The Decision Making Tendency Inventory: A new measure to assess maximizing, satisficing, and minimizing

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ABSTRACT

We introduce the Decision Making Tendency Inventory (DMTI), a new scale for measuring the decision-making tendencies to maximize, to satisfice, and to minimize. The scale has promising psychometric properties. Our findings show that the revealed tendencies are independent from each other and from the specific decision-making domain. Each factor is differently related to a set of indices of well-being and functioning, suggesting intriguing considerations regarding the distinctive characteristics of maximizing, satisficing, and minimizing. The DMTI extends previous research on maximizing and might contribute to explain the inconsistent results in the literature. Directions for future research are suggested.

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1. Introduction

In the 1950s, Simon's (1955) theory of bounded rationality postulated that, because of the complexity of the environment and the limitations of human information processing, people generally satisfice, seeking for satisfactory solutions rather than for optimal ones. In Simon's theory satisficing is thus considered a universal behavioral tendency.

Half a century later, Schwartz (2000) conceptualized the tendency to satisfice (and to maximize) as an individual difference or trait. He suggested that some individuals consistently attempt to find the *best* solution (which demands an exhaustive search of the options), while others consistently attempt to find a solution that is *satisfactory* or *good enough* given their standards (which can be met by a non-exhaustive search). For example, shopping for shoes, typical maximizers would attempt to visit all the stores, engaging in an exhaustive comparison of the available alternatives, putting lots of time and effort trying to find the very best color, quality, style, comfort, etc. Typical satisficers, instead, would select only a few criteria that they consider important (e.g., the shoes must be blue, washable, and made in Italy). Once they find the option that meets these criteria, they are satisfied and do not search any further. This does not mean that satisficers settle for mediocre results. Satisficers, as maximizers, are interested in the

quality of their decisions. Thus, their criteria are not necessarily low; they can be very high and ambitious. Unlike maximizers, satisficers are unwilling to invest the extra time necessary to move from the option that meets their criteria, to the absolute best.

To measure the degree to which a decision-maker is a maximizer versus a satisficer Schwartz et al. (2002) developed a 13-item Maximization Scale, where maximizing and satisficing are opposite ends of a continuum. Findings based on the use of this scale showed a relationship between maximizing and personal well-being. Maximizers, indeed, experience less life satisfaction, happiness, optimism, and self-esteem than satisficers. They also experience more regret, depression, and tendency towards perfectionism (Schwartz et al., 2002).

Starting from its first formulation, the Maximization Scale captured the attention of several scientists who proposed different versions of it. For example, Nenkov, Morrin, Ward, Schwartz, and Hulland (2008) found that the measure can be broken into three factors: *alternative search* (the tendency to explore a large number of options); *decision difficulty* (the difficulty associated with choosing); *high standards* (the tendency to hold high standards). Nenkov et al.'s (2008) also showed that a shortened 6-item version of the Maximization Scale has superior psychometric properties, and thus recommended its use for future research.

Diab, Gillespie, and Highhouse (2008) proposed an alternative 9-item scale (Maximizing Tendency Scale) showing that maximizing is unrelated with life dissatisfaction and maladaptive traits.

Lai (2010) introduced a 5-item scale and found that maximizing is unrelated with regret and positively correlated with optimism, need for cognition, desire for consistency, risk aversion, intrinsic motivation, self-efficacy and perceived workload.

Turner, Rim, Betz, and Nygren (2012) developed a 34-item measure (the Maximization Inventory) that includes a separate scale to measure satisficing. Satisficing was positively correlated with adaptive decision-making and good mental health; maximizing was positively correlated with maladaptive decision-making styles.

Weinhardt, Morse, Chimeli, and Fisher (2012) proposed a shorter version of the Maximization Scale and the Maximizing Tendency Scale and showed that maximizers are not unhappy, but are distressed while making decisions.

The literature regarding the measurement of maximizing appears confused and fragmented. Diverse definitions of maximization have been adopted by authors, differing scales and subscales have been proposed to measure it, and inconsistent findings were subsequently observed. We assume that such a fragmented view may be partially explained by the co-existence of different characteristics associated to the construct of maximization. It is possible indeed, that some maximizers invest a huge amount of time and cognitive resources when making decisions because they have a clear idea about their goal (the best of all the available alternatives) and about the process that they have to adopt to achieve it (to be perseverant, making as many comparisons as possible). Other maximizers, instead, may invest lots of time and effort in their decisions because they are characterized by high levels of scrupulousness and fear of making wrong decisions.

Our studies attempt to shed light on the distinctive characteristics associated with maximizing for better definition and measurement of the construct. To this purpose, the scale developed in our first study includes items to measure both kinds of maximization behavior.

As Turner et al. (2012), we believe that satisficing is a separate dimension from maximizing. However, most of their items do not seem to measure the decision-making process adopted by satisficers. They seem instead to capture individuals' generic opinion about decision situations (e.g.: "All decisions have pros and cons"). Our studies include in the satisfaction measure items that specifically refer to the satisficers' decision-making process.

Our paper attempts also to expand upon previous studies on the measurement of decision-making tendencies, by developing items to identify a further decisional construct, the *minimization behavior*, consisting in the tendency to minimize the amount of resources in order to get the minimum of the possible results. Minimizers are in our conceptualization individuals who, different from maximizers and satisficers, are uninterested in the quality of their decisions. Minimizers settle for mediocrity, hold very low aspiration levels, set unambitious goals to be achieved with minimal effort, and choose the option that meets the "absolute minimum" (for example, consumers who buy the first shoes regardless of its color, style, comfort, etc.; workers who put the minimum amount of effort to just barely prevent them from getting fired). To clarify the difference between maximizers, satisficers, and minimizer we make use of the following example. In a hypothetical decision about which job to select, a maximizer would aim to make the optimal decision and thus would spend lots of time and effort trying to find the best salary, the best location, the most interesting job, etc. A satisficer, instead, would set a few criteria that s/he considers important (such as, it must be part-time, with a salary higher than my actual job, and must be close to my house) and stops his/her research as soon as s/he finds a job that meets these criteria. A minimizer would be more likely willing to accept the first job offer that s/he receives.

The literature often assumes that the maximization behavior is independent of the specific domain (Schwartz et al., 2002). However, to the best of our knowledge, this assumption was never empirically tested. We included in our scale items to measure maximizing, satisficing, and minimizing in different decision situations (professional, academic, and consumer).

In conclusion, the aim of the present paper is fourfold. The primary aim is to develop and evaluate a scale to measure the tendencies to maximize, to satisfice, and to minimize (Study 1). The second aim is to examine the above tendencies across different situations, in order to test their domain-independency (Study 1). The third aim is to examine whether the above tendencies are independent factors, as proof that they measure different personality constructs (Study 2). The fourth and final aim is to investigate the distinctive characteristics of maximizing, satisficing and minimizing by exploring their correlates with a set of well-being and functioning indices (Study 2).

2. Study 1

The purpose of our first study was to develop and evaluate a new measure of decision-making tendencies, the Decision Making Tendency Inventory (DMTI), intended to investigate the tendency to maximize, to satisfice, and to minimize. These tendencies were explored across different decision-making situations in order to test their domain-independence.

2.1. Method

2.1.1. Participants
Exploratory factor analysis was conducted on 289 undergraduate volunteers from the Italian Universities of Palermo and Messina (56% women, mean age 21). Confirmatory factor analysis was conducted on 145 participants, randomly selected (49% women, mean age 21).

2.1.2. Procedure and materials
A battery of 45 items was generated. Fifteen items intended to measure maximizing, 15 items intended to measure satisficing, and 15 items intended to measure minimizing. In order to test if these decision-making behaviors are stable personality dimensions rather than dispositions induced by specific domains, the scale included items that referred to specific domains. In particular, for each tendency, five items were content-free, five items referred to the professional and academic domains, and five items referred to the consumer domain.

The measure of maximizing included seven items of Schwartz et al.'s (2002) scale, and two items of Diab et al.'s (2008) scale.

2.2. Results

The KMO Measure of Sampling Adequacy (.80) demonstrated a sufficient proportion of common variance in our variables. Bartlett's Test of Sphericity was significant ($p = .000$), indicating that there are correlations in the data set that are appropriate for factor analysis. We decided to extract the number of factors determined by random data parallel analyses. Both Kaiser's criterion and the scree test were secondarily checked for agreement. The following three criteria were used for salience: (a) factor loadings with absolute values greater than .30 on the primary factor; (b) a difference of .30 between loading on the primary factor and loading on other factors, when an item loaded simultaneously on two factors; and (c) a minimum of three items for each factor.

Communalities values range between .353 and .711, with only three items under .50. Principal axis factoring (Varimax rotation)