A Dissertation
Submitted to the Faculty
of
Xavier University
in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Psychology
by
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August 28, 2015

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An Examination of the Criterion-Related Validity of Four Maximizing Tendency Scales:

Which Scale is the “Best?”
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Acknowledgements

I would first like to thank my dissertation chair, Dr. Dalia Diab, for her guidance and support throughout the dissertation process. Although your knowledge and expertise were invaluable, what I appreciated most was your positive and encouraging attitude. It was a joy to work with you. I would also like to thank the members of my committee, Drs. Cynthia Dulaney and Susan Kenford. Your enthusiasm during meetings and your thoughtful suggestions helped to improve the quality of this project. I would also like to thank all of the other members of the Xavier Psychology faculty for your guidance and wisdom over the years. In particular, I would like to thank Dr. Barrett, whose mentorship has helped shape me into who I am today as both an aspiring psychologist and person.

I would also like to express my deepest gratitude to my family and friends who have inspired and supported me all along the way. Mom, thank you for instilling my love of learning. Dad, thank you for your steady example of the importance of hard work and discipline. You both have always been the best of role models. Fritz, thank you for being such a good brother and for the countless times you have made me laugh. I must also thank my second family, Ashley Lukens, Kim Jeffries, Leah Bedell, and Erin Moody. Thank you for being my constant cheerleaders.

Lastly, I could never have made it through graduate school without my amazing cohort. Even when the process was difficult, it was almost always fun when we were together. I would especially like to thank Betsy Haigh and Sehra Polad for your help and encouragement.
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Abstract

Since the proposal of the construct of maximizing tendency, a stable individual difference in the way one approaches decisions, there has been substantial debate in the literature regarding the most appropriate way to measure it. Multiple scales have been developed that purportedly assess maximizing tendency, including the Maximizing Scale (MS; Schwartz et al., 2002), the Maximizing Tendency Scale (MTS; Diab et al., 2008), the Maximization Inventory (MI; Turner et al., 2012), and the Modified Maximizing Scale (MMS; Lai, 2010). Although several studies have compared the psychometric properties of these scales, very few have examined the criterion-related validity of the scales using behavioral measures, and no studies have simultaneously evaluated all four scales. Thus, the present study evaluated the criterion-related validity of all four scales using self-report of past real-life decisions as well as hypothetical decision-making scenarios. Overall, the Alternative Search subscale of the MI (MI-AS) emerged with the highest number of positive significant correlations with the behavior criterion measures.

However, it should be noted that there are theoretical limitations to the MI-AS, insofar as it only contains items related to the tendency to consider multiple alternatives and neglects what is arguably the most theoretically-relevant aspect of maximizing tendency, which is the desire to identify the optimal alternative. With regard to the criterion-related validity of the other scales, no clear pattern of results emerged, which contradicted a prior study in which the MTS was significantly correlated with more behavior-based criteria than was the MS. However, consistent with several prior studies, both the MS and MMS
demonstrated poor internal consistency, a finding which warrants further investigation of the psychometric properties of these scales.
An Examination of the Criterion-Related Validity of Four Maximizing Tendency Scales: Which Scale is the “Best?”

Over a decade ago, Schwartz, Ward, Lyubomirsky, Monterosso, White, and Lehman (2002) proposed a new individual difference variable in the field of judgment and decision-making, namely maximizing tendency. Maximizing involves searching for the very best option, even if doing so requires a significant investment of time, energy, or other resources, whereas satisficing involves searching for an option that meets a certain threshold of acceptability or is “good enough.” The terms maximize and satisfice were originally coined by Herbert Simon in his theory of bounded rationality (1955, 1956); he asserted that all people generally satisfice because humans lack the cognitive capacity to exhaustively evaluate all possible options in a complex environment. In contrast, Schwartz et al. re-conceptualized the tendency to maximize versus satisfice as an individual difference variable that exists on a bipolar continuum, with satisficing at one end and maximizing at the other end.

In their seminal article on the subject, Schwartz et al. (2002) developed the Maximization Scale (MS) to measure this trait, a scale which has been used in numerous studies since then. However, there has been significant debate in the literature about the reliability and validity of the MS, and several alternative measures have been developed, including the Maximizing Tendency Scale (MTS; Diab et al., 2008), the Maximization Inventory (MI; Turner et al., 2012), and the Modified Maximizing Scale (MMS; Lai, 2010). Notably, the relationship between maximizing tendency and other psychological variables differs depending on which scale is used to assess maximizing tendency. In general, most of the studies which have assessed maximizing tendency using the MS
have found that maximizing is associated with a host of negative outcomes, such as decreased satisfaction and increased regret, as well as negative psychological variables, such as neuroticism and depression (e.g., Dar-Nimrod et al., 2009; Iyengar et al., 2006; Parker et al., 2007). However, when maximizing is measured with the MTS or MMS rather than the MS, maximizing is associated with positive psychological traits, such as optimism and subjective happiness, and does not correlate with maladaptive psychological traits, such as neuroticism (Diab et al., 2008; Lai, 2010; Rim, Turner, Betz, & Nygren, 2011).

Given that the findings of studies on maximizing vary widely depending on how maximizing is measured, it is important to evaluate which scale best predicts maximizing behaviors. Surprisingly, despite the substantial debate in the literature about how to best measure maximizing tendency, few studies have examined the criterion-related validity of the various maximizing scales (e.g., Dalal, Diab, Zhu, & Hwang, 2015; Diab et al, 2008; Rim et al., 2011). Most of the studies comparing the various maximizing scales have instead focused on comparisons of reliability, item discriminability, and content validity (e.g., Turner et al., 2012; Weinhardt, Morse, Chimeli, & Fisher, 2012).

Furthermore, few of the studies that focused on criterion-related validity used behavioral measures as criteria (e.g., Diab et al., 2008). Moreover, although several studies have compared the MS with another maximizing scale, no studies have simultaneously examined all four maximizing scales (i.e., MS, MTS, MI, and MMS). The purpose of this study, therefore, was to further examine the criterion-related validity of the four scales used to measure maximizing tendency, in an effort to try to resolve the current debate in
the literature about which scale most accurately assesses the maximizing construct and best predicts behavioral criteria.

The Debate over How to Measure Maximizing Tendency

Schwartz et al. (2002) originally conceptualized maximizing tendency as a unidimensional trait involving the propensity to “seek to maximize one’s outcomes in choice situations” (p. 1193). However, numerous factor analyses of the MS (e.g., Nenkov et al., 2008) have revealed that the MS is multidimensional and consists of three factors. These factors include not only seeking the best (referred to as high standards), but also engaging in extensive search behavior (referred to alternative search), and experiencing subjective difficulty with making decisions (referred to as decision difficulty).

Importantly, the intercorrelations among the three factors of high standards, alternative search, and decision difficulty have been shown to be only small to moderate in effect size (Rim et al., 2011). Thus, calculating an overall maximizing tendency score for the MS appears inappropriate. However, virtually all studies using the MS have continued to calculate an overall maximizing tendency score.

There has been significant disagreement about which of the three factors of the MS accurately reflect the construct of maximizing tendency. Diab et al. (2008) and Dalal et al. (2015) argue that only the high standards dimension is consistent with Simon’s original definition of maximizing as pursuing the best option. On the other hand, Lai (2010), who created the MMS, contends that both high standards and alternative search should be considered dimensions of maximizing. Alternatively, Turner et al. (2012), who created the MI, think that the maximizing construct should include only the alternative search and decision difficulty dimensions and not the high standards dimension.
The maximizing scales also differ in terms of whether or not they include items that reference specific situations. The MTS and MMS include only content-free items (e.g., “I am uncomfortable making decisions before I know all of my options”), whereas the MS and MI include items that reference specific decision-making scenarios (e.g., “When I watch TV, I channel surf, often scanning through the available options even while attempting to watch one program,” or “I take time to read the whole menu when dining out”). The MS in particular has been criticized for its use of domain-specific items. For example, Lai (2010) contends that many of the items on the MS are “not sufficiently general in terms of item content and simultaneously not sufficiently relevant to measure differences in individual maximizing tendency across samples, settings, and cultures” (p. 165). Turner et al. (2012) claim that the MI is mostly content-free, but close examination of the scale reveals that over half of the items on the Alternative Search subscale reference consumer decisions.

Uniquely, the MI also includes items to directly measure satisficing tendency (e.g., “I try to gain plenty of information before I make a decision, but then I go ahead and make it”). Notably, the alternative search and decision difficulty subscales on the MI were not strongly correlated with one another, contrary to what would be expected given that they are purportedly measuring dimensions of the same construct (Turner et al., 2012). Thus, the authors recommend that the subscales should not be summed because they are measuring different things. Furthermore, the satisficing subscale was not correlated with decision difficulty and was significantly positively correlated with alternative search (r = .28). Therefore, the authors concluded that satisficing does not
represent the opposite pole of the maximizing continuum, a proposal which diverges from all previous conceptualizations of maximizing.

Prior Criterion-Related Validity Comparisons of Maximizing Scales

Diab et al. (2008) compared the MS and MTS in a sample of 210 undergraduate students in terms of reliability and criterion-related validity. Participants completed the MS and MTS as well as a 5-item Behavior Reports scale, which contained questions about past real-life decisions, such as “How many weeks did you spend trying to decide where to go for college?” Additionally, participants completed five situational dilemma items which involved choosing one of three options representing a continuum from maximizing to satisficing behaviors. For example, one such item instructed participants to: “Imagine you are at the car dealership and you have found a car that you really want at the right price, except that it is not in your ideal color. Getting the ideal color requires waiting a month for it to come into this dealership, or driving far away to another dealership and renegotiating a deal. You can a) buy the car anyway because you need to buy a car soon, b) wait until the color that you want becomes available, or c) go to more dealers to see if they have the color you want.” Participants indicated which option they were most and least likely to do in that situation.

The MTS demonstrated higher internal consistency reliability (alpha = .80) than the original MS (alpha = .68; Diab et al., 2008). In addition, the MTS was significantly correlated with more of the situational dilemma and behavioral items than was the MS. The MTS was significantly correlated with five of the six behavioral criterion measures, whereas the MS was only significantly correlated with three. The MTS also correlated more strongly than the MS with these behavioral criterion measures.
Rim et al. (2011) examined the criterion-related validity of the MS and MTS by analyzing how well each of the scales predicted the effort participants would exert in a decision-making situation involving a gambling game. The goal of the game was to maximize the total points, and it consisted of two stages: a sampling stage and a choosing stage. During the sampling stage, participants viewed a pair of unlabeled card decks and were given the opportunity to draw cards from each deck as many times as they desired in order to estimate the outcomes and probabilities associated with each deck. At any point, participants could decide to move on to the choosing stage. During the choosing stage, participants indicated which card deck they preferred to use during the gambling game. This procedure was repeated five times. Effort was operationalized as the number of times participants drew cards during the sampling stages.

Scores on the alternative search and decision difficulty subscales were correlated positively and moderately with the number of draws, whereas scores on the high standards subscale and the MTS were not significantly correlated with the number of draws (Rim et al., 2011). Results also indicated that scores on the alternative search and decision difficulty subscales were significant predictors of the average number of draws taken, but scores on the high standards subscale and MTS were not. Thus, the authors concluded that the alternative search and decision difficulty subscales better capture the construct of maximizing than the high standards subscale or MTS because they are better predictors of actual maximizing behaviors. However, this conclusion is problematic given that it was based on a gambling task, which may not represent a typical task that people would encounter in daily life. Moreover, behavior demonstrated in this task is likely to be influenced by other individual differences besides maximizing tendency.
Dalal et al. (2015) employed two decision-making tasks in a lab setting to compare the MS and MTS in a sample of 81 undergraduate students. The first task examined search strategy using an adaptation of the information board task. Participants were asked to choose from among five options with six attributes. This task assesses search patterns such that they can be characterized as either strategic or random. It was hypothesized that individuals high on maximizing tendency would be more likely to employ a strategic search strategy in order to determine the optimal alternative. The MTS but not the MS was significantly positively correlated with the use of a strategic search strategy.

The second task involved a hypothetical decision with five options (Dalal et al., 2015). Participants were asked to choose which restaurant they would like to open on campus after viewing a brief synopsis of each restaurant. After they made their initial selection, they were given the chance to view five more options and could change their selection if they wished. The results of logistic regression analyses demonstrated that maximizing tendency was not predictive of the request to view additional options, regardless of whether maximizing tendency was measured with the MTS or MS. Although the lack of a relationship between maximizing tendency and alternative search in this experiment seems unexpected, the authors noted that in this task, choosing to view more options did not require significant additional effort. They explained these results by postulating that in situations where engaging in alternative search is not cumbersome, both maximizers and satisficers will likely seek larger choice sets. On the other hand, when alternative search requires significant effort, only maximizers will likely expend such effort in order to make a decision which meets their high standards.
In the present study, behavior-based criterion measures were designed to evaluate the criterion-related validity of the MS, MTS, MMS, and MI. These behavior-based criterion measures are based in part on the prior work of Diab et al. (2008) and include behavioral reports and hypothetical decision-making scenarios. The behavioral reports include 12 items that assess how much time participants invested in and how many options they considered when making prior decisions. The eight decision-making scenarios ask participants to make hypothetical decisions as well as rate the perceived importance of those decisions.

**Hypotheses**

*Hypothesis 1:* It was hypothesized that the MTS, MMS, and Alternative Search Subscale of the MI would correlate more strongly with the behavioral reports than would the MS or the Decision Difficulty Subscale of the MI, with the MTS having the largest correlations.

*Hypothesis 2:* It was hypothesized that the MTS, MMS, and Alternative Search Subscale of the MI would correlate more strongly with the hypothetical decision scenarios than would the MS or the Decision Difficulty Subscale of the MI, with the MTS having the largest correlations.

In addition to testing the main hypotheses, the role of perceived decision importance in predicting maximizing behavior was explored. Additionally, the eight hypothetical choices used in this study can be classified under two types of general choices: consumer and life choices (i.e., career or social decisions). Therefore, we decided to explore if type of choice might affect maximizing behavior by calculating two
separate scores representing each type of choice, if deemed appropriate based on analyses of internal consistency.

Method

Participants

Participants were recruited from a pool of undergraduates enrolled in psychology courses at a private Catholic Midwestern university. A total of 259 undergraduates accessed the study; however, 52 participants did not complete the entire study, and 38 participants failed at least one of the quality check items. Additionally, the responses from one participant were deleted from the final data set because he did not meet the minimum age requirement. Thus, data from 168 participants were retained in the final data set. Sample size for the following demographic information ranged from 163 to 168 participants. Of those who reported gender, 61.2% of the participants were female and 38.8% were male. Of those who reported race, 84.1% of the participants were White, 6.1% were Hispanic/Latino, 5.5% were Black, and 4.3% reported another race. The average age was 20 years (SD = 1 year). Several majors were reported, with the most common being Psychology (28.6%).

Measures

Maximization Scale (MS). The MS is a 13-item self-report measure designed to assess individual differences in the desire to maximize outcomes in decision situations. A sample item is “When I am in the car listening to the radio, I often check other stations to see if something better is playing, even if I’m relatively satisfied with what I’m listening to.” It should be noted that whereas the MTS, MMS, and MI were originally designed with a 5-point response format, the MS was designed with a 7-point scale. However, for
the sake of consistency across scales, participants in this study responded to all items using a 5-point scale. It should be noted that several other studies using the MS have used either a 5-point or 6-point response format (e.g., Diab et al., 2008; Rim et al., 2011; Turner et al., 2012). Additionally, Hinkin (1998) recommended that 5-point response formats be used because research has shown that using more than 5 points does not seem to increase coefficient alpha. In prior studies which examined the psychometric properties of the MS, Cronbach’s alpha ranged from .68 to .74 (see Diab et al., 2008; Nenkov et al., 2008; Rim et al., 2011; Schwartz et al., 2002). In the present study, Cronbach’s alpha was .63\(^1\).

**Maximizing Tendency Scale (MTS).** The 9-item MTS contains three items from the high standards dimension of the MS and six new items (Diab et al., 2008). The new items were generated based on the definition of maximizing as the “general tendency to pursue the optimal alternative” (p. 365). A sample item is “No matter what it takes, I always try to choose the best thing.” All of the items reflect the tendency to have high standards and are content-free rather than domain-specific. In studies which have examined the psychometric properties of the MTS, Cronbach’s alpha has ranged from .78 to .80 (see Diab et al., 2008; Rim et al., 2011; Weinhardt et al., 2012). In the present study, Cronbach’s alpha was .73.

**Modified Maximizing Scale (MMS).** The 5-item MMS contains only two unique items. The remaining three items are included in the MS, MTS, or both. All of the items on the MMS are content-free and reflect either the tendency to have high standards or the tendency to engage in extensive alternative search. The two unique items are “My

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\(^1\) We also assessed the internal consistency of each of the MS factors (i.e., High Standards, Alternative Search, and Decision Difficulty), but all subscales had lower coefficient alphas than the total MS score.
decisions are well thought through” and “Before making a choice, I consider many alternatives thoroughly.” In one prior study that examined the internal consistency of the scale in three samples with a total of 3,757 adults, Cronbach’s alphas ranged from .65 to .77 (Lai, 2010). In the present study, Cronbach’s alpha was .61.

**Maximization Inventory (MI).** The 34-item MI consists of three different subscales: the 12-item Alternative Search (AS) subscale, the 12-item Decision Difficulty (DD) subscale, and the 10-item Satisficing (S) subscale (Turner et al., 2012). Sample items from the AS, DD, and S subscales include, respectively, “I find myself going to many different stores before finding the thing I want,” “I am usually worried about making a wrong decision,” and “I usually try to find a couple of good options and then choose between them.” In one prior study that examined the internal consistencies of the subscales, the values of Cronbach’s alpha were .82 for the AS subscale, .89 for the DD subscale, and .72 for the S subscale (Turner et al., 2012). In the present study, Cronbach’s alphas were .87 for the AS subscale, .87 for the DD subscale, and .67 for the S subscale. According to Turner et al. (2012), the scores of the subscales should not be summed because they measure different constructs. Of particular note, the authors propose that satisficing does not represent the opposite pole of the maximizing continuum, a proposal which diverges from all previous conceptualizations of maximizing.

In this study, participants completed a single set of 55 maximizing tendency items which contained all of the items from the MS, MTS, MMS, and MI (see Appendix A). The order of the items was randomized prior to administration. As mentioned previously, the MS, MTS, and MMS share several items; therefore, the shared items were presented only once. Participants responded to all items using a 5-point, Likert-type scale (1 =
strongly disagree, 5 = strongly agree). Although the scales were presented as a single set, they were analyzed separately. With the exception of the Satisficing subscale of the MI, higher scores on each scale indicate a general tendency to maximize, whereas lower scores indicate a general tendency to satisfice.

**Hypothetical decision items.** Participants completed eight hypothetical decision items (see Appendix B). Each of these items included a brief description of a hypothetical decision-making scenario followed by a short description of both a maximizing and a satisficing behavioral response. Participants were asked to clearly visualize each scenario and then rate how likely they would be to perform the maximizing and satisficing behaviors, respectively, on a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely. The maximizing responses involved expending greater resources of either time or money in order to increase the odds of making the optimal decision, whereas the satisficing responses involved expending fewer resources with the goal of making a satisfactory but not necessarily optimal decision. Based on the conceptualization of maximizing tendency as a bipolar continuum with maximizing and satisficing at opposite poles, the ratings of the satisficing responses were reverse-scored and added to the ratings of the maximizing responses, then averaged to produce one total score for each item. Additionally, participants rated the perceived importance of the hypothetical decision on a 5-point response format, with 1 = extremely unimportant and 5 = extremely important. Each item was evaluated separately rather than combined as a single scale. An example item is:

Imagine that you are in your senior year of college and are beginning the job search process. Xavier hosts a large career fair in your field of interest and you
attend. There are 100 booths at the fair. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors? 1) You check out enough booths so that you can identify several good options and then you leave. 2) You check out almost every single booth because you don’t want to miss anything, even if it means staying all day.

The hypothetical decision items addressed a wide variety of decision domains, including not only consumer decisions, but also career and social decisions (e.g., on-line dating decisions). In addition, the hypothetical decision items included a range of more important decisions (e.g., choosing whether to delay a graduate school acceptance until you have heard from your first choice school, even at the risk of losing a financial award because of the delay) to more trivial decisions (e.g., choosing whether to read the entire menu when visiting a new restaurant versus quickly skimming over it). In the present study, half of the items were new and half were modified versions of situational dilemma items designed by Diab et al. (2008).

**Behavioral reports scale.** Participants completed 12 behavioral report items that assessed the extent to which they attempted to maximize the outcomes of six prior decisions, including choosing where to go for college, finding an apartment, buying a car, purchasing a plane ticket, buying an electronic device, and making a purchase of at least $1,000 (see Appendix C). For each of the six decision domains, participants reported how much time they invested in the decision-making process and the number of options they considered (e.g., “How many weeks did you spend trying to decide where to go for college?” and “If you have purchased a vehicle, how many did you look at before making a decision?”). Increased time investment in the decision process and greater exploration
of options are expected to be behavioral outcomes of a higher maximizing orientation. Five of the items were piloted in a behavioral reports scale created by Diab et al. (2008) and seven were developed for present study. All of the items were expected to be relevant to college students. However, participants had the option to report not applicable (N/A) if an item did not apply to them. Only numerical responses were included. If a range was provided, the average was computed. If a minimum was provided, that number was entered (e.g., the response “at least 8” was entered as “8”). In order to compute a combined total score, we used a methodology similar to that used by Diab et al. First, the responses to these open-ended behavioral report items were transformed with the natural logarithm. These log-transformed values were then standardized to ensure that each item would contribute equally to a combined total score. The scale demonstrated adequate reliability with Cronbach’s alpha = .78.

**Quality check items.** Three quality checks items were included to ensure that participants were paying attention. Specifically, among the maximizing tendency items, one quality check item instructed participants to select “Agree,” and another item instructed participants to select “Disagree.” Another quality check item was included in the behavioral reports scale, which instructed participants to enter the number “10.” As previously mentioned, 38 participants failed at least one of the quality check items; therefore, their responses were discarded prior to analyzing the data.

**Procedure**

Approval from Xavier University’s Institutional Review Board (IRB) was obtained prior to collecting data for this study (see Appendix D). Following IRB approval, participants were recruited from the School of Psychology’s participant pool
through fliers posted on campus and on-line. Data were collected on-line, using the software program Qualtrics. When participants first accessed the site, they were prompted to read an informed consent form. After consent was obtained, participants were asked to complete all of the measures. The order of the measures was counterbalanced, such that half the participants completed the maximizing tendency items prior to completing the criterion measures, whereas the other half completed the criterion measures prior to completing the maximizing tendency items. Finally, participants were asked to respond to a few demographic items. After submitting their responses, participants were directed to a debriefing form, which also provided a link for participants to access in order to receive research credit.

Results

All statistical analyses were conducted with SPSS software. The descriptive statistics pertaining to all of the maximizing scales and behavior-based criterion measures are reported in Table 1, including Cronbach’s alphas, where relevant. It is notable that Cronbach’s alphas for three of the scales, namely the MS, MMS, and MI-S, were below the commonly-accepted threshold of .70 (Hinkin, 1998). The intercorrelations among the maximizing scales are reported in Table 2. All of the maximizing scales were significantly positively correlated with each other, including the MI-S. However, the correlations between the MI-S and the other scales were small to moderate in magnitude, whereas the other maximizing scales showed moderate to large correlations with each other according to Cohen’s (1992) criteria. The one exception was a small correlation between the MTS and MI-DD.
Main Analyses

Hypothesis 1 predicted that the MTS, MMS, and MI-AS would correlate more strongly with the behavioral reports than would the MS or the MI-DD, with the MTS having the largest correlations. To test this hypothesis, the correlations between each of the maximizing scales and the Behavior Reports Scale were calculated (see Table 3). The results did not support this hypothesis, as neither the MTS nor MMS was significantly correlated with the Behavior Reports Scale, whereas the MS, MI-DD, and MI-AS showed significant positive correlations with the Behavior Reports Scale. However, these correlations were small in magnitude. The MI-S did not significantly correlate with the Behavior Reports Scale.

Hypothesis 2 predicted that the MTS, MMS, and MI-AS would correlate more strongly with the hypothetical decision scenarios than would the MS or the MI-DD, with the MTS having the largest correlations. To test this hypothesis, the correlations between each of the maximizing scales and the hypothetical decision scenarios were calculated (see Table 3). No clear pattern emerged in the correlations between the maximizing scales and the hypothetical decision items. The MS, MTS, MMS, MI-DD, and MI-AS showed significant positive correlations with at least a couple of the hypothetical decision items. However, with the exception of one moderate correlation between the MI-AS and the hypothetical decision item pertaining to clothes shopping, the remaining correlations were weak in magnitude. The MI-DD had the fewest number of significant correlations with the hypothetical decision items, whereas the MI-AS had the highest number of significant correlations with the hypothetical decision items. Although the correlations

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2 Although we wanted to calculate two scores for the hypothetical decision items based on type of choice (i.e., consumer decisions and other life choices), these subscales were not reliable (coefficient alpha < .40 for each subscale). Therefore, the items were not combined according to type of choice.
between the scales and the hypothetical decision items did not differ in general in terms of magnitude, the MTS, MMS, and MI-AS each significantly correlated with four or more of the hypothetical decision items, whereas the MS and MI-DD each significantly correlated with three or fewer of the hypothetical decision items. Based on these findings, Hypothesis 2 was partially supported. The MI-S did not significantly correlate with any of the hypothetical decision items.

**Exploratory Analyses**

Based upon the zero-order correlations of the maximizing scales with the outcome measures, the maximizing scales that were significantly positively correlated with an outcome measure were simultaneously entered in a standard multiple regression analysis to determine if any of the scales remained significant predictors of the measure after including other maximizing scales. Collinearity diagnostics in all the regression analyses indicated that multicollinearity was not an issue. Although the overall model (i.e., the percentage of variance accounted for by the set of predictors) was statistically significant, an independently significant predictor emerged in only two of the six regression analyses. When the MI-AS, MS, and MI-DD were simultaneously entered in a regression analysis to predict the Behavior Reports Scale, only the MI-AS significantly predicted the criterion, $\beta = .22, t(167) = 2.44, p = .016$. Additionally, when the MI-AS, MMS, and MI-DD were simultaneously entered as predictors of the hypothetical clothes shopping item, only the MI-AS significantly predicted the criterion, $\beta = .31, t(167) = 3.23, p = .001$.

Analyses were also run to examine if perceived level of decision importance plays a role in predicting maximizing behaviors. The correlations between the importance ratings and the hypothetical decision items were calculated to determine if importance
ratings should be controlled for in the analyses (see Table 4). In six of the eight hypothetical decision items, the importance ratings were significantly positively correlated with maximizing behavior. Thus, higher levels of perceived decision importance were associated with more maximizing behavior. To control for the influence of the level of importance on the relationship between maximizing tendency and the behavioral criteria, hierarchical regression analyses were run with the importance rating entered in the first step and the maximizing scales that were significantly positively correlated with a behavior criterion simultaneously entered in the second step. These analyses were compared to regressions run with only the maximizing scales entered as predictors (see Table 5). The hierarchical regressions were only run for the six hypothetical decision items that were significantly positively correlated with the importance ratings. After controlling for importance ratings, the maximizing scales as a set of predictors (i.e., the overall model) became non-significant in half of these regression analyses (see Table 6), namely for the car purchase, job search, and computer purchase hypothetical decisions.

**Discussion**

The current study aimed to evaluate the criterion-related validity of the four most commonly-used measures of maximizing tendency, namely the MS, MTS, MMS, and MI, by examining the correlations of each scale with behavior-based criterion measures. The behavior-based criterion measures, which drew heavily upon those used in prior work by Diab et al. (2008), required participants to report how much time they invested and how many options they considered in prior real-life decisions as well as several hypothetical decisions. These criterion measures were based upon the assumption that
behavioral outcomes of maximizing tendency include exploring more options and investing more time in order to make an optimal decision. Additionally, this study explored the role of perceived decision importance.

**Internal Consistency and Correlations among the Maximizing Scales**

Consistent with Diab et al.’s (2008) work, the MTS had superior internal consistency as compared to the MS. Cronbach’s alpha for the MS was .63, which is slightly lower than the alphas reported in four previous studies where it ranged from .68 to .74 (see Diab et al., 2008; Nenkov et al., 2008; Rim et al., 2011; Schwartz et al., 2002). Cronbach’s alpha for the MTS was .73, which is slightly lower than the alphas reported in three prior studies where it ranged from .78 to .80 (see Diab et al., 2008; Rim et al., 2011; Weinhardt et al., 2012). The MMS had the poorest internal consistency; Cronbach’s alpha was .61, which is slightly lower than the alphas reported in one prior study with three samples where it ranged from .65 to .77. The two maximizing subscales of the MI, namely Alternative Search and Decision Difficulty, had good internal consistency; Cronbach’s alpha for each subscale was .87. Although some of the alphas in this study were slightly lower than those reported in previous studies, the pattern of results matched what has been reported in the literature with internal consistency being strongest for the MTS and subscales of the MI and poorest for the MS and MMS. Importantly, Cronbach’s alphas for the MS and MMS have now been found to be lower than the generally-accepted threshold of .70 in several independent samples, which warrants further investigation of the psychometric properties of these scales. It is also notable that, contrary to expectation, the MI-S was positively correlated with all of the maximizing scales. Given the original conceptualization of maximizing tendency as a
bipolar continuum with maximizing and satisficing at opposite poles, this finding raises questions about the construct validity of this subscale.

**Criterion-Related Validity of the Maximizing Scales**

In regard to the correlations between the maximizing scales and self-report of behaviors in prior real-life decisions, only the MS, MI-DD, and MI-AS were significantly positively correlated with the Behavior Reports Scale. These results contradicted expectations and prior work by Diab et al. (2008), which found that the MTS but not the MS was significantly correlated with a Behavior Reports Scale very similar to the one used in the present study. However, although the scale used in the current study was based on Diab et al.’s Behavior Reports Scale, seven new items were developed for this study. Notably, six of the seven new items pertained to consumer-purchasing decisions. On the other hand, the items used in the Diab et al. study focused on three decisions: deciding where to go for college, buying a car, and choosing a place to live. Although Diab et al. included one consumer choice (i.e., buying a car), the consumer-purchasing decisions in this study were relatively more trivial (e.g., buying a plane ticket).

Consistent with the findings in Diab et al.’s (2008) study, the MTS was correlated with more of the hypothetical decision scenarios than the MS. However, in Diab et al.’s study, the MTS significantly correlated with five of the six items and the MS with three of the six items, whereas in the present study, the MTS was correlated with only four of the eight items and the MS with only three of the eight items. In rank ordering the scales with the largest number of significant correlations with hypothetical decision items to the fewest, the MI-AS was correlated with five items, the MTS and MMS were each correlated with four items, and the MS and MI-DD were each correlated with three or
fewer items. It should be noted that three of the hypothetical decision items, namely the on-line dating, graduate school, and restaurant menu items, each showed only one significant correlation with a maximizing scale. Two of these hypothetical decisions items were developed for this study and may have not accurately captured maximizing behavior.

One novel aspect of this study was the examination of the role of perceived decision importance when making choices. Maximizing tendency is thought to be a trait that is generally stable across situations, but this assumption has not been previously tested. It was hypothesized that importance ratings would be positively correlated with maximizing behavior, but that scores on the various maximizing scales would remain significant predictors of the behavioral criteria even after controlling for importance. As expected, importance ratings were significantly positively correlated with maximizing behavior in the majority of the hypothetical decision items (six of the eight hypothetical decision items). In order to control for these importance ratings, hierarchical regressions were run with importance ratings entered in the first step and a set of maximizing scales entered in the second step. In half of these regressions, the set of maximizing scales that had significantly predicted the behavior criteria prior to controlling for importance became non-significant after controlling for importance. These results suggest that perceived importance may affect decision-making behavior such that in some situations, maximizing tendency may become less relevant (e.g., when the decision is perceived as relatively important). Further research is needed to clarify the role of perceived importance.
Overall, the MI-AS emerged as having the largest number of positive significant correlations with the behavior criterion measures. Given that most of the behavioral criteria pertained to alternative search, this finding is perhaps not surprising. However, some have argued that alternative search should be considered an outcome of maximizing tendency as opposed to central to the construct itself (Dalal, Diab, Zhu, & Hwang, 2015). The key distinction between maximizing and satisficing as defined originally by Simon pertains to differences in decision aspiration level (Simon, 1955), that is, whether one desires the best possible result or is willing to accept an outcome that is “good enough.” It seems logical that individuals who try to identify the most optimal option (i.e., maximizers) would be more likely to consider multiple alternatives and spend more time pondering their decisions (i.e., engage in more exhaustive alternative search). However, the tendency to engage in exhaustive alternative search can also be influenced by decision-making styles other than maximizing tendency, such as the rational decision-making style. Additionally, some preliminary research has shown that maximizers are more likely than satisficers to use a strategic search strategy (Dalal et al., 2015). Notably, the use of a strategic search strategy may result in fewer options being considered than the use of a random search strategy, but further research is needed to evaluate this possibility.

Additionally, alternative search can be affected by situational variables, such as number of available options or the cognitive demand required to consider multiple options thoroughly (Dalal et al., 2015). For example, if a maximizer and a satisficer both encounter a decision with only five options that are easy to consider quickly (e.g., a dessert menu), there will likely be no difference in their alternative search behavior.
Alternatively, if those same two people encounter a decision situation with five options that are very complex (e.g., complicated business plans) or a situation with 50 options as opposed to only five, there might be differences in their alternative search behavior. Thus, although alternative search is an expected outcome of maximizing tendency, it does not necessarily always reflect the construct itself. Therefore, any scale that only assesses alternative search (i.e. the MI-AS) neglects to measure what we believe is the most theoretically relevant aspect of maximizing tendency, which is the desire to identify the optimal alternative. Thus, more research is needed to identify the optimal maximizing scale, as the results of this study do not paint a clear picture as to which scale is the best.

**Limitations and Future Research Directions**

The primary limitation of this study was its reliance upon self-report measures, which may be susceptible to demand characteristics and other potential biases (Nisbett & Wilson, 1977). Importantly, the behavior-based criterion measures used in this study did not involve observing actual behavior, but instead relied upon self-report of past behavior, which may not be accurate, as well as responses to hypothetical decision scenarios, which may not reflect how participants would actually behave in real life. However, although self-report measures are imperfect, they can still be valid measures of behavioral outcomes. Indeed, some research suggests that self-report measures may sometimes be better predictors of behavioral outcomes than behaviors sampled in a laboratory setting, which may represent an artificial situation that is not relevant to real life (Haeffel & Howard, 2010; Howard, Maxwell, Wiener, Boynton, & Rooney, 1980). Nevertheless, more research should involve real-life decisions.
Another limitation of the study concerns the sample, which consisted of only college participants. Accordingly, the results may not generalize to other populations, threatening the external validity of the findings. As noted in a seminal article by Sears (1986) on the implications of the widespread use of college students in social science research, students may systematically differ from adults in the general population in significant ways. Specifically, most college students are in late adolescence to early adulthood. Of relevance to this particular study, it is possible that approaches to decision making change with age. At this time, differences in maximizing tendency across the lifespan have not been studied, and future research should address this issue.

Additionally, college students are generally trained to become more “rational” decision-makers, that is, to systematically evaluate all of the evidence before making a judgment. Lastly, being in college may have also influenced the participants’ hypothetical decision importance ratings. For example, the hypothetical decision item about graduate school had the highest mean importance rating, on average. However, although the sample used may be a limitation, maximizing tendency is proposed to be a personality trait, which should be largely stable despite the influence of age and academic training. Moreover, several of the past studies that examined maximizing tendency have used college students. However, future research should use other samples when examining maximizing tendency to enhance the generalizability of the findings. Additionally, future research should directly examine the distribution of maximizing tendency in the population. It has been assumed to be normally distributed, but this assumption has not yet been directly tested.
References


Table 1

*Descriptive Statistics for Measures*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Alpha</th>
<th>M</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>MS</td>
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<td>MI-DD</td>
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<td></td>
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<td>1.03</td>
<td></td>
</tr>
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<td>1.21</td>
<td></td>
</tr>
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<td>HD Menu</td>
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<td>0.93</td>
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</table>

*Note.* MS = Maximation Scale; MTS = Maximizing Tendency Scale; MMS = Modified Maximizing Scale; MI-DD = Maximization Inventory - Decision Difficult; MI-AS = Maximization Inventory - Alternative Search; MI-S = Maximization Inventory – Satisficing; HD = Hypothetical Decision.
Table 2

Intercorrelations among Maximizing Scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>MS</th>
<th>MTS</th>
<th>MMS</th>
<th>MI-DD</th>
<th>MI-AS</th>
<th>MI-S</th>
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<td>MS</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
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<td>MTS</td>
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<td>–</td>
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<td>–</td>
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<td>.71***</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
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<td>MI-DD</td>
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<td>.22**</td>
<td>.45***</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>MI-AS</td>
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<td>.61***</td>
<td>.43***</td>
<td>–</td>
<td>–</td>
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<td>MI-S</td>
<td>.31***</td>
<td>.35***</td>
<td>.42***</td>
<td>.16*</td>
<td>.30***</td>
<td>–</td>
</tr>
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</table>

*Note. MS = Maximization Scale; MTS = Maximizing Tendency Scale; MMS = Modified Maximizing Scale; MI-DD = Maximization Inventory - Decision Difficult; MI-AS = Maximization Inventory - Alternative Search; MI-S = Maximization Inventory – Satisficing.

*p < .05. **p < .01. ***p < .001.
Table 3

Correlations of Maximizing Scales with Behavior-Based Criterion Measures

<table>
<thead>
<tr>
<th></th>
<th>MS</th>
<th>MTS</th>
<th>MMS</th>
<th>MI-DD</th>
<th>MI-AS</th>
<th>MI-S</th>
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</thead>
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<tr>
<td>Behavior Reports Scale</td>
<td>.22*</td>
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<td>.12</td>
<td>.20**</td>
<td>.29***</td>
<td>.06</td>
</tr>
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<td>-.02</td>
<td>.08</td>
<td>.07</td>
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<td>HD Job Fair</td>
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<td>.21**</td>
<td>.30***</td>
<td>.22**</td>
<td>.26***</td>
<td>-06</td>
</tr>
<tr>
<td>HD Car Purchase</td>
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<td>.18*</td>
<td>-.05</td>
<td>.21**</td>
<td>.10</td>
</tr>
<tr>
<td>HD Clothes Shopping</td>
<td>.09</td>
<td>.09</td>
<td>.18*</td>
<td>.19*</td>
<td>.32***</td>
<td>-05</td>
</tr>
<tr>
<td>HD Job Search</td>
<td>.16*</td>
<td>.18*</td>
<td>.12</td>
<td>-.15</td>
<td>.05</td>
<td>.03</td>
</tr>
<tr>
<td>HD Graduate School</td>
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<td>.08</td>
<td>.13</td>
<td>.08</td>
<td>.13</td>
<td>.05</td>
</tr>
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<td>HD Computer Purchase</td>
<td>.14</td>
<td>.09</td>
<td>.23**</td>
<td>.14</td>
<td>.21**</td>
<td>.11</td>
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<td>HD Menu</td>
<td>.02</td>
<td>.10</td>
<td>.15</td>
<td>.06</td>
<td>.24**</td>
<td>-.08</td>
</tr>
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</table>

Note. MS = Maximization Scale; MTS = Maximizing Tendency Scale; MMS = Modified Maximizing Scale; MI-DD = Maximization Inventory - Decision Difficult; MI-AS = Maximization Inventory - Alternative Search; MI-S = Maximization Inventory - Satisficing; HD = Hypothetical Decision.
*p < .05. ** p < .01. *** p < .001.
Table 4

*Hypothetical Decision Importance Ratings and Correlations between Importance Ratings and Hypothetical Decision Responses*

<table>
<thead>
<tr>
<th>Item</th>
<th>Importance Rating Mean</th>
<th>SD</th>
<th>r</th>
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<tbody>
<tr>
<td>Graduate School</td>
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<td>0.67</td>
<td>.15</td>
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<td>Job Fair</td>
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<td>0.77</td>
<td>.21**</td>
</tr>
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<td>Computer Purchase</td>
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<td>0.86</td>
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<tr>
<td>Car Purchase</td>
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<td>0.93</td>
<td>.38***</td>
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<tr>
<td>Clothes Shopping</td>
<td>3.31</td>
<td>0.05</td>
<td>.21**</td>
</tr>
<tr>
<td>Menu</td>
<td>2.85</td>
<td>1.00</td>
<td>.28***</td>
</tr>
<tr>
<td>On-line Dating</td>
<td>2.67</td>
<td>1.05</td>
<td>.12</td>
</tr>
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</table>

**p < .01. ***p < .001.
Table 5

Percentage of Variance Accounted for in Maximizing Behavior in Hypothetical Decisions by Maximizing Scales as a Set of Predictors

<table>
<thead>
<tr>
<th>HD Item</th>
<th>$R^2$</th>
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</thead>
<tbody>
<tr>
<td>Job Fair</td>
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</tr>
<tr>
<td>Car Purchase</td>
<td>.06*</td>
</tr>
<tr>
<td>Clothes Shopping</td>
<td>.11***</td>
</tr>
<tr>
<td>Job Search</td>
<td>.04*</td>
</tr>
<tr>
<td>Computer Purchase</td>
<td>.06**</td>
</tr>
<tr>
<td>Menu</td>
<td>.06**</td>
</tr>
</tbody>
</table>

*Note. HD = Hypothetical Decision.
* $p < .05$. ** $p < .01$. 
Table 6

Hierarchical Multiple Regression Analyses Predicting Maximizing Behavior in Hypothetical Decision Items after Controlling for Importance Ratings

<table>
<thead>
<tr>
<th>HD Item</th>
<th>Step 1 (Importance Ratings)</th>
<th>Step 2 (Maximizing Scales)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Fair</td>
<td>.11***</td>
<td>.07*</td>
</tr>
<tr>
<td>Car Purchase</td>
<td>.15***</td>
<td>.02</td>
</tr>
<tr>
<td>Clothes Shopping</td>
<td>.05**</td>
<td>.08**</td>
</tr>
<tr>
<td>Job Search</td>
<td>.04**</td>
<td>.02</td>
</tr>
<tr>
<td>Computer Purchase</td>
<td>.11***</td>
<td>.03</td>
</tr>
<tr>
<td>Menu</td>
<td>.08***</td>
<td>.03*</td>
</tr>
</tbody>
</table>

*Note. HD = Hypothetical Decision.  
*p < .05. ** p < .01. *** p < .001.
Appendix A

Maximizing Tendency Items

In order to avoid copyright infringement, the maximizing scales are not included in this document. However, they are available in other publications, as listed below.

**Maximization Scale (MS)**


**Maximizing Tendency Scale (MTS)**


**Modified Maximizing Scale (MMS)**


**Maximization Inventory (MI)**

Appendix B

Hypothetical Decision Items

Please read each of the following scenarios and the corresponding behaviors. Try to clearly visualize each scenario as you read it.

1. Imagine that right after graduating from college, you move to a new city to start your first job. You are single and would like to start dating in your new city, but find that it is hard to meet people your age in your current circumstances because most of your co-workers are much older and you are working so much that you don’t have much time to do other activities. You hear that an on-line dating site is running a promotion for one month and you decide to join. You have two options: 1) Pay $15 to view 100 profiles of single people in your general age group in the area. 2) Pay $25 to view the profiles of 300 single people in your general age group in the area. Assuming that you have already decided to join the site, how likely would you be to perform the following behaviors on a scale of 1 to 5, with 1 = extremely unlikely and 5 = extremely likely?”

You choose Option 1: $15 to view 100 profiles ________

You choose Option 2: $25 to view 300 profiles ________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important? ________

2. Imagine that you are in your senior year of college and are beginning the job search process. Xavier hosts a large career fair in your field of interest and you attend. There are 100 booths at the fair. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?”

You check out enough booths so that you can identify several good options and then you leave. ________

You check out almost every single booth because you don’t want to miss anything, even if it means staying all day. ________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important? ________


3. Imagine you are at the car dealership and you have found a car that you really want at the right price, except that it is not in your ideal color. Getting the ideal color requires waiting a month for it to come into this dealership, or driving far away to another dealership and renegotiating a deal. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?

You buy the car.________

You go to more dealers to see if they have the color that you want.________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important?________

4. Imagine that you are going shopping for clothes because you have a formal event coming up this weekend. You walk into a store and find something that you like. You try it on, and it fits well. You can also afford to buy it. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?

You buy the clothes.________

You check out more stores to see if you might like something else better because this was the first store you walked into.________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important?________

5. Imagine that you are currently working. Although you are satisfied with your job, you feel that you can find a better one. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?

You stay in your current job because you like it.________

You actively look for other jobs because you think that there must be a better one out there.________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important?________
6. Imagine that you apply for graduate school. You apply to 5 programs that you think are good programs. You would be more than happy to attend any of the 5 schools, but you do have a number 1 choice school. You get into 2 programs, you haven’t heard from 3 other programs, one of which is your number 1 choice school. The schools that accepted you may not award you funding if you don’t provide an answer soon. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?

You accept one of the available offers. ________

You wait until you hear from your number 1 choice school. ________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important? ________

7. Imagine that you’ve decided to buy a new computer and are starting to look for one. You don’t know much about computers except for the basics. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?

You go to a store, either online or in person, to check out a few computers and then make your purchase. ________

You read consumer reports and reviews about different computers, ask friends and family members for advice and recommendations, and/or check out multiple stores to compare prices, etc. ________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important? ________

8. Imagine that you are visiting a new restaurant for the first time. The restaurant is famous for its large selection and the menu has over 200 items to choose from. On a scale of 1 to 5, with 1 = extremely unlikely to 5 = extremely likely, how likely would you be to perform the following behaviors?

You skim the headings of the menu (i.e. salads, pastas, seafood, etc.) and then read the list of items under the heading that most interests you. ________

You read the entire menu so that you can make the best choice. ________

How important would this decision be to you, on a scale of 1 to 5, with 1 = extremely unimportant and 5 = extremely important? ________
Appendix C

Behavioral Reports

Please try to think of your past behaviors as you read each of the following questions. In other words, try to remember your actual behaviors before responding to the questions. Try your best to give an accurate estimate for each question. If the question does not apply to you, choose N/A.

Choosing where to go for college

1. How many different schools did you consider when deciding where to go for college? ______

2. How many weeks did you spend trying to decide where to go for college? ______

3. How important was the decision of where to go to college to you at the time that you made the decision, on a scale of 1 to 5 (1 = extremely unimportant and 5 = extremely important)? ______

Purchasing a vehicle

4. If you have purchased a vehicle, how many did you look at before making a decision? ______

5. If you have purchased a vehicle, how many days did you spend looking? ______

6. How important was the decision of which vehicle to purchase to you at the time that you made the decision, on a scale of 1 to 5 (1 = extremely unimportant and 5 = extremely important)? ______

Finding a place to live

7. How many apartments or houses did you look at before deciding where to live? ______

8. How many days did it take you to find a place once you started looking? ______

9. How important was deciding where to live to you at the time that you made the decision, on a scale of 1 to 5 (1 = extremely unimportant and 5 = extremely important)? ______

Purchasing a plane ticket

10. When buying a plane ticket, how many flight options do you consider, on average? ______
11. When buying a plane ticket, how much time (in minutes) do you spend comparing flight options on average? 

12. How important is getting a good deal on a plane ticket to you, on a scale of 1 to 5 (1 = extremely unimportant and 5 = extremely important)?

**Buying an electronic device**

13. If you have purchased an electronic device (e.g., iPhone, laptop, etc.), how many options did you consider before making your purchase? 

14. If you have purchased an electronic device, how much time (in hours) did you spend deciding which device to purchase? 

15. How important was the decision of which electronic device to buy to you at the time that you made the decision, on a scale of 1 to 5 (1 = extremely unimportant and 5 = extremely important)?

**Making a purchase of at least $1,000**

16. If you have ever purchased something that cost at least $1,000 (excluding the purchases you have already answered questions about), how many options did you consider before making your purchase? 

17. How much time (in hours) did you spend deciding which thing to purchase? 

18. How important was this purchasing decision to you at the time that you made the decision, on a scale of 1 to 5 (1 = extremely unimportant and 5 = extremely important)?
November 6, 2014

Kathryn Tolle

Re: Protocol #14-032, *An Examination of the Criterion-Related Validity of Four Maximizing Tendency Scales: Which Scale is the “Best?”*

Dear Ms. Tolle:

The IRB has reviewed the materials regarding your study, referenced above, and has determined that it meets the criteria for the Exempt from Review category under Federal Regulation 45CFR46. Your protocol is approved as exempt research, and therefore requires no further oversight by the IRB. We appreciate your thorough treatment of the issues raised and your timely response.

If you wish to modify your study, including the addition of data collection sites, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

Please contact our office if you have any questions. We wish you success with your project!

Sincerely,

Morell E. Mullins, Jr., Ph.D.
Chair, Institutional Review Board
Xavier University

MEM/sb
Summary

Title. An Examination of the Criterion-Related Validity of Four Maximizing Tendency Scales: Which Scale is the “Best?”

Problem. Since the proposal of the construct of maximizing tendency, a stable individual difference in the way one approaches decisions, there has been substantial debate in the literature regarding the most appropriate way to measure it. Multiple scales have been developed that purportedly assess maximizing tendency, including the Maximizing Scale (MS; Schwartz et al., 2002), the Maximizing Tendency Scale (MTS; Diab et al., 2008), the Maximization Inventory (MI; Turner et al., 2012), and the Modified Maximizing Scale (MMS; Lai, 2010). Surprisingly, few studies have examined the criterion-related validity of the various maximizing scales (e.g., Dalal et al., 2015; Diab et al., 2008; Rim et al., 2011). Most of the studies which have compared the various maximizing scales have instead focused on comparisons of reliability, item discriminability, and content validity (e.g., Turner et al., 2012; Weinhardt et al., 2012). Furthermore, few of the studies that focused on criterion-related validity used behavioral measures as criteria (e.g., Diab et al., 2008). Moreover, although several studies have compared the MS with another maximizing scale, no studies have simultaneously examined all four maximizing scales (i.e., MS, MTS, MI, and MMS). The purpose of this study, therefore, was to further examine the criterion-related validity of the four scales used to measure maximizing tendency, in an effort to try to resolve the current debate in the literature about which scale most accurately assesses the maximizing construct and best predicts behavioral criteria.
Method. In the present study, behavior-based criterion measures were designed to evaluate the criterion-related validity of the MS, MTS, MMS, and MI. These behavior-based criterion measures were based in part on the prior work of Diab et al. (2008) and included behavioral reports and hypothetical decision-making scenarios. The behavioral reports included 12 items that assessed how much time participants invested in and how many options they considered when making prior decisions. The eight decision-making scenarios asked participants to make hypothetical decisions as well as rate the perceived importance of those decisions. A total of 168 undergraduate participants completed the study by completing the MS, MTS, MMS, and MI as well as the hypothetical decision items and behavior reports.

Findings. Overall, the Alternative Search subscale of the MI (MI-AS) emerged with the highest number of positive significant correlations with the behavior criterion measures. However, it should be noted that there are theoretical limitations to the MI-AS, insofar as it only contains items related to the tendency to consider multiple alternatives and neglects what is arguably the most theoretically-relevant aspect of maximizing tendency, which is the desire to identify the optimal alternative. With regard to the criterion-related validity of the other scales, no clear pattern of results emerged, which contradicted a prior study in which the MTS was significantly correlated with more behavior-based criteria than was the MS. However, consistent with several prior studies, both the MS and MMS demonstrated poor internal consistency, which calls into question the continued use of these two scales.

Implications. More research is needed to identify the optimal maximizing scale, as the results of this study do not paint a clear picture as to which scale is the best.