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Rüdiger F. Pohl

Positivity biases

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21 Positivity biases

Carla A. Zimmerman and W. Richard Walker

In October 2020, a few weeks before the United States Presidential election, the second author of this chapter (RW) received an e-mail from a news outlet. The e-mail asked for an interview about the obvious and seemingly disastrous impact that positive emotions had wreaked upon the world in 2020. The rose-colored glasses that people had worn throughout the year had obviously blinded them to harsh realities that the year had forced us all to confront. The second author considered the argument the reporter was trying to make. The world in 2020 was awash in stupidity, there was wanton disregard for facts and common sense, and venom was a regular part of discourse. Somehow positive emotions were to blame.

To be clear, positive emotions can lead the mind astray. Positive illusions can promote unrealistic thinking that can create blind-spots preventing people from accepting painful realities. These illusions are present in our judgments of self, others, and the future, as well as in how we direct our attention and remember the past. This truth must be held in balance with another truth that is often overlooked — a mind biased towards positivity is often healthier, more purposeful, and more able to cope with adversity than a mind that favors negativity. This chapter will review evidence that supports this thesis in four sections. The first section examines the deleterious effects of negative emotions, specifically depression, anxiety, and anger. The second section reviews positivity biases that help people achieve their goals. The third section examines positivity biases that are related to self-protection, self-esteem, and overall psychological health. The fourth section reviews research on the Fading Affect Bias (FAB), a phenomenon that shows that most people can minimize the negativity of life events while retaining their positive aspects. Table 21.1 presents a summary of the positivity biases discussed in this chapter.

Depression, anxiety, and anger mislead the mind

The negativity bias of depression is one of the most widely documented phenomena in psychology (e.g., Beck, 1976; Gotlib & Joorman, 2010; Joorman & Stanton, 2016). Indeed, the negativity bias is pervasive in the minds of the depressed; it affects their perceptions of themselves (Hards et al., 2020) and the future (Bjarehed et al., 2010). Depressed people see their lives as lacking joy, meaningful human interaction, and purpose.

Studies that examine the autobiographical memories of clinically depressed people typically find three things. First, depressed people tend to recall memories with far less detail than their non-depressed counterparts. Second, depressed people ruminate about their negative experiences more than non-depressed people. Third, depressed people...
recall negative experiences more quickly than non-depressed people (Dalgleish et al., 2007; Williams & Scott, 1988).

The question of whether the negativity bias reflects the lived experience of depressed people or a retrospective bias has also been addressed. Urban et al. (2018) examined 158 participants with a history of depression and 1,499 with no such history. Participants were asked to keep a daily record of their positive and negative emotions for eight days. At the end of the study, participants were asked to recall how often they had experienced the same positive and negative emotions during the past eight days. Participants with a history of depression experienced fewer daily positive emotions and more negative emotions compared to those without a history of depression. When examining the retrospective recall of emotions, both groups overestimated the frequency of negative emotions, but this bias was much greater for participants with a history of depression.

Anxiety is perhaps the next most damaging emotional experience. In the grips of anxiety, a person may perceive risks that are not real or exaggerate ones that pose little to no actual risk. People who are prone to anxiety often express an attentional bias towards threats (Hunt et al., 2006), a phenomenon known as threat magnification. Goodwin et al. (2017) reviewed 21 articles examining the tendency for people suffering from general anxiety disorder to exhibit biases towards threatening stimuli. They found that this bias extended across a wide variety of stimuli including threatening or negatively valenced words, images, and faces.

One of the most common but least understood anxieties that people suffer from is a fear of heights. Krupic et al. (2021) examined acrophobia using a virtual reality paradigm. Participants entered a simulated elevator that led them to the top of a skyscraper. The door would open to a wooden plank at the exit of the elevator, looking over an urban environment. These simulations worked very effectively, increasing feelings of tension,

### Table 21.1 Summary of positive illusions

<table>
<thead>
<tr>
<th>Name</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Age-related Positivity Effect</td>
<td>Attention: A focus on positive stimuli over negative stimuli which increases with age. Memory: Greater recall of positive over negative information which increases with age.</td>
</tr>
<tr>
<td>Better than Average Effect</td>
<td>Rating oneself or close others as better than the average person in ability, traits, behaviors, and wellbeing.</td>
</tr>
<tr>
<td>Fading Affect Bias</td>
<td>Negative affect associated with autobiographical memories tends to fade more than positive affect.</td>
</tr>
<tr>
<td>Optimistic Update Bias</td>
<td>Updating judgments to a greater extent for positive outcomes compared to negative outcomes.</td>
</tr>
<tr>
<td>Self-enhancing Exaggeration</td>
<td>Exaggerating one’s abilities in self-reports in comparison to objective information.</td>
</tr>
<tr>
<td>Self-serving Attributions</td>
<td>Making internal attributions for positive outcomes and external attributions for negative outcomes.</td>
</tr>
<tr>
<td>Unrealistic Idealization</td>
<td>Rating romantic partners as more similar to an ideal partner than the romantic partner would self-report.</td>
</tr>
<tr>
<td>Unrealistic Optimism Effect</td>
<td>Viewing positive outcomes for the self as more likely to occur than base-rates would suggest or as more likely for the self as compared to others.</td>
</tr>
</tbody>
</table>
reducing electrodermal activity, and reducing the ability of participants to focus on stimuli or thoughts other than retreat or escape.

The experience of anger is often intense, but short-lived. Because of its fleeting nature, anger is a difficult emotion to study. Researchers have successfully identified one important cognitive bias associated with it. The Hostile Attribution Bias is the tendency to interpret other people’s actions as having hostile intent (Nasby et al., 1980). First identified in children, it was later found that this bias could be directly related to physical aggression (Holtzworth-Munroe & Hutchinson, 1993), relational aggression (Crick et al., 2002), and even early death (Barefoot et al., 1989).

To understand how hostile attribution relates to anger, Banks et al. (2018) examined 80 adolescents who were shown a series of animated vignettes depicting ambiguous social situations. The researchers assessed levels of aggression, hostile attribution bias, and heart rates in response to the vignettes. Most of the participants’ heart rates showed a pattern of slowing followed by acceleration, which mimicked a threat response. This suggests that ambiguous information was perceived as threatening by most of the participants. However, for those participants with higher levels of hostile attribution, their heart rates remained elevated for a longer period. In short, these individuals stayed mad longer.

Taken together, the evidence is clear. The negative emotions of depression, anxiety, and anger are associated with significant biases that prevent people from accurately interpreting themselves and the circumstances that surround them.

Positive illusions help people attain life goals

In this section, we review research suggesting that positive illusions help us achieve important goals, whether it be broad goals of maintaining affect or seeking knowledge, achieving academic goals, or fulfilling our need to belong through relationships with others.

As we age, the amount of time we have left decreases. This perception of decreasing time influences which goals we prioritize and which we set aside (Carstensen et al., 1999). Socioemotional selectivity theory proposes that we can classify our social goals into two basic categories – knowledge seeking and emotional regulation. When we perceive that there is ample time for us to achieve our goals, we focus on the future and seeking knowledge. When time feels limited, we focus on the present and regulating the types of emotions we experience. This phenomenon explains the age-related positivity effect – the finding that biases in memory recall and attention towards positive information increase with age (Carstensen & Mikels, 2005).

The age-related positivity effect in attention demonstrates a tendency to focus on positive stimuli that becomes stronger with age (Reed et al., 2014). For example, when eye movements are tracked during a video of two speakers discussing the positive and negative effects of aging, the amount of time spent focusing on the negative speaker decreases with age (Li et al., 2011). Younger adults should be more motivated to seek out knowledge and information; therefore, a focus on both speakers is consistent with this motivation. Older adults, however, should be motivated to maintain desired emotional states; by directing attention away from the negative speaker, they avoid an unwelcome impact on their emotions, successfully meeting their goal.

Interestingly, the age-related positivity effect appears to vary based on culture. Fung et al. (2008) studied visual attention to positive and negative faces in Chinese participants.
In contrast to the findings of Western studies, as discussed above, the older Chinese adults showed an attentional preference towards fearful faces as compared to happy faces. A later cross-cultural study noted that, while American participants showed an age-related positivity effect in attention, the opposite was seen with Chinese participants (Fung et al., 2019).

An age-related positivity effect also occurs for memory, particularly autobiographical memory. Kennedy et al. (2004) asked 300 nuns to complete a survey about their health activities, symptoms of stress, emotions, and feelings of loneliness in 1987. In 2001, they were divided into one of three conditions – to rate how they answered this survey in 1987 with a focus on accuracy, their current emotional state, or no particular focus (control). Their current mood was measured after rating their past responses. In the control group, the oldest participants showed a stronger positivity bias than the younger group; that is, the difference between 1987 and 2001 ratings was larger in the older nuns compared to the younger nuns. The older nuns in this group also experienced a larger change in positive mood after completing the survey, suggesting that this positively biased remembering of 1987 led to a more positive mood in the present. Importantly, the other two conditions demonstrated that goal activation influences the age-related positivity effect – when the goal was to focus on one’s current emotions, a positivity effect was present. When the nuns were told to focus on accuracy, there was instead a negativity effect! Therefore, we see that the age-related positivity effect in attention and memory helps people to achieve relevant goals – when regulating one’s current emotional state is less relevant, the age-related positivity effect disappears.

An important question in this area is whether older adults remember more positive events than younger adults, leading to a more positive perception of past events, or if older adults reinterpret their past events more positively. Research indicates that positive and negative memories are equally likely to be recalled by older and younger adults (Schryer & Ross, 2014) and these memories are similar in detail across age groups (Gallo et al., 2013). This suggests that the age-related positivity effect is not due to a selective memory for positive events in older adults, but a more positive interpretation of memories.

The benefits of positive illusions are not limited to older adults. A well-established positive illusion is the “better than average” effect, sometimes referred to as the “Lake Wobegon effect” (Kruger, 1999). Indeed, people rate themselves as better than the average person on a variety of measures, including desirable personality traits (Ziano et al., 2021), environmentally friendly behaviors (Bergquist, 2020), and driving ability (Nees, 2019). People even report that they are happier and more satisfied with life than others (Wojcik & Ditto, 2014). This tendency is exaggerated when well-being and happiness are portrayed as being especially desirable. Similarly, Brown (2012) found a stronger better than average effect for traits considered important by participants. The better than average effect extends to judgments of bias in self and others. Pronin et al. (2002) found that American college students rated themselves as less susceptible to bias than the average American and their classmates, while travelers in an airport rated themselves as less susceptible to bias than the average traveler. Notably, the better than average effect was strongest for undesirable biases and weak for socially desirable biases, suggesting that the better than average effect is beneficial for self-enhancement.

Research conducted on students suggests that positive illusions about the self improve performance and motivation. Chung et al. (2016) followed college students across their four-year academic careers. Students reported ratings of their academic ability compared to the average student at their university and their adjustment to university at multiple time points. Their grade point average (GPA), enrollment, and graduation were examined.
as outcomes. Results indicated that the better than average effect increased over time—the longer students were enrolled in school, the better they felt they compared in ability to their peers. Additionally, those who felt that they were better than average at the start of their academic careers had a better adjustment to university life, higher GPAs, more consistent enrollment, and were more likely to graduate than those who did not initially feel better than average. Thus, the better than average effect resulted in higher performance and a greater likelihood of completing a degree.

Not only do people often believe themselves to be better than average, but they may also describe themselves in terms that conflict with the available evidence. For example, people might exaggerate their abilities in a domain that is particularly important to their self-concepts. One line of research examining this phenomenon focuses on the tendency for students to exaggerate their academic abilities by reporting a higher GPA than the GPA reported in university records. Willard and Gramzow (2009) propose that this form of exaggeration is due to motivation, and in fact, students with a high need for achievement show greater levels of academic exaggeration. Exaggeration was associated with an approach orientation towards academics and a greater perception of challenges versus threats. A crucial question in this area of study is whether such effects are driven by positive emotions or by avoidance of failure. In a study to delineate these motivations, Gramzow et al. (2008) asked students to report their GPA and prior grades before having their physiological responses recorded. During this recording, students were interviewed about their academic performance and their judgments of such performance compared to their peers. Students who exaggerated their GPAs showed a significantly greater increase in GPA at the end of the semester than those who did not exaggerate. Also, they showed a calmer physiological response during the academic performance interview than their non-exaggerating peers. Thus, a self-enhancement bias in reported GPA seems to not only improve academic performance and motivation but does so without increasing anxiety.

Positive illusions in memory, attention, and self-judgments promote goal achievement, motivation, and persistence in achieving these goals. If we consider the need to belong as a fundamental human need (Baumeister & Leary, 1995), we might consider the development and maintenance of interpersonal relationships as another goal that is common to humanity.

Similar to positive illusions about the self, we also hold positive illusions about those close to us and the nature of our relationships, including friends, family members, children, and romantic partners (Cohen & Fowers, 2004; Endo et al., 2000; Murray et al., 1996; Wenger & Fowers, 2008). We not only rate these people as better than average but feel our relationships are stronger than the average relationship. These illusions appear to promote behaviors that initiate and maintain relationships, helping us fulfill this fundamental need.

Our judgments about others have important effects on our interactions and the behaviors of others. Rosenthal and Jacobson (1968) created expectations in teachers that certain students would experience a “spurt” of academic achievement. This expectation created a self-fulfilling prophecy, in that the designated “spurters” showed a greater increase in IQ than the “non-spurters”.

Research on self-fulfilling prophecies indicates that our expectations of others influence our behaviors towards them and, in turn, their behavior. For example, positive illusions about a friend’s romantic interest in us lead to more frequent romantic behaviors, which in turn predicts that friend’s reciprocal interest (Lemay & Wolf, 2016). In this way, overly optimistic judgments of a potential romantic partner’s interest can lead them to become more interested. Positive illusions extend beyond attempts to initiate a relationship into
short- and long-term relationship maintenance. Murray et al. (1996) followed dating couples for one year. Each member of a couple completed a survey describing themselves, their partners, and their level of relationship satisfaction. Overall, the more partners idealized the other, the more satisfied they were with the relationship. Additionally, the more idealized a partner was, the happier they were with the relationship. Idealizing one’s partner and being idealized by one’s partner were associated with important factors for relationship maintenance – fewer conflicts and less ambivalence about the relationship. Indeed, couples who idealized one another were less likely to break up throughout the yearlong study. This may again illustrate a form of self-fulfilling prophecy created by positive illusions – those who saw the best in their partners, and whose partners saw the best in them, had fewer relationship conflicts and were in turn, more likely to remain together.

Miller et al. (2006) suggested that positive illusions and idealization of one’s partner could prevent a decrease in love over time. They followed married couples for 13 years, during which the couples were surveyed on the amount of positive and negative behaviors their partner engaged in, their perceptions of their partner’s agreeableness, and their level of marital love. Positive illusions – where a perceived level of agreeableness contradicted reports of behavior – were associated with a greater level of love in newlywed couples at the beginning of the study. These illusions were also associated with a lesser decline in love over time. Taken together, we see that idealized views of our partners – and our partners’ idealized view of ourselves – lead to behaviors that create a self-fulfilling prophecy of positive behaviors, increased relationship satisfaction in the short term, and a slower decline of marital love in the long term.

Positive illusions: self-protection and self-esteem

Taylor and Brown (1994) argued that positive illusions promote psychological well-being. In this section, we will review research on positive illusions that help to buffer the self, promote self-esteem and self-worth, and provide protection in times of stress and crisis.

Self-enhancement biases, such as the better than average effect discussed above, serve a protective function (Taylor & Brown, 1988). Brown (2012) found that the better than average effect was stronger after negative feedback. This suggests that the tendency to rate ourselves as better than others helps to restore self-worth, as it appears more strongly after receiving threatening information about the self. These biases, however, appear to be influenced by situational and cultural contexts. After completing either a difficult or easy task with performance feedback, participants whose failure during the difficult task was viewed by an experimenter showed a decreased better than average effect in comparison to participants whose failure was not witnessed by another person (Brown & Gallagher, 1992). In contrast, those who succeeded by completing the easy task rated themselves more highly when the success was seen by others. This suggests that people must balance competing motives when making social comparisons. When one’s deficits are apparent to others, it can cause social backlash to portray one’s self as better than others, and this reduces the strength of self-enhancement. A cross-cultural study comparing the better than average effect in participants from the United States and Norway, where social norms discourage self-promotion, found that Norwegian participants showed less of a self-enhancement bias than American participants. In addition, self-esteem was less strongly related to self-enhancement in Norwegian participants compared to American participants. This indicates a cultural influence in how people judge themselves in relation to others and in the motivations underlying such judgments (Silvera & Seger, 2004).
In addition to the better than average effect, people show self-serving biases in how they make attributions for outcomes. Broadly speaking, people tend to make internal, self-focused attributions for positive outcomes and external attributions for negative outcomes (Mezulis et al., 2004). Intriguingly, the tendency to make self-serving attributions does not appear to be an automatic process—Sakaki and Murayama (2013) provided evidence that people tend to attribute failures initially to their abilities. When cognitive load is increased through a divided attention task, attributions to abilities are greater than when cognitive load is low. External attributions for poor performance were associated with higher levels of intrinsic motivation, supporting the protective nature of self-serving attributions. This tendency appears to be related to self-esteem: In Brown et al. (2009), participants from the US and China received false feedback indicating that they received high or low scores on a social sensitivity task. Across cultures, those with high self-esteem were more likely to make self-serving attributions about their performance than those with low self-esteem, that is, attributing high performance to their ability and low performance to an issue with test accuracy. In addition, self-serving attributions for failure are stronger in situations of threat, including situations where a task was viewed as important and success was expected (Campbell & Sedikides, 1999).

Positivity biases not only affect our attributions for success and failure, but they can also be found in our expectations of the future. The unrealistic optimism effect refers to a tendency to view positive outcomes for the self as likelier to occur than base rates would suggest and/or to view positive outcomes for the self as more likely to occur in comparison to others (Shepperd et al., 2015). Weinstein (1980) asked college students to rate the likelihood of positive and negative events occurring in their future compared to other students at their university. Overall, students judged positive events as more likely to happen to them compared to others, and negative events as less likely to happen to them compared to others. An unrealistic optimism effect was particularly likely for events that were perceived as controllable. Studies have shown that this effect also occurs in terms of judging negative workplace events, such as experiencing a health and safety issue or being bullied by co-workers (Caponecchia, 2010) or in judging the likelihood of developing strep throat or being a victim of homicide (Weinstein, 1987). We are unrealistically optimistic about a broad range of positive and negative outcomes.

In addition to feeling as though we are luckier than others, we do not appropriately update our predictions in the face of contradictory information about base rates. Research in this area is similar to that of the unrealistic optimism effect—participants are asked to rate the likelihood of different events happening to themselves in comparison to another person. Following these estimates, they are given base-rate information about the events and provide another rating of the likelihood of these events occurring. These updated ratings consistently show that people make greater adjustments to their ratings when the base rates indicate a positive outcome is more likely or a negative event is less likely rather than the opposite—the optimistic update bias. This effect is particularly noticeable for self-related judgments rather than overall judgments of base rates in general (Garrett & Sharot, 2014) or judgments about the likelihood of events occurring to others (Kuzmanovic et al., 2015). The optimistic update bias is influenced by several individual differences. For example, Kuzmanovic et al. (2015) found that this bias was strongest for those high in trait optimism, and manipulations to induce optimism can increase the bias in mildly depressed people (Yoshimura & Hashimoto, 2020). This is particularly interesting given that depressed individuals do not show the optimistic update bias (Korn et al., 2014).
Both the unrealistic optimism effect and the optimistic update bias have drawn concerns that an unrealistic view of risks can lead to poor decision-making or increased risk-taking (Strecher et al., 1995). However, there are benefits to unrealistic optimism—it has been linked with fewer physical symptoms of stress (Scheier & Carver, 1985) as well as better psychological adjustment, lower depression, and greater self-esteem (Lapsley & Hill, 2010). In patients with chronic illness, unrealistic optimism is associated with better physical function via increased positive coping strategies (Fournier et al., 2002).

The fading affect bias

This chapter has argued that positive illusions are often beneficial to people as they try to achieve their life goals, motivate themselves to perform challenging tasks, boost their self-esteem, and nurture a sense of optimism for the future. At the heart of this argument, however, is that when people are inevitably confronted with negative life events, they can cope with those events so that they can move forward in life. But what does this coping actually look like? For the past 25 years, studies of autobiographical memory have revealed that most people are able to resolve the negativity of life events while retaining the positivity of life events.

The negative affect associated with autobiographical memories tends to fade more than the positive affect, a phenomenon known as the Fading Affect Bias or FAB (Walker et al., 1997, 2003a). Several laboratories around the world have replicated the FAB using a variety of populations and methodologies (e.g., Ritchie et al., 2015a; Walker & Skowronski, 2009). While there have been some disruptions of this effect caused by individual differences in depression (Walker et al., 2003b), anxiety (Walker et al., 2014), and narcissism (Ritchie et al., 2015b), the consensus is that the FAB reflects evidence of a healthy coping mechanism operating in autobiographical memory.

The FAB is typically assessed by diary or retrospective procedures. The diary procedure requires that participants keep track of their life events for a period ranging from two weeks to three and a half months. Participants are then tested on the contents of their diaries. Participants rate how positive or negative the events were at the time of the event (initial) and again at the time of the test (current). The change in these affect ratings reflects the perceived change in the emotionality of the events. The retrospective method works similarly, except that participants are asked to recall the events from memory and then they make the ratings of event emotion (both initial and current) in retrospect. Despite the concerns about retrospective biases, the methods produce strikingly similar results (Walker & Skowronski, 2009). Indeed, the results have been replicated using a variety of methods and populations around the world (Ritchie et al., 2015a).

Text box 21.1 Assessing the Fading Affect Bias in a classroom exercise

**Retrospective recall**

Give students ten minutes to recall two specific autobiographical events from their personal past (one positive, one negative). The event descriptions must include information such as time, place, and sensory details and should be between 100–200 words long.
Affect ratings

Provide students with a seven-point scale ranging from -3 (Extremely Unpleasant) to +3 (Extremely Pleasant) with a midpoint of 0 (Neutral). Ask students to rate the initial affect of the events when they occurred. Next, ask students to rate the current affect of the events. Participants can make these ratings in reverse order to minimize concerns of regression to the mean or use a qualitative approach described below. Remind students that some emotions may not change in emotion, some might become stronger or weaker, and even some emotions make switch from positive to negative or vice versa.

Calculate difference scores

Subtract the current affect rating from the initial affect rating for each event. For instance, an initial rating of -3 and a current rating of -1 would result in a difference score of -2. Each participant will provide two difference scores (one positive, one negative). These can be analyzed using a repeated measures t-test. Evidence of the FAB is observed in larger difference scores for negative events than for positive events. Changes in emotion can also be categorized into four groups: Fixed Affect (No Change), Fading Affect (Reduction Intensity), Flourishing Affect (Increase Intensity), and Flexible Affect (Valence Reversal) and the frequencies can be analyzed using a chi-square test.

Qualitative method

Instead of relying upon rating scales, students can provide emotion words to describe the initial and current affect of their events. Changes in emotion words would reflect potential changes in emotion (e.g., fear to anxiety, anger to relief).

Research on the FAB has found that this phenomenon is meaningfully related to processes known to be integral to healthy coping, such as social rehearsal. In a series of studies, Skowronski et al. (2004) examined positive and negative events that were shared frequently (ten times or more) or infrequently (five times or less) with other people. The results showed that frequently shared events showed a stronger FAB than events that were infrequently shared. In a final study in which the social rehearsals were directly manipulated in a laboratory setting, the relationship between social rehearsal and affective fading was found to be causal. The more often participants shared events during the study, the stronger the FAB those participants evinced.

Another piece of evidence that shows that the FAB is meaningfully related to the functions of a healthy mind comes from a study that examined the impact of the personality characteristic of grit on how emotions fade. Grit has been described as the ability to persevere in the pursuit of long-term goals. Walker et al. (2020) had 197 participants complete a grit assessment and categorized participants as Low Grit (n = 44), Moderate Grit (n = 55), Moderate-High Grit (n = 53), and High Grit (n = 45). Participants then recalled four event memories (two positive, two negative) and made ratings of initial and current affect. The results showed that participants with higher levels of grit had a stronger FAB compared to participants with lower levels of grit.
While much of the research on the FAB has been conducted on commonplace life events, some studies have examined how people cope with traumatic events. Henderson et al. (2015) examined essays written by African-Americans who were coping with violent and nonviolent deaths of close family members or friends. While some events were still emotionally open, a majority of the events had been successfully resolved. The perceived change in the emotional intensity of the events was examined and revealed that the negative emotion showed evidence of substantial fading, a finding consistent with the FAB. Another study involving trauma examined Filipinos’ memories of super-typhoon Haiyan, the most destructive typhoon ever to hit the islands (Bond et al., 2015). Three years later, the memory vividness rated by participants closely resembled ratings observed for flashbulb memories. The results also showed that negative emotional intensity for the event faded after the event, a finding consistent with the FAB.

The 2020 pandemic offered a unique opportunity to examine the FAB in the context of ongoing stress and trauma. Would the autobiographical memories of participants show evidence of healthy emotional coping or would they reveal the effects of depression or anxiety? A study began in the summer of 2020 and is continuing beyond the publication of this chapter. Participants were asked to keep one-week diaries of positive and negative events and were later tested on the contents of those diaries after retention intervals. While the specifics need to be properly analyzed and peer-reviewed, a few tentative observations can be shared. First, these data appear to replicate the FAB for pandemic-related events. Second, reports of stress appeared to increase over three semesters. This likely reflects pandemic fatigue. Finally, the events recorded by participants appear more generic than the events captured in prior studies. Indeed, some participants observed that many events seemed very similar. These observations are consistent with prior research on the FAB – people are often resilient in the face of adversity, but resilience is not synonymous with invulnerability.

Text box 21.2 How positive emotions become associated with irrationality – a Candide explanation

This chapter argues that positive emotions can help people think more clearly, make good decisions, and overcome obstacles they may not otherwise be able to surmount. This assertion is at the core of positive psychology. But many scholars consider positive emotions inherently misleading. Indeed, feelings of happiness and positivity are oftentimes associated with foolishness and stupidity. Why?

The answer has to do more with philosophy than with psychology and the philosopher who most passionately made this linkage was François-Marie Arouet, better known by his pen name Voltaire (Brooks, 1964; Cronk, 2009). Voltaire was the most important French philosopher of the Enlightenment. He developed an early cynicism that was directed at authority figures, traditional morality, and the church. At 16, he had an affair with a 27-year-old married mother of three. Four years later, his father sent him to The Hague as punishment after it was revealed that he was publishing embarrassing poems that lampooned the church and figures of nobility. Ten years later, he was banished to England after getting into a heated argument with the Chevalier de Rohan. While in England, he read the works of Isaac Newton, which convinced him to embrace empiricism. Upon his return to
France, Voltaire published *Lettres Philosophiques* that distilled his newfound ideals in the form of scathing critiques of the church. His work was openly burned in the streets of Paris.

In 1759, after a lifetime in which he had faced imprisonment, banishment, harassment from the church, and the death of a woman he loved, he wrote *Candide*. This work was a scathing satire that ridiculed Gottfried Leibniz, a German philosopher who posited that humans exist in the best of all possible universes. The satire follows the travails of Candide, an optimistic young man who grows up in an idyllic setting, being taught philosophy and seeking the affections of the beautiful Cunégonde. His advances are met with punishment, including banishment, conscription into an army, physical abuse, and near execution. He learns that his home was destroyed and his family murdered. Cunégonde had been captured, raped, and sold into slavery. Through the next 20 chapters, Candide is repeatedly forced to suffer and defend his optimism. He visits the fabled El Dorado, a city that is covered in gold. He grows weary of the leisure and leaves, concluding that man was not meant for such idleness. In the waning chapters of the text, he talks with a character named Martin, a pessimist who professes that disease, despair, and death are the only fortunes of life. Candide finally reunites with Cunégonde, who is no longer young or beautiful. He buys her from slavery and, with a collection of characters he has met, buys a farm and resolves to live his life simply. Instead of pursuing optimistic dreams that have led him to misery, he suggests instead that humans should seek a life of unassuming work, concluding that “we must cultivate our garden”.

That a figure such as Voltaire embraced science and empiricism and so strongly linked the positive emotions of hope, happiness, and serenity with irrationality, stupidity, and folly meant that the die was cast in minds of many empiricists of the Enlightenment. Science was about cold, hard, and ultimately negative facts. Voltaire viewed positive emotions as Chimera in the mind. A Chimera is a fanciful creature of Greek mythology with the head of a lion, the body of a goat, and the tale of a serpent (Figure 21.1). In some tales, it could fly or breathe fire. In the parlance of Voltaire, a Chimera was something that was wished for but could never be achieved. Hence, positive emotions could only mislead the mind – never help or inform it.

![Chimera](https://commons.wikimedia.org/wiki/File:Chimera_(PSF).jpg)

*Figure 21.1* Chimera by Pearson Scott Foresman, 2016, donated to the Wikimedia Foundation. Retrieved from https://commons.wikimedia.org/wiki/File:Chimera_(PSF).jpg
Conclusion
As this chapter is being completed, vaccines are being administered to the world’s population. Economies are starting to reopen and a sense of normalcy is starting to return. In some cases, the optimism is premature and many regions are seeing their caseloads spike. In other cases, lockdown protocols have stoked anxieties that will likely be felt for years to come. But there is an undeniable feeling of guarded optimism that is starting to wash over the world. People are starting to look forward to the future. What does this tell us about the positive biases described in this chapter? It tells us that these biases more often defend the mind than cripple it. The psychological pain of depression, anxiety, and anger distort reality by turning vipers into dragons. Positivity creates a platform that allows people to formulate and achieve long-term goals, striving to succeed rather than retreating from failure. Positive biases boost esteem and engender a set of defenses that serve to protect the self from harm. And finally, when tragedy strikes, the pain is often short-lived and the healthy mind can recover quickly and effectively.

Voltaire would consider the positive biases discussed in this chapter to be Chimera, fanciful and fearsome monsters leading the mind away from reality. Instead, we would suggest that a more suitable mythological allusion befitting positivity would be the Pegasus – a winged creature allowing the individual to rise above the troubles of the world, to gain perspective, and to overcome the insurmountable.

Summary
• Positive illusions are present in attention, memory, and judgment.
• These illusions motivate and enhance goal achievement.
• Positive illusions boost self-esteem and assist in recovering from negative events.

Further reading

Taylor and Brown (1988) pioneered the idea that positive illusions can be beneficial for well-being. The following readings are suggested for delving deeper into specific illusions: For a meta-analytic review of the age-related positivity effect, see Reed et al. (2014) which notes that experimental procedures influence the strength of the age-related positivity effect. Brown (2012) presents a series of studies demonstrating the motivational, self-enhancing nature of the “better than average” effect. Shepperd et al.’s (2015) comprehensive review of unrealistic optimism describes the different forms unrealistic optimism can take, why it occurs, and the positive and negative outcomes of holding unrealistically optimistic beliefs. Walker and Skowronski (2009) provide a review of the literature on the fading affect bias, describing its functions in autobiographical memory.

References


