The Good and Bad of Ambivalence:
Desiring Ambivalence Under Outcome Uncertainty

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Abstract

Decades of past research point to the downside of evaluative inconsistency (i.e., ambivalence), suggesting that it is an unpleasant state that can result in negative affect. Consequently, people are often motivated to resolve their ambivalence in various ways. We propose that people sometimes desire to be ambivalent as a means of strategic self-protection. Across employment, educational and consumer choice settings, we demonstrate that when people are uncertain they can obtain a desired target, they will cultivate ambivalence in order to protect their feelings in the event that they fail to get what they want. We find that people are most likely to generate ambivalence when they are most uncertain that they can obtain their desired target. Depending on the outcome, this cultivated ambivalence can either be useful (when the desired target is not obtained) or backfire (when the desired target is obtained).

Keywords: ambivalence, self-protection strategy, self-evaluation, attitudes, self-affirmation
“You can’t always get what you want.”

--The Rolling Stones

People frequently want things that they are uncertain they can obtain. They may bid on a desired house but be uncertain that their bid will be accepted; they may ask someone out on an online dating site and not know if their advances will be accepted; or they may apply for jobs or to schools that could reject them. These types of situations put people in a bind. The uncertainty about the obtainability of the target makes it difficult to know how to feel about it. On the one hand, the target is clearly desired and strived for, and one could possibly obtain it. Accordingly, people may not want to discount its positive features in the event that they do obtain it. However, not getting what one wants is aversive, at a minimum, and when highly self-relevant can threaten one's self-views as a good and competent person. Hence, hedging by also endorsing negative features of the target could potentially provide self-protection in the event that the target is not obtained. In the face of such uncertainty, will people cultivate both positive and negative views of the same target to protect themselves from the sting of rejection? And if they do, what effects will it have?

In this paper, we examine these questions. We explore whether people will systematically cultivate ambivalence (i.e., mixed evaluative reactions) as a hedge in the face of uncertainty and whether they do so as a means of self-protection. We propose that when people are uncertain about whether they can obtain a desired target, they will seek out and process information in ways to deliberately cultivate mixed (i.e., ambivalent)
evaluations. We predict that, this cultivated ambivalence can be self-protective when the desired target is not obtained, but can backfire when it is.

**Conceptual Background**

Attitudes are typically conceptualized as an association in memory between a target and its summary evaluation (e.g., Fazio, 1995). For example, many people have a positive attitude toward french fries. However, any summary evaluation—whether generally positive, negative, or neutral—can be based on some combination of positive and negative associations toward the same target (e.g., Kaplan, 1972; Otnes, Lowrey, & Shrum, 1997; Priester & Petty, 1996; Thompson, Zanna, & Griffin, 1995). For example, some people (e.g., healthy teenagers) may have only positive thoughts and feelings about french fries. Other people (e.g., those watching their cholesterol), though still having a positive overall attitude toward french fries, could have more ambivalent attitudes. That is, they could have both positive (e.g., tasty) and negative (e.g., unhealthy) associations to french fries, even though they have favorable attitudes overall. Hence, the attitudes literature has distinguished between attitudes, which refer to the overall positivity of one’s evaluation of a target, and ambivalence, which refers to the evaluative conflict one has toward the target. Whereas attitudes are typically assessed using bipolar semantic differential scales (e.g., ranging from bad to good), objective ambivalence is assessed using unipolar scales (e.g., not at all to very negative/positive), which are then combined mathematically to yield an index of evaluative conflict (e.g., Thompson et al., 1995).

Objective ambivalence refers to the actual presence of conflicting evaluative reactions within a given person: that is, having both positive and negative thoughts and feelings toward the same object. Another form of ambivalence, subjective ambivalence,
refers to the subjective experience of feeling conflicted and torn with regard to the attitude object (Newby-Clark, McGregor & Zanna, 2002; Priester & Petty, 1996; Thompson et al., 1995). Though objective and subjective ambivalence tend to be correlated, our focus in this paper is on objective ambivalence. Specifically, we examined whether people would sometimes cultivate both positive and negative thoughts and feelings about the same target when they were uncertain they could obtain it and hence, we focused on objective ambivalence in these studies. Objective ambivalence is heightened to the extent that one holds strong and equivalent positive and negative reactions to the same target (Kaplan, 1972; Priester & Petty, 1996; Thompson et al., 1995).

**The Aversiveness of Ambivalence**

Prior research has primarily focused on the negative consequences of holding ambivalent attitudes (e.g., Has, Katz, Rizzo, Bailey, & Moore, 1992; King & Emmons, 1990; Newby-Clark et al., 2002). This research shows that ambivalence is an aversive and undesirable state that causes discomfort, anxiety and tension, particularly when both the positive and negative components of the attitude are simultaneously accessible (Has et al., 1992; Newby-Clark et al., 2002; Nordgren, van Harreveld & van der Pligt, 2006; Ramanathan & Williams, 2007; Williams & Aaker, 2002). The aversiveness of ambivalence has been established not only with controversial attitude targets such as racial attitudes, abortion and capital punishment (Has et al., 1992; Newby-Clark et al., 2002) but also with more benign attitude objects such as photographic film and a moving company (Williams & Aaker, 2002).
Because ambivalence tends to be an aversive state, people are typically motivated to reduce it. They take active steps to resolve the ambivalence by systematically seeking and processing information in ways that will lower the amount of evaluative conflict (Briñol, Petty, & Wheeler, 2006; Clark, Wegener, & Fabrigar, 2008; Maio, Bell, & Esses, 1996; Nordgren et al., 2006; Sengupta & Johar, 2002; Zemborain & Johar, 2007). For example, ambivalent individuals elaborate on information that will help them reduce their ambivalence (Maio et al., 1996) and avoid information that might increase their ambivalence (Clark et al., 2008).

Thus, the literature has clearly established ambivalence as something that people try to avoid. This is not to suggest that ambivalence cannot have positive consequences, however. Recent research has shown that holding ambivalent attitudes can promote physical health (Hershfield, Scheibe, Sims, & Carstensen, 2013), help one deal with major life stressors (Larsen, Hemenover, Norris, & Cacioppo, 2003), increase one’s desire to quit smoking (Lipkus et al., 2005), enhance one’s visual sensitivity to increasing portion sizes (Cornil et al., 2014), and lead one to be more creative (Fong, 2006). Additionally, people will sometimes express ambivalence when they are trying to self-enhance to groups holding conflicting opinions (Pillaud, Cavazza, & Butera, 2013). Thus, ambivalence does not have uniformly negative consequences. Indeed, we tested a potential positive effect of ambivalence in the present paper. Nevertheless, the prior literature has shown that the aversiveness of ambivalence is sufficient to lead people to avoid it when possible, despite its potential advantages in some contexts. Our new contribution is establishing that the desire to resolve or avoid ambivalence can be overwhelmed by the desire to protect the self.
Ambivalence as a Means of Self-Protection

In the present research, we took a novel approach and explored when people might desire to be ambivalent. In particular, we explored the possibility that people might sometimes desire to be ambivalent for strategic self-protection purposes. That is, we examined whether people would cultivate ambivalence as a means of protecting their feelings in the face of outcome uncertainty. People have been shown to employ various strategies to protect themselves from uncertain and potentially negative outcomes (Cantor & Norem, 1989; Higgins & Harris, 1988; Martin, Marsh, & Debus, 2001; Tice & Baumeister, 1990). Sometimes people deliberately sabotage their own performance. For example, people self-handicap by procrastinating, drinking heavily or strategically reducing their effort in order to have an excuse in the event of failure (Higgins & Harris, 1988; Tice & Baumeister, 1990). Engaging in these self-handicapping behaviors allows individuals to attribute their failure to lack of effort, for example, and not to lack of ability. In other cases, people can set unrealistically low expectations for success, which is referred to as defensive pessimism (Cantor & Norem, 1989; Martin, Marsh, & Debus, 2001). Defensive pessimism motivates people to put forth more effort to enhance the likelihood of success on the one hand and to set lower standards for performance on the other. Notably, these are strategies that people can rely on to alter their effort toward obtaining a target. Self-handicapping involves withdrawing effort (thereby changing the meaning of failure), whereas defensive pessimism involves potentially increasing effort.

A different strategy involves not changing one’s effort toward achieving the target, but rather changing evaluations of the target itself. This may be a particularly suitable strategy when one can no longer do anything to alter the outcome itself. There are
sometimes gaps between one’s effort (e.g., one’s work before applying for a job) and knowing the outcome of that effort (e.g., whether one got the job). People apply for jobs, make bids on houses, bid on auctions, and take final exams, all long before they learn whether their efforts were successful. In such contexts, people could adopt particular views of the outcome that buffer them against the potential sting of failure. Specifically, when people want a target they are uncertain they can obtain, such as a coveted job, house, or admission to a prestigious school, they can cultivate ambivalence in order to protect their feelings in the event that they fail to get what they want. We posited that people in these circumstances would cultivate ambivalence, thereby providing an evaluative hedge. Hence, the ambivalence would serve as a means of buffering their feelings from failure to achieve the desired target.

This prediction is different from what might be called an anticipatory dissonance strategy. With an anticipatory dissonance strategy, when people desire something they are uncertain they can obtain, they will evaluate it more negatively. Although this would be an interesting phenomenon in its own right, we do not view this as likely as ambivalence cultivation in these contexts for several reasons. First, in the situations we are studying, people are not certain they will not obtain the target, and so they would likely still want to cultivate positive thoughts and feelings (in addition to negative thoughts and feelings) in the event that they obtain it. Second, even were they to want to devalue the target, it is not always feasible to do so. Dream jobs, houses, and vacations by definition have many positive qualities, and reality constraints inhibit the extent to which one can simply decide not to like it. Finally, devaluing a desired target would be inconsistent with the initial desire and prior efforts to obtain it. Logically, it
would make little sense to apply for a job or make a bid on a house that one did not want. Therefore we posited that when people desired a target they were uncertain they could obtain, they would cultivate ambivalence toward the target rather than simply devaluing it.

**Moderating Conditions**

**Self-protection Alternatives**

Our basic prediction was that when desiring a target they were not sure they could obtain, people would cultivate ambivalence as a self-protective hedge against failure. In line with viewing ambivalence cultivation as a self-protective process, we predicted that people would be less likely to cultivate ambivalence when provided with an alternate avenue of self-protection. Specifically, we predicted that when people were already self-affirmed (Steele, 1988) they would be less likely to turn to ambivalence as a hedge against uncertain outcomes. Self-affirmation involves reflecting on one’s values and how one has acted consistently with them in the past. It is one of the most widely studied means of self-protection and has been shown to reduce defensive responding in a large array of domains (for a review, see Sherman & Cohen, 2006). Self-affirmation works because it allows people to realize that their self-worth is not dependent solely on the implications of the immediate situation (Sherman & Cohen, 2006). If ambivalence were cultivated to protect the self-concept from the evaluative implications of failing to obtain a desired target, self-affirmation should reduce such ambivalence cultivation. Hence, we hypothesized that ambivalence would be less likely to be cultivated when people were provided with an alternate avenue of self-protection (i.e., self-affirmation).
Self-relevance of the Outcome

We predicted that not all desired targets would be equally likely to promote self-protective ambivalence cultivation. Some outcomes, though desired, have little implications for one’s self-views (e.g., when an outcome is randomly determined), and so should lead to a lower likelihood of engaging in this type of defense. Outcomes that have implications for one’s self-worth are likely to be more threatening than ones that are determined by chance factors. Thus, we predicted that people would be more likely to cultivate ambivalence when failure to obtain the target had greater implications for the self. We focus on self-relevant outcomes, because those are clearly high impact and have a high potential for negative feelings, but it could be that other highly important outcomes could have similar effects, even though the linkage to the self is weaker.

Probability of the Outcome

We proposed that people would engage in ambivalence cultivation as a hedge against uncertainty. Hence, we predicted that people would be most likely to cultivate ambivalence when they were most uncertain that they could obtain their desired target (i.e. when they had a 50%-50% chance). When people think they are either very likely or very unlikely to obtain their desired target, they could be less likely to cultivate ambivalence because such situations are viewed as less threatening. If one thinks one is sure to obtain the target, there is no need for self-protection. Similarly, if one thinks one has very little shot, the potential failure provides little threat. For example, though a casual amateur athlete might desire to play in the NBA some day, he need not cultivate ambivalence toward the NBA to protect his potential self-worth. Its very unobtainability renders it non-threatening. Hence, it is those outcomes that are potentially within reach
but also potentially unreachable that require the greatest preemptive self-protection. In other words, we predicted that people would be more likely to generate ambivalence when they were highly uncertain that they could obtain their desired target.

**Downstream Consequences**

Cultivated ambivalence could have downstream consequences. One set of consequences concerns people’s self-evaluations following the outcome. Cultivating ambivalence towards a desirable target could potentially protect one’s feelings in the event that it is not obtained. Therefore, making an attempt to recognize that a coveted target has drawbacks as well as advantages might mitigate the disappointment that can occur if that target is ultimately not obtained. However, if the desirable target is obtained, this ambivalence could be detrimental, as the person has now endorsed the drawbacks of their desired target in addition to its positive features. Hence, depending on the outcome, cultivated ambivalence could either be self-protective (when people fail to obtain the desired target) or backfire (when people obtain the desired target). In this sense, ambivalence cultivation is an insurance policy, one that is costly and without benefit in the event that one doesn’t need it. Hence, we hypothesized that ambivalence would interact with outcome to predict resulting self-views. We also tested in our final study whether ambivalence would also interact with outcome to predict feelings about the outcome as well.

**The Present Research**

We conducted six studies to test when people will be likely to cultivate ambivalence and whether it will have a self-protective function. In Study 1, we sought to provide support for the motivated aspect of cultivating ambivalence by demonstrating
that, when facing an uncertain but desired outcome, ambivalence is more likely to be cultivated when people do not have an alternate avenue of self-protection (i.e., self-affirmation), as these sorts of self-protection mechanisms have been shown to buffer people from a variety of threats. In Studies 2A and 2B, we further examined the motivated and deliberate aspect of cultivating ambivalence by testing whether ambivalence is more likely to be sought out when the self is implicated in a desired outcome (versus when it is not) with the rationale that outcomes implicating the self are more threatening than those that do not. In Study 3, we explored how the perceived likelihood of obtaining the target affects ambivalence cultivation and examined the effects of ambivalence cultivation on subsequent self-views in a real world employment seeking setting. Study 4 experimentally replicated the results of Study 3, thereby providing better causal evidence for probability of achieving the outcome as a driver of ambivalence cultivation. Finally, in Study 5, we directly manipulated ambivalence in order to show that ambivalence, regardless of whether it was initially cultivated for self-protective purposes, can still affect self-views after learning the outcome.

STUDY 1

In Study 1, we sought to examine the motivated aspect of cultivating ambivalence, that is, whether ambivalence is cultivated for self-protective purposes. We placed participants in a context in which they desired an uncertain outcome and either had a ready means of defense against the threat of rejection or not. We predicted that ambivalence would be cultivated as a means of defense from the uncertain outcome, but that this would be attenuated when an alternate means of defense was available. Specifically, we tested whether people would be more likely to cultivate ambivalence
when not already provided with an opportunity to self-affirm (e.g., Steele, 1988). Self-affirmation is perhaps the most widely studied means of eliminating buffering people against threats. It is used in self-threat research as a means of demonstrating that a given action is engaged in for self-protection purposes.

According to self-affirmation theory, people can respond to threats in one domain by affirming themselves in other important domains in which they do not feel threatened (e.g. affirming one’s successes at work following a romantic rejection; Steele, 1988). Because people have a global sense of self, when they are affirmed, otherwise threatening factors lose their self-threatening capacity because people can view them within a broader, larger view of the self. Self-affirmation can not only repair threatened self-views, but also prevent them from being threatened (i.e., when people engage in self-affirmation prior to the threatening event; for a review see Sherman & Cohen, 2006).

Because self-affirmation has this protective capacity, it enables us to identify the role of threat in ambivalence cultivation. Specifically, if ambivalence is cultivated as a protection mechanism, it should be reduced when people already have a means of defense against threats. That is, because self-affirmation reduces the need for individuals to engage in self-protection strategies, a reduction of ambivalence cultivation in the self-affirmation condition would be consistent with ambivalence cultivation as a self-protective strategy. Hence, we hypothesized that if we provided participants with this alternative means to defend against the threat of failure, they would be less likely to cultivate and desire ambivalence (i.e., self-affirmation), as they would already be protected.

**Method**
A total of 194 participants (102 males, 92 females) from a national online pool took part in exchange for monetary compensation. Participants were randomly assigned to one of two affirmation conditions: affirmation or no affirmation.

On the opening screen of the study, participants were given a list of 12 values/qualities (e.g. creativity, athletics, social skills) and were asked to rank these values/qualities in order of importance. They were then instructed to write either about why their first ranked value/quality was important to them (affirmation condition) or why their ninth ranked value/quality might be important to other people (no affirmation condition; see Sherman & Cohen, 2006).

After completing the affirmation manipulation, participants continued to the next screen, in which they were led to believe that they were taking part in research exploring the role of imagination and visualization techniques in people’s perceptions of different issues. All participants were told that they would be asked to read a scenario, and that they should try to put themselves in the situation and imagine that it was actually happening to them.

When participants continued to the next screen, they were instructed to imagine that they just got accepted, on a trial basis, for a job at a company that was recently rated in "The Top 100 Companies to Work For" in a well-respected magazine. It was the type of work they would like to do and they knew there was a lot of room to grow and advance in the company. However, the dress code was very strict and the commute to work was not ideal. Hence, all participants received mixed information. They also read that the recruiting process was competitive and they had gone through many rounds of interviews until they landed the job. However, there was a trial period of 90 days, and at
the end of it, the company would decide whether to officially hire them for a permanent position. Last, the participants completed the ambivalence, desired ambivalence, and attitudes measures.

**Measures**

**Objective Ambivalence.** Participants were asked to complete 2 items adapted from Kaplan (1972). First, participants received the following question: “Considering only your POSITIVE thoughts and feelings about the job and ignoring the negative ones, how positive would you say your positive thoughts and feelings toward the job are?” Next we assessed negative reactions: “Considering only your NEGATIVE thoughts and feelings about the job and ignoring the positive ones, how negative would you say your negative thoughts and feelings toward the job are?” Responses were provided on separate scales ranging from 0 (No positive [negative] thoughts or feelings) to 10 (Maximum positive [negative] thoughts or feelings). Ambivalence was then calculated for each participant using a formula developed by Thompson, Zanna, and Griffin (1995):

\[
\text{ambivalence} = \frac{(P + N)}{2} - |P - N|, \text{ where } P = \text{positive and } N = \text{negative.}
\]

Attitude ambivalence ranged from -4 to 9 (\(M = 2.9, SD = 2.7\)).

**Desired Ambivalence.** In order to assess desired ambivalence, participants were asked the following question: “To what extent would you like to have both positive and negative thoughts and feelings towards the job?” using a scale ranging from 1 (not at all) to 5 (extremely). We measured this variable to assess whether people would consciously recognize their desire to hold mixed evaluations
ATTITUDES. Participants were asked to rate the job on two standard semantic differential scales ranging from 1 (bad, unfavorable) to 7 (good, favorable). Responses were averaged to form a composite index ($r = .73, p < .001$).

RESULTS AND DISCUSSION

OBJECTIVE AMBIVALENCE. We predicted that participants who were provided with an alternative means of self protection (affirmation condition) would be less likely to cultivate ambivalence compared to participants who were not protected (no affirmation condition). As expected, the affirmation manipulation had a significant effect on objective ambivalence, $t(181.67) = -2.01, p = .046$, (Levene’s test was significant, $F(1, 192) = 6.63, p < .05$), thus equal variances were not assumed. Those in the no affirmation condition ($M = 3.29, SD = 2.30$) were more ambivalent than those in the affirmation condition ($M = 2.52, SD = 3.00$).

DESIRED AMBIVALENCE. The affirmation manipulation had a significant effect on desired ambivalence, $t(192) = -5.30, p < .001$, such that those in the no affirmation condition ($M = 3.32, SD = .86$) indicated a greater desire to be ambivalent than those in the affirmation condition ($M = 2.63, SD = .95$). This suggests that participants were aware of their desire to hold ambivalent attitudes.

ATTITUDES. We expected that participants would not simply devalue the job as a means to protect the self and hence that the affirmation manipulation would have no effect on attitudes towards the job. As predicted, there was no difference between the affirmation ($M = 5.72, SD = .97$) and no affirmation ($M = 5.67, SD = .84$) conditions in attitudes towards the job, $t(192) = .36, p = .72$. 
In sum, Study 1 lent support for the motivated aspect of cultivating ambivalence. When participants were provided with an alternate avenue of protection against not obtaining a desired outcome (i.e. self-affirmation), they were less likely to cultivate ambivalence. Furthermore, cultivating ambivalence appeared to be a conscious process as participants who were not affirmed indicated a greater desire to hold mixed evaluations, consistent with the actual evaluations they formed. This result should be interpreted with caution because the desired ambivalence measure directly followed the ambivalence measures. However, that the items were measured on different (i.e., 11-point vs. 5-point) scales and that ambivalence is the product of a non-trivial computation reduces the likelihood that this is just the result of participants duplicating their responses across measures. Finally, Study 1 provided initial evidence that the effect of ambivalence is independent of attitudes. When participants did not have an alternate means to self protect they did not form more negative attitudes toward job. Instead, they cultivated equally positive, but more ambivalent, attitudes.

STUDY 2A

In Study 1, we tested the protective nature of ambivalence cultivation by showing that ambivalence is cultivated less when people have already engaged in an alternate means of self-protection. In Study 2A, we tested the protective nature of ambivalence cultivation in another way. We put participants in a situation in which their self-views would be implicated by an outcome or not with the idea that if ambivalence cultivation is a self-protective strategy, it should be employed to a greater extent when the outcome has implications for the self. Failure to obtain desired outcomes should be more threatening when such failure implicates one’s self-views. Hence, in study 2A, obtaining the target
either depended on personal performance (high threat to the self) or on a lottery (low threat to the self).

We additionally tested a different means of ambivalence cultivation. Specifically, Study 2A used an information seeking measure as an indicator of deliberate ambivalence cultivation. This choice of review information to consume served as our key dependent measure and was an indication of the extent to which people sought ambivalence-inducing (vs. negative or positive) information. In other words, it allowed us to examine whether people would cultivate ambivalence toward a desired uncertain target rather than seek to evaluate it either positively or negatively. We predicted that individuals would be more likely to seek out ambivalence-inducing information (mixed information) under high threat to the self (performance-based outcome) compared to low threat to self (lottery-based outcome).

**Method**

A total of 155 participants (92 males, 62 females, 1 non-reporting) from a national online pool took part in exchange for monetary compensation. Participants were randomly assigned to one of two self-threat conditions: low or high. Participants in the high self-threat condition were asked to imagine that they had been putting forth lots of effort at work. They had been working extra hours and had been performing near the top of their ability. Their company had announced that this year they would send the top performer in each department to a subsidized vacation (reduced cost) to a resort in Fiji. The top performer would be determined based on the most recent cycle of employee reviews. They were told that it was between them and another employee and they had a 50% chance of winning the vacation. Participants in the low self-threat condition were
asked to imagine that the company where they worked had announced that this year they would send a randomly chosen person in each department to a subsidized vacation (reduced cost) to a resort in Fiji. The employee would be determined based on a random draw. Currently there was only one other person in their department; therefore they had a 50% chance of winning the vacation. Note that in both the high and low self-threat conditions the chance of winning was the same (i.e., 50% chance). Hence, participants were equally uncertain about whether they could get the vacation in both conditions. If uncertainty alone were the cause of ambivalence seeking, one should see no differences across conditions. If ambivalence is sought to protect the self-concept, however, one should see greater ambivalence seeking in the high self-threat condition than in the low self-threat condition.

Measures

**Ambivalence Seeking.** Participants were asked to indicate which review of the resort they wanted to read on the next page. They choose between one of three reviews: 5 out of 5 – great resort, 3 out of 5 – it’s a mixed bag, 1 out of 5 – horrible stay. Those who wanted to hold negative attitudes toward the resort should choose the negative review; those who wanted to hold positive attitudes toward the target should choose the positive review; but those who wanted to hold more ambivalent attitudes toward the resort should choose the mixed review. Thus, ambivalence seeking was indicated by selecting the 3 out of 5 review (mixed information) as opposed to one of the univalent review options.

**Objective Ambivalence.** Objective ambivalence was measured and calculated as in Study 1. Attitude ambivalence ranged from -5 to 10 (\( M = 1.51, SD = 3.53 \)).
Attitudes. Participants rated the resort on two standard semantic differential scales ranging from 1 (bad, unfavorable) to 7 (good, favorable). Responses were averaged to form a composite index, $r = .90, p < .001$.

Results and Discussion

Ambivalence Seeking. We predicted that people would seek mixed (rather than only negative or positive) information when they were uncertain they could obtain a desired target, and that this effect would be stronger when the self was implicated in the outcome. As expected, a chi-square analysis revealed that 66.7% of the participants in the high self-threat condition chose the 3 out of 5 review as compared to 41.6% in low self-threat condition, $\chi^2(2) = 9.86, p = .007$ (see table 1). We decomposed the contingency table into two single-df contrasts to better determine the locus of the effect (Everitt, 1977). Our first contrast compared the positive and negative review columns to see if there were systematic differences across the two conditions in the likelihood of seeking positive or negative information. This contrast was non-significant, $\chi^2(1) = .45, p = .50$. Our second contrast compared the univalent (i.e., positive and negative) reviews to the ambivalence inducing (i.e., mixed) review. This contrast was significant, $\chi^2(1) = 9.90, p = .002$, such that people were more likely to seek mixed information in the high self-threat condition. These results suggest that the high self-threat participants were not seeking more negative information, but rather they were seeking more ambivalence-inducing information than the low self-threat participants.

Objective Ambivalence. Consistent with our prediction that people would be more likely to cultivate ambivalence when failure to obtain the target had greater implications to the self, participants in the high self-threat condition ($M = 2.08, SD =$
3.53) were more objectively ambivalent than participants in the low self-threat condition
(M = .93, SD = 3.45), t(153) = -2.06, p = .04. This result is not surprising, given that
participants in the high self-threat condition were more likely to expose themselves to
mixed information, but it does suggest that their choice of information was successful in
creating ambivalent attitudes.

Attitudes. We predicted that there would be no differences in attitudes between
the high and low self-threat conditions, and this hypothesis was confirmed. There was no
difference between the high self-threat (M = 4.87, SD = 1.38) and low self-threat (M =
4.90, SD = 1.72) conditions in attitudes towards the resort, t(145.23) = 1.48, p = .882,
Levene’s test was significant, F(1, 153) = 5.09, p < .05, thus equal variances were not
assumed.

In sum, Study 2A lent additional evidence for the motivated and deliberate nature
of ambivalence cultivation. When participants had an increased need to self-protect (i.e.
high self-threat) they were more likely to expose themselves to information that would
help them cultivate ambivalence. In addition, Study 2A provided additional evidence that
the effect of ambivalence is independent of attitudes. Participants with an increased need
to self-protect were not more likely to seek information promoting negative evaluations
of the resort; instead they sought out mixed information.

A number of design aspects of Study 2A are worth noting. First, the likelihood of
winning the vacation was equivalent across conditions. If seeking both pros and cons
were just a function of uncertainty (rather than self-protection), participants should have
been equally likely to select the mixed review across both conditions. Put another way,
participants in the high and low self-threat conditions were equally uncertain and were
making identical decisions, and so they should have had the same needs for information. Second, the ambivalence formation was not generated simply to protect against disappointment from not winning the vacation. Both conditions had an equal likelihood of disappointment, but the outcome that had the potential to threaten the self led to greater cultivation of ambivalence. Hence, it was the combination of uncertainty and importance for one’s self-views that led to the cultivation of ambivalence, presumably in a motivation to protect the self-concept in the event that the target was not obtained.

**STUDY 2B**

The objective of Study 2B was to further examine the protective nature of ambivalence cultivation in a real stakes environment. Participants were placed in a situation in which receiving a smartwatch either depended on their actual personal performance (high threat to the self) or on a lottery (low threat to the self). We also used a different means of assessing ambivalence cultivation: thought listing. That is, participants listed the thoughts that naturally occurred to them as they were reading the information about the smartwatch, and we computed an ambivalence index based on the number and valence of their individual thoughts. We predicted that individuals would be more likely to cultivate ambivalence under high threat to the self (performance-based outcome) compared to low threat to self (lottery-based outcome).

**Method**

A total of 200 participants (66 males, 102 females, 32 non-reporting) from a national online pool took part in exchange for monetary compensation. Participants were randomly assigned to one of two self-threat conditions: low or high. Participants in the high self-threat condition were asked to develop an ad copy for a new magazine print ad.
They were told that ad copies developed by participants taking this survey would be rated on creativity, originality and innovativeness. The participant that developed the best ad copy would win the Soyan Smartwatch. Participants in the low self-threat condition were also asked to develop an ad copy for a new magazine print ad. However, they were told that the winner of the Soyan Smartwatch would be determined based on a lottery.

In both conditions participants were then presented with the same information about the Soyan Smartwatch taken from Amazon.com. This information included a picture, summary of customer ratings and the basic features of the Soyan Smartwatch. Immediately after reviewing the information, participants were asked to list all the thoughts that came through their mind as they were reading the information about the smartwatch. They were then presented with each individual thought and asked to categorize it as positive, negative, neutral or unrelated with respect to the smartwatch. They then proceeded to develop the ad copy for the new magazine print ad. Finally, they were asked to complete demographics and were told that they would be notified in the event that they won the smartwatch.

Measures

Objective Ambivalence. Immediately after reading the Amazon information about the Soyan Smartwatch, participants listed all of the thoughts that came to their mind as they were reading the information about the Soyan Smartwatch. Participants were allowed to enter as many thoughts that they wanted, one at a time, in individual boxes that appeared on the computer screen. After they finished listing their thoughts, they viewed their listed thoughts and indicated whether each one was positive, negative, neutral or unrelated with respect to the Soyan Smartwatch. Objective ambivalence was
calculated for each participant as in studies 1 and 2A. Attitude ambivalence ranged from -5 to 2.50 \((M = -.63, SD = .91)\).

**Thought Favorability.** A thought-favorability index was computed for each participant by subtracting the number of negative thoughts listed from the number of positive thoughts listed and dividing this difference by the total number of thoughts listed. Higher values on the index reflect greater thought favorability (see Petty, Ostrom, & Brock, 1981). Thought favorability ranged from -1 to 1 \((M = .30, SD = .70)\).

**Results and Discussion**

**Objective Ambivalence.** We predicted that individuals would be more likely to cultivate ambivalence under high threat to the self (performance-based outcome) compared to low threat to self (lottery-based outcome). As expected, the self threat manipulation had a significant effect on objective ambivalence, \(t(198) = -2.40, p = .018\), such that participants in the high self-threat condition \((M = -.48, SD = .78)\) cultivated significantly more ambivalence than participants in the low self-threat condition \((M = -.78, SD = .99)\).

**Thought Favorability.** We expected that participants would not simply devalue the smartwatch as a means to protect the self and hence that the self threat manipulation would have no effect on attitudes towards the smartwatch. As predicted, there was no difference between the high self-threat \((M = .24, SD = .70)\) and low self-threat \((M = .36, SD = .69)\) conditions in thought favorability towards the smartwatch, \(t(198) = 1.19, p = .24\).

In sum, Study 2B lent additional evidence for the motivated and deliberate nature of ambivalence cultivation. When participants had an increased need to defend against
failure to obtain a desired target (i.e. high self-threat) they cultivated more ambivalence than when they did not (i.e., low self-threat). In addition, Study 2B provided further evidence that the effect of ambivalence is independent of attitudes. Participants under high self-threat were not more likely to cultivate negative evaluations of the target. Notably, this effect was found in a real-stakes context, in which participants had the chance to win a prize. Study 3 examines a different, even more consequential real-world context and tests the effects of ambivalence cultivation on resulting self-views.

**STUDY 3**

Studies 1, 2A and 2B provided support for our proposition that ambivalence is deliberately cultivated in the face of desired but uncertain outcomes. The objective of Study 3 was to further examine the conditions under which people would form ambivalent attitudes toward a desired target and to explore the consequences of doing so. We conducted a field study in a real-world context, namely searching for a coveted job. We predicted that people would be most likely to form ambivalent attitudes toward their coveted job when they were least certain about whether they could obtain it (i.e., when the perceived likelihood of obtaining it was roughly 50%).

We also examined the downstream consequences of ambivalence. We predicted that depending on the outcome, cultivating ambivalence would either be useful (when people failed to obtain their desired job) or backfire (when people obtained their desired job). Specifically, we expected that when people failed to obtain their desired job, the more ambivalent they were prior to finding out the outcome, the better they would feel about themselves, whereas the opposite pattern would emerge when people obtained their
desired job. In that case, the more ambivalent people were, the worse they would feel about themselves once they found out the outcome.

Method

A total of 52 participants (24 males, 28 females) from the student participant pool took part in exchange for monetary compensation. Among these 52 participants, 35 participants filled out the follow-up survey.

Students nearing graduation, who had recently interviewed for jobs but had not heard back yet, were asked to think about the jobs they had applied to and were still waiting to hear back from. They were then instructed to focus on the job they wanted the most and list the position title and company name. Next, they completed the ambivalence, attitudes, and perceived likelihood of obtaining the job items. The items were presented in random order to eliminate any possible ordering effects of the variables. When they finished filling out the survey they were sent a link to the second survey and were asked to complete that survey only after they had heard back about the status of their most desired job application. In the second survey, they were asked to indicate whether they received the job offer and to complete the self-view measure.

Measures

Attitudes. Participants rated their most desired job on the same semantic differential items from studies 1 and 2. Responses were averaged to form a composite index, \( r = .77, p < .001 \).

Objective Ambivalence. Objective ambivalence was measured as in Study 1 and 2. Attitude ambivalence ranged from -5 to 7 (\( M = .45, SD = 3.42 \)).

Perceived Likelihood of Obtaining the Job. Participants were asked to indicate
The Good and Bad of Ambivalence

on a scale from 0 (no chance at all) to 100 (will definitely get it) their perceived likelihood that they would get their most desired job.

**Self-View.** After they found out whether they got their most desired job, participants were asked how good they felt about themselves given the outcome, using a scale ranging from 1 (bad) to 7 (good).

**Results and Discussion**

**Objective Ambivalence.** We predicted that people would be most likely to generate ambivalence when they were most uncertain that they could obtain their desired target. Specifically, we expected that there would be a curvilinear relationship between perceived likelihood of obtaining the target and objective ambivalence, with low and high likelihoods being associated with low ambivalence and mid-level likelihood being associated with the most ambivalence. As predicted we found a significant negative quadratic relationship between objective ambivalence and perceived likelihood of obtaining the desired job, $\beta = -6.96$, $t(49) = -2.09$, $p = .042$ (see figure 1a). There was no linear relationship between objective ambivalence and perceived likelihood of obtaining the desired job, $\beta = 1.83$, $t(49) = .55$, $p = .587$. Thus, ambivalence was cultivated when people were most uncertain whether they could obtain their desired job (when the perceived likelihood was about 50%). There was no linear ($p = .80$) or quadratic ($p = .11$) relationship between attitudes and perceived likelihood of obtaining the desired job suggesting that people were not just devaluing their desired job when they were uncertain they could obtain it (see figure 1b).

**Self-View.** We hypothesized that ambivalence would make people feel better about themselves if they did not get the job, but would make people feel worse about
themselves if they failed to get the job. In order to test this hypothesis, we submitted the self-view data to a regression analysis using objective ambivalence, job search outcome, and their interaction as parameters. There was a main effect of job search outcome on self-view, such that those who got the job felt better about themselves than those who did not get the job, $\beta = 3.49$, $t(31) = 9.98$, $p < .001$. As illustrated in figure 2, however, we also found the predicted interaction between job search outcome and objective ambivalence, $\beta = -.25$, $t(31) = -2.19$, $p = .036$. For people who got the job, the more objectively ambivalent they were before finding out about the job, the worse they felt about themselves once the outcome was known, $\beta = -.13$, $p = .025$, whereas for people who did not get the job, there was no relationship between objective ambivalence and how they felt about themselves, $\beta = .11$, $p = .189$. Though not significant, this relationship is in the predicted direction and did not reach significance probably due to small sample size. When we submitted the self-view data to a regression analysis using attitudes towards the most desired job, job search outcome, and their interaction as parameters, neither of the main effects ($ps > .25$) nor the interaction ($p > .10$) were significant. Moreover, the significant interaction between job search outcome and objective ambivalence remained intact when controlling for the effect of attitudes and their interaction with outcome. Hence, these results indicate that the self-protective effect of ambivalence is not an attitude valence effect.

In sum, Study 3 provided evidence that people turn to ambivalence when they are most uncertain that they can obtain their desired target. This cultivated ambivalence has implications for people’s resulting self-views. We found that ambivalence was harmful to people’s self-views when they obtained their desired target, but not when they did not.
Of importance, uncertainty did not significantly affect attitudes, and attitudes did not play a role in self-views, thus pointing to ambivalence and not attitudes as the driver of the effects.

**STUDY 4**

Study 3 has the benefit of providing a test of our hypotheses with real-world life outcomes but has the drawback of limited ability to provide clear causal inferences. In Study 4, we experimentally manipulated both probability of obtaining the desired outcome and the outcome itself. We introduced mixed information about the chosen option (i.e. both positive and negative), in order to allow for varying degrees of ambivalence before the outcome was known. We predicted that, consistent with Study 3, those most uncertain (i.e., those with a 50% likelihood of obtaining their desired target) would be most likely to form ambivalent attitudes. Also consistent with Study 3, we predicted that ambivalence would affect self-views differently depending on whether or not they obtained their desired target.

**Method**

A total of 237 participants (135 males, 102 females) from a national online pool took part in exchange for monetary compensation. Participants were randomly assigned to conditions in a 3 (likelihood of getting accepted: 10%, 50% or 90%) × 2 (application outcome: acceptance or rejection) between-participants factorial design.

On the opening screen of the study, participants were led to believe that they were taking part in research exploring the role of imagination and visualization techniques in people’s perceptions of different kinds of issues. All participants were told that they would be asked to read a scenario, and that they should try to put themselves in the
situation and imagine that it was actually happening to them. When participants continued to the next screen, they were instructed to imagine that after a great deal of work they finally finished their application for admission to their top choice university. During their senior year in high school, they visited the school and fell in love with the campus and the atmosphere. They had spent months preparing their application. They had applied to other schools that they were considering attending, but if they were to get in to this university it would mean a lot to them. They then learned that they had been accepted to their backup university and that they estimated they had a [10%, 50%, 90%] chance of getting into their top choice university.

Next, they read that while waiting for a doctor's appointment they found the latest issue of the U.S. News and World Report. The report consisted of a table comparing the top choice university and the backup university on the following four dimensions - post graduation salary, employment rate three months after graduation, tuition, and average teacher's rating (out of 5). In the report, the top choice university was superior on two out of these four dimensions (as indicated by numeric values) and inferior on the other two (see table 2). Participants were told to examine the information carefully. They then completed the ambivalence measures (time 1 – before the outcome was known). Following a filler task, they learned about their application outcome. In the rejection condition, they read that a month after hearing that they were accepted to their backup university they learned that they had not been accepted to their top choice university. In the acceptance condition, they read that a month after hearing that they were accepted to their backup university they learned that they had been accepted to their top choice
university. They then completed the self-view item (time 2 – after the outcome was known).

**Measures**

**Objective Ambivalence.** Objective ambivalence towards the top choice university was measured and calculated as in Studies 1-3. Attitude ambivalence ranged from -5 to 8.50 ($M = -.39$, $SD = 2.83$).

**Attitudes.** Participants rated their top choice university on the same semantic differential items from Studies 1-3. Responses were averaged to form a composite index ($r = .75$, $p < .001$).

**Self-View.** Self-view was assessed as in Study 3.

**Results and Discussion**

**Objective Ambivalence.** We predicted that people would be most likely to generate ambivalence when they were most uncertain that they could obtain their desired target (when the likelihood was 50%). Specifically, we expected to replicate the pattern of results of Study 3, with low and high likelihoods being associated with low ambivalence and mid-level likelihood being associated with the most ambivalence. As predicted we found a significant effect of likelihood of getting accepted to the top choice university on objective ambivalence, $F (2, 234) = 4.02$, $p = .019$. Post-hoc comparisons using the Fisher’s LSD test revealed that participants in the 50% likelihood condition ($M = .33$, $SD = 2.76$) were significantly more objectively ambivalent than participants in 10% likelihood condition ($M = -.65$, $SD = 2.79$) (Fisher’s LSD: $p = .032$) and 90% likelihood condition ($M = -.39$, $SD = 2.83$) (Fisher’s LSD: $p = .008$), which did not differ from each other (Fisher’s LSD: $p = .664$).
**Attitudes.** There was no significant relationship between attitudes towards the top choice university and likelihood of getting into the top choice university, $F(2, 234) = 1.49, p = .227$, providing further evidence that people were not devaluing their top choice university when they were uncertain they could obtain it.

**Self-View.** We hypothesized that depending on the outcome, cultivating ambivalence would either be useful (when people failed to obtain the desired target) or backfire (when people obtained the desired target). We submitted the self-view data to a $3 \times 2$ ANOVA with likelihood of getting accepted and application outcome as the independent variables. This analysis revealed a main effect of application outcome, $F(2, 231) = 855.13, p < .001$, such that those who got accepted to the top choice university ($M = 6.73, SD = .73$) felt better about themselves than those who were rejected ($M = 2.73, SD = 1.30$). Most germane to our primary concerns, the main effect of application outcome was qualified by the significant predicted interaction with the likelihood of getting accepted manipulation, $F(2, 231) = 3.85, p = .023$. As illustrated in figure 3, When people were rejected from their top choice university, they felt better about themselves in the 50% likelihood condition ($M = 3.11, SD = .16$) than in the 10% likelihood condition ($M = 2.58, SD = .17$) (Fisher’s LSD: $p = .020$), or 90% likelihood condition ($M = 2.44, SD = .17$) (Fisher’s LSD: $p = .004$), which did not differ from one another (Fisher’s LSD: $p = .558$). In the acceptance condition, there were no differences between the likelihood of getting accepted conditions, $F < 1$.

Although the probability of acceptance only affected self-views in the rejection condition, this does not speak to whether our hypotheses regarding ambivalence are correct. We showed that the probability of being accepted significantly affected
The Good and Bad of Ambivalence

ambivalence, but that manipulation could potentially have affected self-views for other reasons as well (e.g., surprise). Manipulations can have a significant indirect effect on a dependent variable even in the absence of a direct effect (Rucker, Preacher, Tormala, & Petty, 2011; Zhao, Lynch, & Chen, 2010). As our hypotheses in this context pertain to the indirect effect, we tested whether probability of acceptance had a significant effect on self-views through its effect on ambivalence. Following the procedure recommended by Hayes (2013), we created two dummy-coded condition terms to compare the 50% likelihood condition to both the 10% and 90% conditions in order to examine whether ambivalence mediated the effect of likelihood of being accepted on self-view. There were significant indirect pathways in both the acceptance and rejection conditions. Specifically, in the rejection condition, objective ambivalence mediated the effect in the 50% likelihood of getting in condition compared to both other conditions, ($b = -.065, SE = .05; \hat{b} = -.078, SE = .057), CI_{50\% vs. 10\%}: -.207, -.001; CI_{50\% vs. 90\%}: -.234, -.003$. In the acceptance condition objective ambivalence mediated the effect in the 50% likelihood of getting in condition compared to both other conditions, ($b = .055, SE = .047; \hat{b} = .066, SE = .052), CI_{50\% vs. 10\%}: .002, .199; CI_{50\% vs. 90\%}: .004, .218$.

These findings lend support to our protective account. Ambivalence prior to finding out the outcome was protective when people failed to obtain their desired outcome but was maladaptive when they obtained their desired outcome.

**STUDY 5**

In the prior studies, participants were able to determine their level of ambivalence either through their processing of mixed information or through the information they selectively exposed themselves to. In Study 5, we manipulated ambivalence directly by
giving people slightly or very ambivalence-inducing information about a desired target (i.e., a house). This allowed us to demonstrate that protection can result from ambivalence, regardless of whether the ambivalence was initially cultivated for the purposes of self-protection. We also added an additional outcome measure—participants’ feeling about the outcome—because we did not know a priori whether the self would be implicated in this context. It could be that being a savvy bidder is important to one’s self-view, or more generally, that one does not want to view themselves as a person who is incapable of getting the things they want from life, and so this negatively affects their self-views. Alternately, it could be that self-views are not implicated in this context, and so results would be found only for the feelings about the outcome measure.

**Method**

A total of 118 participants (60 males, 56 females, 2 non-reporting; age 30 and up) from a national online pool took part in exchange for monetary compensation. Participants were randomly assigned to conditions in a 2 (ambivalence: high or low) × 2 (house bid outcome: acceptance or rejection) between-participants factorial design.

On the opening screen of the study, participants were led to believe that they were taking part in research exploring the role of imagination and visualization techniques in people’s perceptions of different kinds of issues. All participants were told that they would be asked to read a scenario, and that they should try to put themselves in the situation and imagine that it was actually happening to them. When participants continued to the next screen, they were instructed to imagine that they wanted to buy their first home. In the low ambivalence condition, they read the following:
After seeing quite a few houses on the market, you have found a good house. It is slightly smaller than you wanted, but has a nice view and a great backyard. The real estate agent has told you that there may be other bids on this house.

In order to manipulate ambivalence without varying attitudes between conditions, in the high ambivalence condition we amplified the positive aspects (i.e., amazing features that they loved), while introducing a couple of more serious drawbacks. A substantial body of research on the negativity bias has shown that negative information tends to carry more weight than positive information (e.g., Cacioppo & Berntson, 1994; Herr, Kardes, & Kim, 1991; Mizerski, 1982), and thus we included more positive than negative information because we wanted the overall attitude to be equally positive as that in the low ambivalence condition. In the high ambivalence condition, they read the following:

After seeing quite a few houses on the market, you have found a house that has some amazing features that you love but also has a couple of drawbacks. It is really close to work and it is the exact size that you are looking for but the backyard is slightly smaller than you wanted. The neighborhood is safe and quiet but the view is bland. The real estate agent has told you that there may be other bids on this house.

Next, they completed the ambivalence, attitudes, interest in the house and opening bid measures. They then learned about the outcome of their bid. In the rejection condition, they learned that they were outbid and they did not get the house. In the acceptance condition, they learned that their bid was accepted and they got the house. Last, they completed the self-view and feelings about the outcome measures.

Measures

Attitudes. First, participants rated the house on the same semantic differential items from Studies 1-4. Responses were averaged to form a composite index, $r = .86, p < .001$. 

**Measured Objective Ambivalence.** Objective ambivalence was measured and computed as in Studies 1-4. Attitude ambivalence ranged from -5 to 7.5 (M = .93, SD = 2.45).

**Interest in the House.** Participants indicated the extent that they would want to make an offer on the house on a scale ranging from 1 (not at all) to 5 (extremely). This measure allowed us to ensure that people would equally desire making an offer on the houses in both the high and low ambivalence conditions and served as an additional check on the effectiveness of our manipulation in manipulating ambivalence but equating desirability.

**Opening Bid.** Participants indicated how much of the asking price they would be willing to offer on a scale ranging from 50% of the asking price to 150% of the asking price in 10% increments.

**Self-View.** After the bid outcome was known, self-view was measured as in Studies 3-4.

**Feeling about the Outcome.** Participants indicated how good they felt about the outcome, using a scale ranging from 1 (bad) to 7 (good).

**Results and Discussion**

**Manipulation Check.** We expected the ambivalence manipulation to affect ambivalence without significantly affecting attitudes. As expected the ambivalence manipulation had a significant effect on objective ambivalence, t(116) = -2.10, p = .038, such that those in the high ambivalence condition (M = 2.4, SD = 2.40) were more objectively ambivalent than those in the low ambivalence condition (M = 1.47, SD = 2.42). Importantly, the ambivalence manipulation had no effect on the attitude index,
Interest in the House. We expected that the ambivalence manipulation would have no effect on the level of interest in the house. As predicted there was no difference between the high ($M = 3.58$, $SD = .74$) and low ambivalence ($M = 3.36$, $SD = .79$) conditions in the extent to which participants wanted to make an offer on the house, $t(116) = 1.56$, $p = .121$, indicating that the house was perceived as equally desirable across the two conditions.

Opening Bid. There was no difference between the high ($M = 84.24$, $SD = 12.76$) and low ambivalence ($M = 82.54$, $SD = 13.97$) conditions in how much of the asking price they would be willing to offer, $t(116) = -.69$, $p = .493$, further indicating that the house was perceived as equally desirable across the two conditions.

Self-View. We submitted the self-view data to a $2 \times 2$ ANOVA with bid outcome and manipulated ambivalence as the independent variables. This analysis revealed a main effect of bid outcome, $F(1, 114) = 167.3$, $p < .001$, such that those who got the house ($M = 6.00$, $SD = 1.11$) felt better about themselves than those who did not get the house ($M = 3.52$, $SD = 1.03$). Most germane to our primary concerns, and replicating Studies 3 and 4, the main effect of bid outcome was qualified by the significant predicted interaction with the ambivalence manipulation, $F(1, 114) = 8.04$, $p = .005$. As illustrated in figure 4a, when the offer was rejected, people tended to feel better about themselves in the high ambivalence condition ($M = 3.78$, $SD = .93$) than in the low ambivalence condition ($M = 3.29$, $SD = 1.07$), $F(1, 114) = 3.16$, $p = .078$. The opposite pattern emerged when the offer on the house was accepted. In that case, people felt better about themselves in the
low ambivalence condition \((M = 6.32, SD = .72)\) than in the high ambivalence condition \((M = 5.72, SD = 1.30)\), \(F(1, 114) = 5.00, p = .027\).

**Feeling about the Outcome.** We conducted a parallel analysis on feelings about the outcome. This analysis revealed a main effect of bid outcome, \(F(1, 114) = 249.79, p < .001\), such that those who got the house \((M = 6.03, SD = 1.09)\) felt better about the outcome than those who did not get the house \((M = 3.05, SD = 1.02)\). Importantly, the main effect of bid outcome was qualified by a significant interaction with the ambivalence manipulation, \(F(1, 114) = 9.02, p = .003\). As illustrated in figure 4b, when the offer was rejected, people tended to feel better about the outcome in the high ambivalence condition \((M = 3.33, SD = .92)\) than in the low ambivalence condition \((M = 2.81, SD = 1.05)\), \(F(1, 114) = 3.83, p = .053\). The opposite pattern emerged when the offer on the house was accepted. In that case, people felt better about the outcome in the low ambivalence condition \((M = 6.36, SD = .73)\) than in the high ambivalence condition \((M = 5.75, SD = 1.27)\), \(F(1, 114) = 5.26, p = .024\).

In sum, Study 5 provided further evidence for the causal link between ambivalence cultivation and resulting self-views. We also showed effects on feelings about the outcome itself. Ambivalence tends to buffer one against rejection, but is detrimental when one obtains one’s desired outcome. In addition, study 5 shows that these effects occur even when source of the ambivalence is not self-protection.

**General Discussion**

A large body of research has highlighted the aversiveness of evaluative inconsistency. In general, ambivalence has been viewed as a negative psychological state that people attempt to reduce or resolve. In contrast, the current research suggests that
ambivalence can sometimes be a desired state that people cultivate to avoid feeling disappointed about themselves and their outcomes. Across six studies, we found evidence that people desire to be ambivalent when the outcome is uncertain and when their self is implicated, and that this ambivalence can have different consequences for one’s self-views depending on the outcome.

Study 1 lent support for the notion that cultivating ambivalence is used as a means of protection against failing to obtain a desired outcome. When people facing desired but uncertain outcomes were provided with a means self-protection (i.e. self affirmation) prior to learning about the target object, they were less likely to cultivate ambivalence. We also found preliminary evidence that cultivating ambivalence was a deliberate process, as people explicitly indicated a greater desire to hold mixed evaluations when they had not been affirmed. Importantly, Study 1 provided evidence that the effect on ambivalence was independent of attitudes. Affirmed and non-affirmed participants had nearly identical attitudes toward the target, but different levels of ambivalence.

In Study 2A and 2B, we sought to provide support for the motivated and deliberate aspect of cultivating ambivalence by testing whether ambivalence is more likely to be sought out when people are under self-threat. In Study 2A, when participants had an increased need to self-protect (i.e. the outcome was based on their performance and therefore potentially threatening) they were more likely to expose themselves to information that would cultivate their ambivalence (mixed information) compared to when the outcome was determined by lottery (low self-threat). Study 2B further examined the self-protective nature of ambivalence cultivation in a real stakes environment. Participants were more likely to cultivate ambivalence under high threat to
the self (performance-based outcome) compared to low threat to self (lottery-based outcome). Moreover, ambivalence was assessed based on participants’ naturally occurring thoughts towards the real incentive. In addition, both Study 2A and Study 2B provided further evidence that when people desire a target they are uncertain they can obtain, they cultivate ambivalence rather than devaluing the target. That is, attitudes were nearly identical across the high and low self-threat conditions.

Study 3 examined the effect of ambivalence on self-view in a real world context, specifically, students nearing graduation and seeking actual employment. Providing further evidence for our self-protective account, we found that job candidates were most likely to generate ambivalence when they were least certain about whether they could obtain their desired job. This study also examined the effect of ambivalence on participants’ resulting self-views. Ambivalence was harmful to participants’ self-views when they obtained the job, but tended to buffer self-views when they did not.

In Study 4 we further examined the role of uncertainty in ambivalence cultivation by experimentally manipulating the likelihood of obtaining the desired target. Replicating the pattern that we found in Study 3, we found that people were most likely to cultivate ambivalence when they were least certain they could obtain their desired target (i.e. when the likelihood was 50%). We also manipulated the outcome and showed that ambivalence was beneficial to self-views when people did not obtain their desired outcome.

In Study 5 we sought to further establish the causal link between ambivalence and self-protection. To do so, we directly manipulated ambivalence, but not attitudes, in order to provide better causal evidence for the effects of ambivalence on self-views. We found that when people failed to obtain their desired house, they felt better about themselves
and about the outcome to the extent that they were ambivalent, whereas the opposite pattern emerged when people obtained their desired house. Thus, ambivalence can affect self-views following an outcome even when it was not cultivated for the purposes of self-protection.

Our first five studies showed that people are more likely to spontaneously cultivate ambivalence when failure to obtain the desired outcome has implications for one’s self-views. That is, though the desired outcomes were the same across the conditions of each study, ambivalence was more likely to be cultivated when participants lacked an alternate form of protection of their self-views, when the outcome hinged on one’s performance (vs. a lottery), and when uncertainty about one’s ability to obtain the outcome was maximized. We predicted this would occur because failure to obtain maximally uncertain outcomes that implicate one’s self should be more threatening than those that are highly certain or uncertain and those that have no bearing for one’s self-views. Hence, though failure to win a smartwatch or vacation is surely disappointing, it is not as threatening (and hence not as in need of defense) as failure to obtain those same outcomes because one is not good enough. It is an open question whether highly desired outcomes that have zero implications for the self still result in some degree of ambivalence cultivation. Presumably, if an outcome is sufficiently desirable and important, it could lead to the same pre-emptive protection mechanisms as those shown in the present studies. What the present studies do show is that threatening implications for the self amplify ambivalence cultivation above that generated solely due to the desirability of the target.
Implications and Future Directions

The current research paints a new picture of ambivalence. Although ambivalence can be aversive, it is not universally avoided. In some cases, ambivalence can be deliberately sought out for self-protective purposes, namely buffering one from rejection. Although people do not seek out the subjective experience of conflict itself, it is the consequence of cultivating both the positive and negative aspects of the target. In other words, the subjective conflict is not the mechanism of our effects; rather it is an aversive consequence that arises from this self-protective process of objective ambivalence cultivation. The current research expands the understanding of both self-protection strategies as well as the consequences of being ambivalent. Our work contributes to the growing literature highlighting the positive aspects of ambivalence (Cornil et al., 2014; Fong, 2006; Hershfield, Scheibe, Sims, & Carstensen, 2013; Larsen, Hemenover, Norris, & Cacioppo, 2003; Lipkus et al., 2005; Pillaud, Cavazza, & Butera, 2013) and is the first we are aware of to show that people will deliberately cultivate ambivalence to protect the self.

Our work suggests that people can turn to ambivalence when they are most uncertain they can obtain a desired outcome. Because achieving the desired outcome is still a possibility, individuals choose to cultivate both positive and negative views of the target rather than just amplifying their overall negativity. We demonstrate that people can adopt evaluatively mixed views of the target as a hedge in the event of failure. Of course, we are not suggesting that this is the only strategy that people employ in the face of desired but uncertain outcomes. In some cases, people could devalue the desired target,
something we call anticipatory dissonance reduction, though there was not good evidence for this process in the current studies.

A novel and potentially adaptive downstream consequence that we intend to explore in future research is reduction of risk aversion. Achieving positive outcomes typically requires some exposure to risk--one might fail or be refused, which could be subjectively worse than trying at all--but overcoming risk aversion could, in many cases, lead one to objectively better outcomes. Given the protective utility of ambivalence, people might be more likely to expose themselves to the possibility of failure to the extent that they have cultivated ambivalence, and hence are protected from possible feelings that could result from negative outcomes.

Avoiding risk aversion could be especially valuable in situations in which it prevents individuals from initiating an action, such as negotiating a starting salary. Although negotiating starting salary results in an average increase of $5000, more risk averse newly hired employees are less likely to negotiate their starting salary (Marks & Harold, 2011). Thus, in these types of situations ambivalence could potentially be adaptive in prompting people to be more risk seeking. However, there are situations in which reducing risk aversion could lead to potentially detrimental outcomes (e.g. when reduced risk aversion turns into unwarranted risk seeking). In future research, we intend to examine the adaptiveness of this potential reduction in risk aversion and design behavioral interventions that could help harness its potential useful impact.

Another avenue for future research that is worth considering is the role of the self. We found that spontaneous ambivalence cultivation was more likely when the outcome had potentially threatening implications for the self. Indeed, in Study 1, when participants
had an alternate means of self-protection, ambivalence was less likely to be cultivated. In Study 2A, when a desired outcome was not tied to the self (the outcome based on lottery), ambivalence was less likely to be cultivated. This would suggest that involvement of the self is an important antecedent to ambivalence cultivation. Nonetheless, in future research it would be interesting to examine whether people sometimes cultivate ambivalence to protect themselves from disappointment even when the self is not involved.

Of course, in addition to providing evidence for our proposed account, it is important to consider competing explanations. In the studies reported herein, we made an effort to address explanations related to devaluing the target (an anticipatory dissonance reduction account). We consistently found effects for ambivalence, but not for attitudes, results that are more consistent with our ambivalence-based account than an anticipatory dissonance account. Although our data are not consistent with an anticipatory dissonance account, we think that such a finding would be interesting in its own right and warrants future research.
Conclusion

People frequently want things that they are uncertain they can obtain. In the current research, we explored whether people would systematically cultivate ambivalence as a hedge in the face of uncertainty, despite its potential aversiveness. This research suggests that people are forward looking in their attitude formation, developing attitudes that could protect their self-views from disappointing outcomes. This new view of people as strategic, proactive, and preemptive evaluators sheds new light on the functions of attitudes and reveals a new self-protective strategy that people employ to manage uncertainty.
REFERENCES


strengths: Fundamental questions and future directions for a positive psychology, 211-225.


The Good and Bad of Ambivalence


Table 1. Proportion of choice of review type as a function of condition in Study 2A.

<table>
<thead>
<tr>
<th>Review Type</th>
<th>1 out of 5 Horrible Stay</th>
<th>3 out of 5 It’s a mix bag</th>
<th>5 out of 5 Great resort</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Self-Threat</td>
<td>32.5% (25)</td>
<td>41.6% (32)</td>
<td>26% (20)</td>
<td>100%</td>
</tr>
<tr>
<td>High Self-Treat</td>
<td>17.9% (14)</td>
<td>66.7% (52)</td>
<td>15.4% (12)</td>
<td>100%</td>
</tr>
</tbody>
</table>


Table 2. The report comparing the top choice university and the back up university presented to participants in Study 4.

<table>
<thead>
<tr>
<th></th>
<th>Top Choice University</th>
<th>Back Up University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Graduation Salary</td>
<td>$70,000</td>
<td>$55,000</td>
</tr>
<tr>
<td>Employment Rate</td>
<td>83%</td>
<td>77%</td>
</tr>
<tr>
<td>Tuition</td>
<td>$35,000</td>
<td>$30,000</td>
</tr>
<tr>
<td>Average Teacher’s Rating (out of 5)</td>
<td>4.4</td>
<td>4.8</td>
</tr>
</tbody>
</table>
Figure 1a. Objective ambivalence as a function of perceived likelihood of obtaining the job in Study 3.

Figure 1b. Attitudes as a function of perceived likelihood of obtaining the job in Study 3.
Figure 2. Self-view as a function of objective ambivalence and job search outcome in Study 3.
Figure 3. Self-view as a function of likelihood of getting accepted and application outcome in Study 4.
Figure 4a. Self-view as a function of ambivalence manipulation and house bid outcome in Study 5.

Figure 4b. Feeling about the outcome as a function of ambivalence manipulation and house bid outcome in Study 5.