Judgment and Decision Making, Vol. 12, No. 5, September 2017, pp. 516–526

Vulnerable maximizers: The role of decision difficulty

Kaeun Kim* Elizabeth G. Miller†

Abstract

Adding to prior literature that has examined the relationship between maximization and dissatisfaction, the present research suggests that maximizers, as defined by the original maximization scale, are unhappier decision makers than satisficers because maximizers fail to adequately handle dissonant experiences. Throughout three studies that use different conceptualization and measurement of maximization, we show that maximizers are more vulnerable to negative feedback about one's choice such that they decrease positivity toward the chosen option to a greater level than satisficers. However, this effect was mainly driven by the decision difficulty factor in the conceptualization of maximization. When decision difficulty was conceptualized as a defining component of maximization (Study 1 and 2), "maximizers" show greater positivity drop in the face of negative feedback. However, in the absence of a decision difficulty component, a recently proposed two-component model of maximization (the goal to get the best and search for alternatives; Cheek & Schwartz, 2016) did not play a significant role in predicting positivity drop, while perceived decision difficulty did (Study 3). Together our findings suggest that previously reported contradictory outcomes of maximization may be due to inconsistent conceptualization and measurement, especially treating decision difficulty as a defining component of maximization.

Keywords: maximizer, satisficer, post-choice dissonance, decision difficulty

1 Introduction

Imagine the following scenario: Two consumers are buying a new wireless mouse. Max wants the "best" mouse he could ever find. It took hours for him to compare all the different alternatives then finally he picked one, though it was quite difficult for him to make a decision. But since he was not sure whether the mouse he just bought was the right one or not, he kept worrying that he might regret his choice later. When he got home, Max wanted to take a look at what others thought of the mouse that he bought. After reading several negative customer reviews, Max started to dislike the product and deeply regretted his choice. Sam, on the other hand, also bought a mouse but did not take much time to make a purchase. She just followed her gut feelings and chose one mouse that she thought "good enough". Sam also saw negative reviews about the mouse afterwards, but she did not care as much as Max did.

What made Max and Sam respond differently to the same situation? Why was Max more regretful and disappointed after reading negative reviews while Sam was not? We posit that consumers' ability to manage post-decision regret and disappointment following cognitive and affective dissonance can be influenced by what kind of decision goals and strategies they pursue during the choice process, namely, maximizing and satisficing.

Maximizers are those who seek the "best possible" option when making a decision (such as Max), whereas satisficers are those who are satisfied with a "good enough" option (such as Sam). Ironically, while maximizers set out to obtain the best option and generally do objectively end up with better outcomes (Iyengar, Wells & Schwartz, 2006), a body of research suggests that maximizers are often less satisfied with their decision outcomes and lives in general compared to satisficers (Dar-Nimrod et al., 2009; Iyengar et al., 2006; Levav, Reinholtz & Lin, 2012; Ma & Roese, 2014; Schwartz et al., 2002). In the above scenario, Max, a typical maximizer, not only liked the product he bought less but also ended up unhappy and regretful after reading a negative review. Sam, on the other hand, being a satisficer, remained quite indifferent about her choice even though she also received negative feedback about it. Where does this difference come from? While prior researchers have pointed to maximizers' tendencies toward regret, upward social comparison, decision incompetence, and correlations with neuroticism and perfectionism as possible reasons for why maximizers are less happy than satisficers (Parker, De Bruin & Fischhoff, 2007; Purvis, Howell & Iyer, 2011; Schwartz et al., 2002), we identify another possible explanation for this: vulnerability to dissonant experiences.

Throughout this paper, we illustrate that maximizers, as originally defined (e.g., Nenkov et al., 2008; Rim, Turner, Betz & Nygren, 2011; Schwartz et al., 2002; Turner, Rim, Betz & Nygren, 2012), are more vulnerable than satisficers when facing dissonant feedback, such that the degree to which maximizers decrease their post-choice positivity

*University of Massachusetts Amherst, Isenberg School of Management, 121 Presidents Drive, Amherst, MA 01003. Email: kaeunkim@umass.edu.
†University of Massachusetts Amherst.

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

toward their choice is greater than satisficers following negative feedback. In addition, we demonstrate that maximizers' vulnerability is attributable to their experience of decision difficulty and lack of choice confidence during the decision process. Litt and Tormala (2010) found that when people go through a difficult decision process (i.e., choosing one option among similarly attractive options), the "fragile enhancement effect" occurs. That is, consumers exaggerate their satisfaction toward their initial choice in order to justify their difficult decision but this positivity gets immediately decreased after reading negative reviews of their chosen product, due to their original uncertainty about whether the decision was good or not. Building on Litt and Tormala's (2010) findings, we argue that it is the perceived decision difficulty that drives maximizers to feel uncertain about their choice and regret, resulting in positivity collapse in the face of dissonant experiences (i.e., post-attack positivity drop). This positivity drop ultimately causes greater dissatisfaction and disappointment for maximizers following cognitive and affective dissonance (i.e., receiving negative feedback about their choice), but not for satisficers. Consequently, we argue that this positivity drop can help explain why maximizers are generally known to be unfortunate decision makers. Further, because the fragile enhancement effect and consequent positivity drop is related to decision difficulty, our inquiry also provides insight into the nature of maximization, particularly with respect to its relationship with decision difficulty.

2 Theoretical background

2.1 Maximization, perceived decision difficulty, and attitude certainty

When a decision process seems difficult, consumers show various behavioral outcomes (see Broniarczyk & Griffin, 2014, for a review). For example, consumers avoid making a choice per se (Anderson, 2003), delay an immediate decision (Greenleaf & Lehmann, 1995), or just simplify choice processes (Lenton & Francesconi, 2010; Payne, 1976). Above all, the most apparent and immediate consequence that a difficult decision brings to consumers may be a feeling of uncertainty. For example, when consumers are faced with a large set of choice assortments, they find choosing one among them so difficult that it compromises their confidence and satisfaction with their choice and heightens regret (Iyengar & Lepper, 2000). Another example can be found from Rim's (2012) study where those who chronically perceive decision processs as difficult showed lower levels of confidence toward their choices. Also, as mentioned above, decision difficulty increases attitude uncertainty toward the choice, eventually causing consumers to be trapped in a positivity bubble that may last for only a short period of time (Litt & Tormala, 2010).

Some researchers have also discussed the relationship between perceived decision difficulty and use of a maximization goal and strategy. Schwartz and his colleagues' (2002) original conceptualization of maximization entails the idea that maximizers have high standards in their decision; they consider as many options as possible; and they have great difficulty in making a choice. Nenkov et al. (2008) found that maximizers, so defined, also reported that they felt more difficulty in making a choice than satisficers. In the same study, participants with a higher maximization tendency took more time in making a final decision and considered more options (Nenkov et al., 2008); these results provides indirect evidence of maximizers' decision difficulty.

Maximizers' tendency to perceive a decision as difficult is likely to decrease their confidence in making a choice as well as their attitude certainty toward their decision. For instance, maximizers are not easily committed to the final choice and they want to keep their decision as open as possible so that they can change their mind whenever they want (Sparks, Ehrlinger & Eibach, 2012). Indeed, maximizers show more preference for reversing the original purchase decision under time constraint than satisficers (Chowdhury, Ratneshwar & Mohanty, 2009). Also, excessive information processing, in which maximizers are engaged, is one of many indicators that maximizers are not entirely sure of their decision (Dar-Nimrod et al., 2009; Iyengar et al., 2006; Nenkov et al., 2008; Polman, 2010). Thus, existing literature suggests that maximizers feel uncertain about their final decision due to perceived decision difficulty. We argue that this uncertainty, in turn, has implications for how maximizers process subsequent feedback about their choice.

Past literature on attitude certainty (see Tormala & Rucker, 2007, for a review), referred to as "a subjective sense of conviction," suggests that the more certain one's attitude toward an object is, the more resistant people become to an attack and the less information processing occurs. If someone holds a firm and confident attitude toward something, this subjective feeling of certainty makes his opinion look valid. As a result, people become more resistant to accepting additional information that counters their previous opinion or attitude. Given that maximizers are less likely to hold such subjective feelings of certainty, they may have lower resistance to counter-attitudinal information. Thus, when facing negative feedback about their choice, maximizers may be more susceptible to attack and more readily accept this counter-attitudinal information.

Past research on maximization also supports the notion of vulnerable maximizers. Since maximizers frequently fret whether their choice was the best one, they also become alert to negative feedback about their choice. Schwartz et al. (2002) emphasized how important a maximizers' choice is to them because their choice implies their ability to make an optimal decision. Schwartz and his colleagues argued that maximizers take the outcome of their choice as "convey-

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

ing information about the self" whereas for satisficers, the outcome only tells about the quality of their choice. Therefore, when maximizers receive negative feedback about their choice, it would act as a signal that they have made a wrong decision which would harm maximizers' self-concept, causing a greater amount of dissonance. For satisficers, on the other hand, negative feedback is less likely to tell something about their personal incompetence in decision making, thereby enabling them to be less susceptible to dissonant feedback.

As a whole, these arguments suggest that maximizers are clumsy in reducing dissonance because they generally find a decision process difficult whenever they make a choice, and this decision difficulty leads to attitude uncertainty toward their choice and heightened regret, which ultimately bring about vulnerability to dissonant experiences such as negative feedback about their chosen option. This vulnerability would be reflected in differences of positivity toward a chosen option between before and after maximizers receive dissonant feedback. If people are vulnerable to negative feedback about their choices, they would decrease initial liking toward a chosen option to a greater amount. Thus, we predict:

H1: Maximizers (vs. satisficers) are more vulnerable to dissonant feedback about their chosen option, such that they decrease post-attack positivity toward their choice to a greater amount (i.e., greater positivity drop) than satisficers.

2.2 Maximization and the role of decision difficulty

As discussed above, maximizers' experience of decision difficulty during a choice process seems evident from the previous literature (e.g., Nenkov et al., 2008). However, it is worthwhile to note that most of the previous research conceptualized maximizers as those who feel decision difficulty (e.g., Misuraca, Faraci, Gangemi, Carmeci & Miceli, 2015; Nenkov et al., 2008; Richardson, Ye, Ege, Suh & Rice, 2014; Schwartz et al., 2002; Turner et al., 2012) while others argued that desiring the best choice, having high standards, or searching many alternatives are the defining features of maximizers (e.g., Dalal, Diab, Zhu & Hwang, 2015; Diab, Gillespie & Highhouse, 2008; Lai, 2010; Weinhardt, Morse & Chimeli, 2012). If, by definition, maximizing is measured by the degree to which a person experiences decision difficulty, then it would not be surprising that maximizers report high levels of decision difficulty.

Original conceptualization of maximization by Simon (1955, 1956) entails the idea of optimization of the choice and exhaustive search of possible alternatives. In line with this very original proposition, Cheek and Schwartz (2016) suggested a two-component model of maximization. According to this model, the maximization construct is best understood as having two components, namely, a maximization goal of choosing the best and a maximization strategy of extensive search for alternatives. They also called for a clarification by arguing that outcomes of maximization such as decision difficulty or regret should not be a part of the maximization construct. Inclusion of outcomes into a construct can hamper its construct validity, making it hard to distinguish between causes and consequences.

Because most past research has treated decision difficulty as a defining component of maximization, previously known consequences of maximization (e.g., lower life satisfaction, less subjective well-being) might have been misidentified. Indeed, depending on how maximizers are conceptualized and measured, outcomes of maximization can be either frustratingly maladaptive (e.g., less well adjusted, Chang et al., 2011; at risk for clinical depression and suicidal ideation, Bruine de Bruin, Dombrovski, Parker & Szanto, 2016) or generally normal (e.g., equal levels of happiness as satisficers; Dalal et al., 2015; Diab et al., 2008). In addition, because past research relied on a composite score of maximization, which is actually comprised of possibly distinct dimensions such as alternative search and desire for the best option, there has been little exploration as to whether individual subcomponents of maximization lead to different outcomes of maximization.

Common ground is that maladaptive outcomes have been found mostly when decision difficulty is included in the measurement of maximization (e.g., Nenkov et al., 2008; Rim et al., 2011; Schwartz et al., 2002; Turner et al., 2012). One might wonder whether maximization in the absence of a decision difficulty component still leads to maladaptive consequences. Therefore, another aim of our study is to explore the relationship of decision difficulty to outcomes of maximization.

Because our theoretical argument about the impact of negative feedback on maximizers vs. satisficers involves aspects of decision difficulty, our research question allows us to investigate implications of different conceptualizations of maximization that have been proposed in the literature. More specifically, we can make more nuanced predictions regarding H1 (i.e., that maximizers are more vulnerable than satisficers to dissonant feedback). If maximizers are conceptualized as those who feel decision difficulty, then the difference predicted in H1 should be observed and this effect should be driven mainly by the decision difficulty component of maximization. However, if decision difficulty is conceptualized as, at best, an outcome of maximization, as it is by the two-component model of maximization (Cheek and Schwartz 2016), then the difference predicted in H1 should not be observed; rather, only perceived decision difficulty (measured as an outcome of maximization) will predict the positivity drop. To formally state,

H2: Maximizers' vulnerability to dissonant feedback about their choice will be driven by a decision difficulty component.

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

To test our hypotheses, we used different conceptualizations and measurements of maximization in each study. Study 1 used the Maximization Scale (MS) by Schwartz et al. (2002) which treats maximizing as a unidimensional construct. Study 2 used Turner et al.'s (2012) Maximization Inventory, which consists of a separate satisficing scale in addition to the maximization scale. Study 3 used individual subscales following Cheek and Schwartz's (2016) recommendation, according to their two-component model of maximization. Across all three studies, we find that maximizers are indeed vulnerable to negative feedback about their choice, but only when decision difficulty plays a significant role.

Together, these findings help highlight the impact of decision difficulty on outcomes of maximization. In addition, these findings suggest that some negative and maladaptive effects of maximization previously identified in the past literature could be due to decision difficulty.

3 Study 1: Maximization Scale (Schwartz et al. 2002)

Study 1 provides an initial test as to whether maximizers are more vulnerable to dissonant feedback about their chosen option than satisficers. Study 1 used the Maximization Scale (MS) by Schwartz et al. (2002). MS consists of three subscales: high standards (HS), decision difficulty (DD), and alternative search (AS). MS has been treated as a unitary scale where higher scores of MS refer to maximizing and lower scores refer to satisficing. We analyzed the impact of both a composite score of maximization and individual components of maximization on the positivity drop following dissonant feedback. Since MS conceptualizes maximizers as those who feel decision difficulty, we expect that a higher composite score of MS will predict a greater positivity drop (H1) and this effect will be mainly driven by the DD component of maximization (H2).

3.1 Method

Participants. A total of ninety-nine online panelists from Amazon Mechanical Turk participated in Study 1 (Mean age, 38.23 years, 42.9% males).

Procedure and Measures. To examine maximizers' vulnerability to negative feedback about their choice, we adapted the procedure used by Litt and Tormala (2010). Participants were told that the purpose of the study was to learn how consumer decisions are made. To prompt their active participation in making a choice, participants were asked to imagine that they were to replace an old, malfunctioning wired mouse with a new wireless mouse, and that they had narrowed down their decision to six mice. Six computer mice were presented, along with the brand names (Logitech, Microsoft, and HP; two of each), brief descriptions, prices, weights, battery, and warranty information (see the supplement). Attribute descriptions were pretested so that each of the six mice had equally attractive features and no mouse was favored. Specific model names were not presented to participants but instead letters were used to indicate each model (e.g., Logitech A); the set contained two models for each of the three brands (for a total of 6 mice). Participants' task was to carefully consider the attribute information and choose one mouse that they would like to buy.

After making a choice, participants were asked to indicate the degree to which they liked their chosen mouse on a 9-point Likert-type scale (1=dislike extremely, 9=like extremely), which served as a pre-attack positivity rating.

A brief filler task was given before presenting a negative review, in order to reduce the potential problem of demand characteristics. After completing the filler task, participants were asked to imagine that they decided to take a look at what others think of the mouse they had chosen, and they found that some customers left negative opinions about it. Then a negative review was presented. After reading the negative customer review, participants were asked to report how much they liked the chosen mouse now on the same 9-point scale, which served as a post-attack positivity rating. The score difference between pre-attack and post-attack positivity ratings served as the measure of positivity drop (i.e., pre-attack – post-attack positivity).

Finally, individual differences of maximizing tendencies were measured with the maximization scale (Schwartz et al., 2002). This 13-item maximization scale has a three-factor structure (Nenkov et al., 2008): alternative search (6-item), decision difficulty (4-item), and high standards (3-item). For each item, participants indicated the degree to which they agreed or disagreed with the sentence on a 7-point scale (1=Strongly disagree, 7=Strongly agree). A composite maximization score showed acceptable reliability (α=.836). Also, each subscale showed acceptable reliability: alternative search (α=.784); decision difficulty (α=.749); and high standards (α=.669).

3.2 Results and discussion

Table 1 presents maximization (both a composite score and subscales) correlations with positivity ratings and descriptive statistics for each measure. As expected, a composite score of maximization is related to the positivity drop, which is consistent with Litt and Tormala's (2010) fragile enhancement effect. That is, when people feel decision as difficult and are less certain about their choice, they exaggerate initial positivity ratings (r=.21, p<.05), but then this positivity bubble collapses, resulting in a drop in positivity ratings (r=.17, p<.10), supporting H1.

More importantly, however, the three components of the maximization scale differed in the direction of their re-

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

Table 1: Maximization Correlations with Positivity and Descriptive Statistics (Study 1).

	Correlations				Descriptive		
	Max	DD	AS	HS	Mean	SD	Range
Pre-attack positivity	.21*	.07	.16	.35**	7.62	1.16	1, 9
Post-attack positivity	−.03	−.20*	−.01	.21*	6.16	1.81	1, 9
Positivity drop	.17+	.25*	.11	.02	1.45	1.76	-8, 8
Maximizing (DD, AS, HS)	1.00				4.13	1.03	1, 7
Decision difficulty (DD)	.78**	1.00			3.82	1.38	1, 7
Alternative search (AS)	.91**	.54**	1.00		4.17	1.26	1, 7
High standards (HS)	.60**	.19+	.43**	1.00	4.48	1.21	1, 7

+ p<.10; * p<.05; ** p<.01

lationship with pre-attack positivity, post-attack positivity, and positivity drop. When faced with negative feedback about one's choice, high standards increased positivity ratings (r=.21, p<.05) while decision difficulty lowered positivity (r=–.20, p<.05). Alternative search did not affect any of the positivity ratings. As a result, a greater positivity drop was observed as decision difficulty increased (r=.25, p<.05), supporting H2. Table 2 presents mean positivity ratings for those low and high on maximizing scores based on median splits for illustrative purposes.

Consistent with our theorizing, Study 1 provides initial evidence that maximizers are more vulnerable to negative feedback about their choice. This result can help explain previous research findings that suggest maximizers are unhappy decision makers. Because maximizers cannot adequately handle dissonant experiences, which is a key in maintaining life satisfaction, they might have low levels of subjective well-being and life satisfaction overall. However, when maximization is decomposed into subscales (i.e., HS, AS, and DD), only the decision difficulty component drove this effect.

4 Study 2: Maximization Inventory (Turner et al., 2012)

Study 2 conceptually replicated the findings from Study 1 with different measures and conceptualization of maximization. We used the Maximization Inventory (MI, Turner et al., 2012) for several reasons. First, MI includes a separate measure of satisficing. While Schwartz et al.'s (2002) MS treats satisficing and maximizing tendencies as opposite ends of the same continuum (i.e., low maximization scores indicate high satisficing), MI introduces an independent satisficing scale. If maximizers are vulnerable to negative feedback but satisficers are not, as H1 suggests, then a separate satisficing scale should predict insensitivity toward negative feedback. Second, like the MS in Study 1, MI includes a decision difficulty component, allowing us to test H2, i.e., whether decision difficulty drives the effect of maximizers' vulnerability to negative feedback.

4.1 Method

Participants. One hundred and sixty-eight participants (Mage=39.18 years, 50.3% males) were recruited from Amazon Mechanical Turk and participated in Study 2.

Procedure and Measures. Participants went through the same product choice scenario as in Study 1, with a different scale to measure maximizing and satisficing, the Maximization Inventory (MI, Turner et al., 2012). The 34-item MI consists of three subscales and each subscale showed acceptable levels of reliability in our sample: satisficing (10-item, α=.81), decision difficulty (12-item, α=.92), and alternative search (12-item, α=.88). Participants indicated the degree to which they agreed or disagreed with the sentence on a 7-point scale (1=strongly disagree, 7=strongly agree). Decision difficulty and alternative search subscales are intended to be averaged into a composite scale, representing a maximizing tendency (α=.90; see Rim, 2012; Turner et al., 2012). In addition to analyzing a composite score of maximization, we investigated the distinct roles of each component as well.

4.2 Results and discussion

Table 3 presents maximizing (both a composite score and subscales) and satisficing correlations with positivity ratings and descriptive statistics for each measure.

Again, consistent with the results from Study 1, a composite score of maximizing is related to positivity drop, r=.17, p<.05, supporting H1. Also, this effect was largely attributable to a decision difficulty component, r=.19, p<.05, supporting H2.

Satisficers, on the other hand, did not report such positivity drop, r=–.10, n.s. Instead, satisficers increased positivity

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

TABLE 2: Mean positivity ratings for low vs. high maximizing/satisficing scores (median split).

	Study 1							
	Maximizing		Decision difficulty		Alternative search		High standards	
	Low	High	Low	High	Low	High	Low	High
Pre-attack positivity	7.50	7.73	7.69	7.55	7.48	7.75	7.36	7.91
Post-attack positivity	6.16	6.16	6.50	5.84	6.08	6.24	5.98	6.37
Positivity drop	1.34	1.57	1.19	1.71	1.40	1.51	1.38	1.54
	Study 2							
	Maximizing		Decision difficulty		Alternative search		Satisficing	
	Low	High	Low	High	Low	High	Low	High
Pre-attack positivity	7.54	7.48	7.59	7.43	7.24	7.79	7.23	7.87
Post-attack positivity	6.18	5.93	6.40	5.70	5.95	6.15	5.69	6.51
Positivity drop	1.36	1.55	1.19	1.73	1.29	1.63	1.54	1.36
	Study 3							
	Maximization goal		Maximization strategy		Perceived decis. difficulty		Satisficing	
	Low	High	Low	High	Low	High	Low	High
Pre-attack positivity	7.36	7.84	7.18	7.96	7.83	7.33	7.33	7.88
Post-attack positivity	5.64	5.71	5.59	5.75	6.49	4.67	5.29	6.06
Positivity drop	1.72	2.12	1.59	2.21	1.34	2.65	2.04	1.81

ratings after receiving negative feedback about their choice, r=.32, p<.01. For illustrative purposes, Table 2 presents mean positivity ratings for low and high on maximizing and satisficing scores based on median splits.

Using a different measurement of maximization, Study 2 replicated the findings from Study 1. The current conceptualization of maximization (i.e., alternative search and decision difficulty) supported the notion of vulnerable maximizers in the face of negative feedback of one's choice. Consistent with our theorizing, maximizers exaggerate initial positivity ratings when they feel the decision as difficult and are less certain about their choice, but then this positivity bubble collapses in the face of receiving negative feedback about their choice.

However, this effect was not observed among satisficers. As theory suggests, satisficers do not generally feel decision difficulty and have more confidence in their choice relative to maximizers. Consequently, they do not care much about receiving negative feedback about their choice. Satisficers can resist against negative feedback and even justify their original choice as a coping strategy by increasing liking toward their chosen option after receiving negative feedback, which is a key in maintaining happiness.

As in Study 1, the decision difficulty component was again mainly responsible for driving maximizers' vulnerability to negative feedback. While previous researchers have used decision difficulty component in conceptualizing maximizers, a new look at the maximization construct suggested by Cheek and Schwartz (2016) argued that the maximization goal to get the best and the maximization strategy of alternative search are the two defining components of maximization. As such, decision difficulty is seen as an outcome of maximization and not necessarily a defining component of it, leading to the question: Will maximizers be vulnerable to negative feedback about their choice (i.e., show a positivity drop) even in the absence of a decision difficulty component in the maximization conceptualization? Studies 1 and 2 suggest that the answer is no. To answer this question more clearly, Study 3 adopts a series of new measures that assess maximizing and satisficing tendencies, following Cheek and Schwartz's (2016) two-component model of maximization.

5 Study 3: Two-component model of maximization (Cheek & Schwartz, 2016)

In line with Cheek and Schwartz's (2016) two-component model of maximization, we conceptualize maximizers as those who have a maximization goal to get the best and

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

TABLE 3: Maximization correlations with positivity and descriptive statistics (Study 2).

	Correlations				Descriptive		
	Max	DD	AS	SAT	Mean	SD	Range
Pre-attack positivity	.04	−.12	.23**	.34**	7.51	1.21	1, 9
Post-attack positivity	−.14+	−.27**	.09	.32**	6.05	1.86	1, 9
Positivity drop	.17*	.19*	.06	−.10	1.46	1.87	–8, 8
Maximizing (DD, AS)	1.00				4.29	.84	1, 7
Decision difficulty (DD)	.85**	1.00			3.67	1.19	1, 7
Alternative search (AS)	.73**	.25**	1.00		4.91	.93	1, 7
Satisficing (SAT)	.03	−.22**	.34**	1.00	5.69	.65	1, 7

+ p<.10; * p<.05; ** p<.01.

those who use a maximization strategy of alternative search. According to Cheek and Schwartz (2016), decision difficulty is an outcome of maximization. Thus, in Study 3, we adopt a direct measure of perceived decision difficulty as a separate question rather than measuring decision difficulty as a defining component of maximization. It is expected (as predicted by H2) that the perceived decision difficulty component will drive the effect of maximizers' vulnerability to negative feedback.

5.1 Method

Participants. Ninety-six participants (Mage=36.58 years, 51% males) were recruited from an online panel and participated in Study 3.

Procedure and Measures. Participants went through the same product choice scenario. This time, maximizing and satisficing tendencies were measured as per Cheek and Schwartz's (2016) recommendation. According to the two-component model of maximization (Cheek & Schwartz, 2016), measurement of maximization should include the maximization goal of choosing the best as well as the maximization strategy of alternative search. Because there is no established scale that perfectly fits the model, Cheek and Schwartz (2016) instead recommended several existing scales to measure each component of maximization. Following their suggestion, the maximization goal of choosing the best was measured by Dalal et al.'s (2015) MTS-7. This scale consists of seven items such as "I never settle" and "No matter what it takes, I always try to choose the best thing" (α=.89). Maximization strategy of alternative search was measured by Turner et al.'s (2012) 12-item alternative search subscale in their maximization inventory (α=.90). Satisficing was measured with Misuraca et al.'s (2015) 4-item less ambitious satisficing scale. This scale includes items such as "In choosing between alternatives, I stop at the first that works for me" and "I do not ask for more than what satisfies me" (α=.40). For all three scales, items were measured using 7-point scales (1=strongly disagree, 7=strongly agree).

In addition to measuring maximizing tendencies, we measured perceived decision difficulty. Participants were asked to indicate how difficult it was to choose one option (1=not at all difficult, 9=extremely difficult). This allowed us to examine whether the positivity drop after the product attack is attributable to the decision difficulty component.

5.2 Results and discussion

Table 4 presents maximizing scales (goal and strategy), perceived decision difficulty, and satisficing scale correlations with positivity ratings, and descriptive statistics for each measure.

When decision difficulty is not included as a component of maximization, maximizers do not appear vulnerable to negative feedback. Both maximization goal of choosing the best and maximization strategy of alternative search were not significantly related to positivity drop. However, as evidenced by a positive correlation between perceived decision difficulty and positivity drop (r=.39, p<.01), decision difficulty plays the biggest role in predicting vulnerability to negative feedback about one's choice. This result suggests that maladaptive coping that maximizers undergo may be due to a decision difficulty component.

Although satisficing is not related to positivity drop, a positive correlation between satisficing tendencies and post-attack positivity rating provides an important insight as to understanding satisficers' coping strategy. Consistent with the findings from Study 2, satisficers increased positivity ratings after receiving negative feedback about their choice, r=.17, p<.10. This result implies that satisficers can justify their original choice despite counter-attitudinal information, which can serve as a buffer against negative feedback. Table 2 illustrates the mean positivity ratings for those low and high on each of the maximizing, perceived decision difficulty, and satisficing scores based on median splits.

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

TABLE 4: Maximization Correlations with Positivity and Descriptive Statistics (Study 3).

	Correlations				Descriptive		
	Max goal	Max strategy	DD	SAT	Mean	SD	Range
Pre-attack positivity	.16	.36**	−.24*	.20+	7.60	1.04	1, 9
Post-attack positivity	−.01	.04	−.49**	.17+	5.68	2.03	1, 9
Positivity drop	.10	.16	.39**	−.07	1.93	1.88	–8, 8
Maximization goal	1.00				4.51	1.15	1, 7
Maximization strategy	.68**	1.00			5.17	.92	1, 7
Decision difficulty (DD)	−.02	−.03	1.00		3.57	2.06	1, 9
Satisficing (SAT)	−.06	−.08	−.12	1.00	4.25	.90	1, 7

+ p<.10; * p<.05; ** p<.01.

Also, perceived decision difficulty is not significantly correlated with maximization goal (r=–.02) or maximization strategy (r=–.03). This result may seem odd at first glance since it goes counter to our understanding of maximization from previous research. What this result suggests, however, is that maximizers may not feel decision difficulty at all times. If maximizers feel decision difficulty, then it can bring about various secondary consequences such as uncertain attitude toward their choice, regret, or, as in the present research, greater disappointment when they receive negative feedback about their choice. If maximizers, those who strive for choosing the best by considering various alternatives, do not experience decision difficulty, then such maladaptive, secondary outcomes may not happen.

Therefore, we posit that previously reported maladaptive consequences of maximization may be due to the way maximization was measured: i.e., the inclusion of a decision difficulty component. Because numerous maximization scales, including the most frequently cited Schwartz et al.'s (2002) maximization scale, conceptualize maximizers as those who feel decision difficulty, dysfunctional outcomes may be largely attributable to the decision difficulty component. Being a maximizer alone (i.e., pursuing maximization goal and adopting maximization strategy of alternative search) may not directly cause dysfunctional outcomes such as lower subjective well-being and disappointment.

6 General discussion

While every consumer desires happiness, striving to have the best outcomes that can maximize utility, previous research has suggested that maximization does not directly lead to a happy life. Adding to previous literature that has examined the relationship between maximization and dissatisfaction, this research offers a possible explanation of why maximizers are known to be unhappier decision makers than satisficers: because maximizers, as originally defined, fail to adequately manage dissonant experiences. Throughout three studies that use different conceptualization and measurement of maximization, we show that maximizers are more vulnerable to negative feedback about one's choice such that they decreased positivity toward the chosen option to a greater level than satisficers.

This finding is in line with Sparks et al.'s (2012) research in which they showed that maximizers do not exhibit a classic pattern of dissonance reduction, namely, spreading of alternatives. Sparks et al. (2012) explained that because maximizers do not commit to their initial choice, they do not necessarily alter evaluations of both chosen and rejected alternatives, while satisficers report higher liking on the chosen option but lower liking on the rejected option than the initial liking. While Sparks et al. (2012) focused on maximizers' reticence to the chosen option and its subsequent impact on maximizers' inaction to reduce choice dissonance, their investigation does not explicitly explore responses to negative feedback. We show that maximizers do voice their opinions, albeit in the negative direction, when they receive negative feedback about their choice. Also, Sparks et al. (2012) used a composite measure of maximization and do not examine how individual maximization subscales correlate with different outcomes. Our results show decision difficulty as a driving factor in predicting maximizers' vulnerability in the context of post-choice dissonance management. This is because the amount of difficulty that an individual experiences during a decision process affects choice confidence and resistance against negative feedback about one's choice. When decision difficulty was conceptualized as a defining component of maximization (Study 1 and 2), "maximizers" show greater positivity drop in the face of negative feedback. However, in the absence of a decision difficulty component, a two-component model of maximization (the goal to get the best and search for alternatives; Cheek & Schwartz, 2016) did not play a significant role in predicting positivity drop, while perceived decision difficulty did (Study 3).

https://doi.org/10.1017/S1930297500006537 Published online by Cambridge University Press

This finding has an important implication in understanding maximization, especially its consequences. Previous research includes somewhat conflicting findings as to whether outcomes of maximization are truly negative, maladaptive, and dysfunctional. As discussed earlier, maximization, as originally defined, has mostly been associated with maladaptive outcomes (e.g., low life satisfaction, Schwartz et al., 2002; less well adjusted, Chang et al., 2011; at risk for clinical depression and suicidal ideation, Bruine de Bruin et al., 2016) while some research reported plainly normal consequences of maximization as well (e.g., equal levels of happiness as satisficers; Dalal et al., 2015; Diab et al., 2008). This contradictory result may be partly due to inconsistent conceptualization and measurement of maximization, and more importantly, the inclusion of a decision difficulty component in defining maximization. For example, unlike other maximization subscales such as high standards and alternative search, decision difficulty subscale negatively correlates with life satisfaction and subjective happiness, and positively correlates with depression (Lai, 2010; Nenkov et al., 2008; Rim et al., 2011). Also, as shown in the present research, maximizers are clumsy at handling dissonant experiences. This clumsiness can reduce their happiness and even long-run life satisfaction. But this effect was observed only when decision difficulty plays a significant role. All in all, we postulate previously reported downsides of maximization may be mostly attributable to the decision difficulty component in its conceptualization. Future research can explore this hypothesis by measuring sub-components of maximization and decision difficulty as we did in this research.

We thus agree with Cheek and Schwartz (2016) that outcomes of maximization such as decision difficulty should not be part of the maximization construct. Because decision difficulty is not a sufficient condition for maximization, treating maximizers as those who feel chronic decision difficulty could obscure a true understanding of consequences of maximization.

Moreover, our findings also lead us to question the assumption that maximizers always feel decision difficulty. In Study 3, we reported that neither maximization goal (a goal to get the best outcome) nor maximization strategy (alternative search) significantly correlate to perceived decision difficulty. Similar findings are observed from Lai's (2010) research where she found no correlation between a maximizing tendency (aspiration for high standards and extensive alternative search) and perceived decision difficulty among Norwegian samples. These findings suggest that decision difficulty may not be a definite consequence of maximization.

Therefore, it requires a careful approach when examining a true consequence of maximization. Are maximizers really unhappy decision makers? While this long-standing question has spurred a great deal of research in the area of maximization, there have been different answers and inconsistent findings depending on how maximization is conceptualized and measured. Yet, thanks to Cheek and Schwartz's (2016) initial work to provide conceptual clarity, we now have a clearer understanding of what really characterizes maximization: pursuing a goal to get the best while searching many alternatives. The next step should be then developing a best suitable scale for assessing maximization. Although Cheek and Schwartz (2016) recommended several individual subscales to tentatively study maximizing and satisficing tendencies, their composite psychometric properties, factor structures, and correlates to one another have not yet been studied. Future research should construct a new assessment of maximization that has appropriate psychometric properties in order to have a clearer understanding of consequences of maximization.

To summarize, we show that maximizers are vulnerable toward negative feedback about their choice. This vulnerability may explain why maximizers have been known as unfortunate decision makers. However, this effect was mainly attributable to the decision difficulty factor in the conceptualization of maximization. Without decision difficulty, maximizing did not correlate to positivity drop in the face of negative feedback about one's choice. Based on our findings as well as previous literature that acknowledges the role of decision difficulty in predicting maladaptive outcomes of maximization (e.g., Lai, 2010; Nenkov et al., 2008; Rim et al., 2011), we suggest that previously reported negative consequences of maximization are largely due to a decision difficulty factor in its conceptualization. Again the question is, are "maximizers" (i.e., whose goal is to get the best using an alternative search strategy, Cheek & Schwartz, 2016) still unhappy decision makers in the absence of a decision difficulty component? Our findings show that "maximizers" are not vulnerable to negative feedback anymore when they are conceptualized following a two-component model of maximization (Cheek & Schwartz, 2016). Although this results suggests that "maximizers" might be as happy as satisficers, it leaves room for further investigation.

References

Anderson, C. J. (2003). The psychology of doing nothing: Forms of decision avoidance result from reason and emotion. *Psychological Bulletin*, *129*(1), 139–167. https://doi.org/10.1037/0033-2909.129.1.139.

Broniarczyk, S. M., & Griffin, J. G. (2014). Decision difficulty in the age of consumer empowerment. *Journal of Consumer Psychology*, *24*(4), 608–625. https://doi.org/10.1016/j.jcps.2014.05.003.

Bruine de Bruin, W., Dombrovski, A. Y., Parker, A. M., & Szanto, K. (2016). Late-life depression, suicidal ideation, and attempted suicide: The role of individual differences in maximizing, regret, and negative decision outcomes.

Journal of Behavioral Decision Making, *29*(4), 363–371. https://doi.org/10.1002/bdm.1882.

Chang, E. C., Lin, N. J., Herringshaw, A. J., Sanna, L. J., Fabian, C. G., Perera, M. J., & Marchenko, V. V. (2011). Understanding the link between perfectionism and adjustment in college students: Examining the role of maximizing. *Special Issue on Anxiety (dedicated to the Memory of Professor Blazej Szymura)*, *50*(7), 1074–1078. https://doi.org/10.1016/j.paid.2011.01.027.

Cheek, N. N., & Schwartz, B. (2016). On the meaning and measurement of maximization. *Judgment and Decision Making*, *11*(2), 126–146.

Chowdhury, T. G., Ratneshwar, S., & Mohanty, P. (2009). The time-harried shopper: Exploring the differences between maximizers and satisficers. *Marketing Letters*, *20*(2), 155–167.

Dalal, D. K., Diab, D. L., Zhu, X. S., & Hwang, T. (2015). Understanding the construct of maximizing tendency: A theoretical and empirical evaluation. *Journal of Behavioral Decision Making*, *28*(5), 437–450.

Dar-Nimrod, I., Rawn, C. D., Lehman, D. R., & Schwartz, B. (2009). The maximization paradox: The costs of seeking alternatives. *Personality and Individual Differences*, *46*(5–6), 631–635. https://doi.org/http://dx.doi.org/10.1016/j.paid.2009.01.007.

Diab, D. L., Gillespie, M. A., & Highhouse, S. (2008). Are maximizers really unhappy? The measurement of maximizing tendency. *Judgment and Decision Making*, *3*(5), 364–370.

Greenleaf, E. A., & Lehmann, D. R. (1995). Reasons for substantial delay in consumer decision making. *Journal of Consumer Research*, *22*(2), 186–199. https://doi.org/10.2307/2489811.

Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, *79*(6), 995–1006. https://doi.org/10.1037/0022-3514.79.6.995.

Iyengar, S. S., Wells, R. E., & Schwartz, B. (2006). Doing better but feeling worse: Looking for the "best" job undermines satisfaction. *Psychological Science*, *17*(2), 143–150. https://doi.org/10.1111/j.1467-9280.2006.01677.x

Lai, L. (2010). Maximizing without difficulty: A modified maximizing scale and its correlates. *Judgment and Decision Making*, *5*(3), 164–175.

Lenton, A. P., & Francesconi, M. (2010). How humans cognitively manage an abundance of mate options. *Psychological Science*, *21*(4), 528–533.

Levav, J., Reinholtz, N., & Lin, C. (2012). The effect of ordering decisions by choice-set size on consumer search. *Journal of Consumer Research*, *39*(3), 585–599. https://doi.org/10.1086/664498

Litt, A., & Tormala, Z. L. (2010). Fragile enhancement of attitudes and intentions following difficult decisions. *Journal of Consumer Research*, *37*(4), 584–598. https://doi.org/10.1086/653494.

Ma, J., & Roese, N. J. (2014). The maximizing mindset. *Journal of Consumer Research*, *41*(1), 71–92. https://doi.org/10.1086/674977

Misuraca, R., Faraci, P., Gangemi, A., Carmeci, F. A., & Miceli, S. (2015). The decision making tendency inventory: A new measure to assess maximizing, satisficing, and minimizing. *Personality and Individual Differences*, *85*, 111–116.

Nenkov, G. Y., Morrin, M., Ward, A., Schwartz, B., & Hulland, J. (2008). A short form of the Maximization Scale: Factor structure, reliability and validity studies. *Judgment and Decision Making*, *3*(5), 371–388.

Parker, A. M., De Bruin, W. B., & Fischhoff, B. (2007). Maximizers versus satisficers: Decision-making styles, competence, and outcomes. *Judgment and Decision Making*, *2*(6), 342–350.

Payne, J. W. (1976). Task complexity and contingent processing in decision making: An information search and protocol analysis. *Organizational Behavior and Human Performance*, *16*(2), 366–387.

Polman, E. (2010). Why are maximizers less happy than satisficers? Because they maximize positive and negative outcomes. *Journal of Behavioral Decision Making*, *23*(2), 179–190. https://doi.org/10.1002/bdm.647

Purvis, A., Howell, R. T., & Iyer, R. (2011). Exploring the role of personality in the relationship between maximization and well-being. *Personality and Individual Differences*, *50*(3), 370–375. https://doi.org/10.1016/j.paid.2010.10.023.

Richardson, C. M., Ye, H. J., Ege, E., Suh, H., & Rice, K. G. (2014). Refining the measurement of maximization: Gender invariance and relation to psychological well-being. *Personality and Individual Differences*, *70*, 229–234.

Rim, H. B. (2012). *Maximizing, satisficing and their impacts on decision-making behaviors* (Doctoral dissertation). Retrieved from https://etd.ohiolink.edu/.

Rim, H. B., Turner, B. M., Betz, N. E., & Nygren, T. E. (2011). Studies of the dimensionality, correlates, and meaning of measures of the maximizing tendency. *Judgment and Decision Making*, *6*(6), 565–579.

Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: Happiness is a matter of choice. *Journal of Personality and Social Psychology*, *83*(5), 1178–1197. https://doi.org/10.1037/0022-3514.83.5.1178.

Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, *69*(1), 99–118.

Simon, H. A. (1956). Rational choice and the structure of the environment. *Psychological Review*, *63*(2), 129–138. https://doi.org/10.1037/h0042769

Sparks, E. A., Ehrlinger, J., & Eibach, R. P. (2012). Fail-

ing to commit: Maximizers avoid commitment in a way that contributes to reduced satisfaction. *Personality and Individual Differences*, *52*(1), 72–77.

Tormala, Z. L., & Rucker, D. D. (2007). Attitude certainty: A review of past findings and emerging perspectives. *Social and Personality Psychology Compass*, *1*(1), 469–492. https://doi.org/10.1111/j.1751-9004.2007.00025.x.

Turner, B. M., Rim, H. B., Betz, N. E., & Nygren, T. E. (2012). The maximization inventory. *Judgment and Decision Making*, *7*(1), 48–60.

Weinhardt, J. M., Morse, B. J., & Chimeli, J. (2012). An item response theory and factor analytic examination of two prominent maximizing tendency scales. *Judgment and Decision Making*, *7*(5), 644–658.