emotion: Some thoughts about feelings. *Personality and Social Psychology Bulletin, 27*(5), 575-584.

Buchanan, T. M., Buchanan, J., & Kadey, K. R. (2019). Predicting with your head, not your heart: Forecasting errors and the impact of anticipated versus experienced elements of regret on well-being. *Motivation and Emotion, 43*(6), 971-984.

Buehler, R., & McFarland, C. (2001). Intensity bias in affective forecasting: The role of temporal focus. *Personality and Social Psychology Bulletin, 27*(11), 1480-1493.

Buehler, R., McFarland, C., Spyropoulos, V., & Lam, K. C. H. (2007). Motivated prediction of future feelings: Effects of negative mood and mood orientation on affective forecasts. *Personality and Social Psychology Bulletin, 33*(9), 1265-1278.

Buehler, R., Griffin, D., Lam, K. C. H., & Deslauriers, J. (2012). Perspectives on prediction: Does third-person imagery improve task completion estimates? *Organizational Behavior and Human Decision Processes, 117*, 138-149.

Carver, C. S., & Scheier, M. F. (1990). Principles of self-regulation: Action and emotion. In E. T. Higgins and R. M. Sorrentino (Eds.), *Handbook of motivation and cognition* (Vol. 2, pp. 3-52). New York, NY: Guilford Press.

Christian, B. M., Miles, L. K., Kenyeri, S. T., Mattschey, J., & Macrae, C. N. (2016). Taming temptation: Visual perspective impacts food consumption and willingness to pay for unhealthy food. *Journal of Experimental Psychology: Applied, 22*(1), 85-94.

Dorison, C. A., Minson, J. A., & Rogers, T. (2019). Selective exposure partly relies on faulty affective forecasts. *Cognition, 188,* 98-107.

Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion, 6*, 169-200.

Ekman, P. (1999). Basic emotions. In T. Dalgleish and M. Power (Eds.), *Handbook of Cognition and Emotion* (pp. 45 - 60). Chichester, West Sussex: John Wiley & Sons Ltd.

Finkenauer, C., Gallucci, M., van Dijk, W. W., & Pollman, M. (2007). Investigative the role of time in affective forecasting: Temporal influences on forecasting accuracy. *Personality and Social Psychology Bulletin, 33*(8), 1152-1166.

Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., & Wheatley, T. P. (1998). Immune neglect: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology, 75*(3), 617-638.

Gilbert, D. T., Morewedge, C. K., Risen, J. L., & Wilson, T. D. (2004). Looking forward to looking backward. The misprediction of regret. *Psychological Science, 15*(5), 346-350.

Giner-Sorolla, R. (2001). Guilty pleasures and grim necessities: Affective attitudes in dilemmas of self-controls. *Journal of Personality and Social Psychology, 80*(2), 206-221.

Gretemeyer, T., (2009). The effect of anticipated affect on persistence and performance. *Personality and Social Psychology Bulletin, 35*(2), 172-186.

Hauser, D. J., & Schwarz, N. (2015). Attentive turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods, 48,* 400-407.

Hines, K. (2010). *Predicting future emotions from different points of view: The influence of imagery perspective on affecting forecasting accuracy*. (Electronic Thesis or Dissertation). Retrieved from https://etd.ohiolink.edu/

Hoerger, M., Quirk, S. W., Lucas, R. E., & Carr, T. H. (2010). Cognitive determinants of affective forecasting errors. *Judgment and Decision Making, 25,* 1-12.

Holmes, E. A., & Mathews, A. (2010). Mental imagery in emotion and emotional disorders. *Clinical Psychology Review, 30*, 349-362.

Hung, I W., & Mukhopadyay, A. (2011). Lenses of the heart: How actors' and observers' perspectives influence emotional experiences. *Journal of Consumer Research, 38*, 1103-1115.

Janoff-Bulman, R., & Brickman, P. (1982). Expectations and what people learn from failure. In N. T. Feather (Ed.), *Expectations and actions: Expectancy-value models in psychology* (pp. 207-237). Hillsdale, NJ: Lawrence Erlbaum.

Katzir, M., & Eyal, T. (2013). When stepping outside the self is not enough: A self-distanced perspective reduces the experience of basic but not self-conscious emotions. *Journal of Experimental Psychology, 49*, 1089-1092.

Leary, M. R. (2007). Motivational and emotional aspects of the self. *Annual Review of Psychology, 58*, 317-344.

Libby, L. K., & Eibach, R. P. (2002). Looking back in time: Self-concept change affects visual perspective in autobiographical memory. *Journal of Personality and Social Psychology, 82*(2), 167-179.

Libby, L. K., Eibach, R. P., & Gilovich, T. (2005). Here's looking at me. The effect of memory perspective on assessments of personal change. *Journal of Personality and Social Psychology, 88*(1), 50-62.

Libby, L. K., Shaeffer, E. M., Eibach, R. P., & Slemmer, J. A. (2007). Picture yourself at the polls. Visual perspective in mental imagery affects self-perception and behavior. *Psychological Science, 18*(3), 199-203.

Libby, L. K., Shaeffer, E. M., & Eibach, R. P. (2009). Seeing meaning in action: A bidirectional link between visual perspective and action identification level. *Journal of Experimental Psychology: General, 138*(4), 503-516.

Libby, L. K., & Eibach, R. P. (2011a). Visual perspective in mental imagery: A representational tool that functions in judgment, emotion and self-insight. *Advances in Experimental Social Psychology, 44,* 185-245.

Libby, L. K., & Eibach, R. P. (2011b). Self-enhancement or self-coherence? Why people shift visual perspective in mental images of the personal past and future. *Personality and Social Psychology Bulletin, 37*(5), 714-726.

Libby, L. K., Valenti, G., Pfent, A., & Eibach, R. P. (2011). Seeing failure in your life. Imagery perspective determines whether self-esteem shapes reactions to recalled and imagined failure. *Journal of Personality and Social Psychology, 101*(6), 1157-1173.

Mallett, R. K., Wilson, T. D., & Gilbert, D. T. (2008). Expect the unexpected: Failure to anticipate similarities leads to an intergroup forecasting error. *Journal of Personality and Social Psychology, 94*(2), 265-277.

Marigold, D. C., Eibach, R. P., Libby, L. K., Ross, M., & Holmes, J. G. (2015). Framing memories of relationship transgressions: How visual perspective activates relational knowledge. *Journal of Personality and Social Psychology, 32*(4), 491-508.

Mascolo, M. F., & Fischer, K. W. (1995). Developmental transformations in appraisals for pride, shame, and guilt. In J. P. Tangney & K. W. Fischer (Eds.), *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride* (pp. 64-113). New York, NY: Guilford Press.

Mendoza-Denton, R., Downey, G., & Purdie, V. J. (2002). Sensitivity to status-based rejection: Implications for African American students' college experience. *Journal of Personality and Social Psychology, 83,* 896-918.

Morewedge, C. K., & Buechel, E. C. (2013). Motivated underpinnings of the impact bias in affective forecasts. *Emotion, 13*(6), 1023-1029.

Peer, E., Vosgerau, J., & Acquisti, A. (2014). Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior Research Methods, 46,* 1023-1031.

Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology, 70,* 153-163.

Pettigrew, T. F., & Tropp, L. R. (2000). Does intergroup contact reduce prejudice? Recent meta-analytic findings. In S. Oskamp (Ed.), *Reducing prejudice and discrimination: The Claremont symposium on applied social psychology* (pp. 93-114). Mahwah, NJ: Erlbaum.

Ramanathan, S., & Williams, P. (2007). Immediate and delayed emotional consequences of indulgence: The moderating influence of personality type on mixed emotions. *Journal of Consumer Research, 34,* 212-223.

Richins, M. L. (1997). Measuring emotions in the consumption experience. *Journal of Consumer Research, 24*, 127-146.

Roseman, I. J. (1991). Appraisal determinants of discrete emotions. *Cognition & Emotion, 5*(3), 161-200.

Rosenberg, M. (1965). The measurement of self-esteem. In *Society and the Adolescent Self-Image* (pp. 16-38), Princeton, NJ: Princeton University Press.

Shaeffer, E. M., Libby, L. K., & Eibach, R. P. (2015). Changing visual perspective changes processing style: A distinct pathway by which imagery guides cognition. *Journal of Experimental Psychology: General, 144*(3), 534-538.

Soliman, M., Buehler, R., & Peetz, J. (2017). Envisioning a future purchase: The effects of consumption imagery perspective and identity on consumer motivation. *Psychology & Marketing, 34*, 684-692.

Tangney, J. P. (2003). Self-relevant emotions. In M. R. Leary and J. P. Tangney (Eds.), *Handbook of Self and Identity* (pp. 384-400). New York, NY: The Guilford Press.

Tracy, J. L., & Robins, R. W. (2004). Putting the self into self-conscious emotions: A theoretical model. *Psychological Inquiry, 15*(2), 102-125.

Tracy, J. L., and Robins, R. W. (2007). The self in self-conscious emotions. A cognitive appraisal approach. In J. L Tracy, R. W. Robins and J. P. Tangney (Eds.), *The Self-Conscious Emotions Theory and Research* (pp. 3-20), New York, NY: The Guilford Press.

Tracy, J. L., and Robins, R. W. (2007). The psychological structure of pride: A tale of two facets. *Journal of Personality and Social Psychology, 92*(3), 506-525.

Valenti, G., Libby, L. K., & Eibach, R. P. (2011). Looking back with regret: Visual perspective in memory images differentially affects regret for actions and inactions. *Journal of Experimental Social Psychology, 47,* 730-737.

Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology, 57*(4), 660-671.

Vasquez, N. A., & Buehler, R. (2007). Seeing future success. Does imagery perspective influence achievement motivation? *Personality and Social Psychology Bulletin, 33*(10), 1392-1405.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070.

Wesp, R., Sandry, J., Prisco, A., & Sarte, P. (2009). Affective forecasts of future positive events are tempered by consideration of details. *American Journal of Psychology, 122*(2), 167-174.

Wilson, T. D., Wheatley, T. P., Meyers, J. M., Gilbert, D. T., & Axsom, D. (2000). Focalism: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology, 78,* 821-836.

Wilson, T. D., & Gilbert, D. T. (2003). Affective forecasting. *Advances in Experimental Social Psychology, 25,* 345-411.