

Do personality traits and self-regulatory processes affect decision-making tendencies?

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Abstract

Objective: This research attempted to clarify the role played by personality traits and self-regulated motivation in affecting decision-making tendencies. **Method:** Study 1 ($n = 209$) examined whether the Big Five personality traits predict minimising, maximising, and satisficing tendencies; Study 2 ($n = 460$) tested the mediating role of self-regulatory orientations in the relationship between personality traits and decision-making tendencies by performing structural equation modelling with latent variables. **Results:** Conscientiousness emerged as the strongest positive predictor of maximising, whereas openness to experience, conscientiousness, and agreeableness emerged as negative predictors of satisficing. As for the mediational model, both locomotion and assessment played a role in mediating the relationships between the personality traits and decision-making tendencies. **Conclusions:** This research provided interesting insights into the underlying motivations and strategies that lead individuals to maximise, satisfice, or minimise.

Key words: assessment, decision-making, locomotion, personality, self-regulation

What is already known about this topic:

- The distinctive characteristics of decision-making tendencies, that is, maximising and satisficing, have been investigated by analysing their relationships with individuals' backgrounds, goals, strategies, cognitive styles, and personality traits.
- Contradictory results on the associations between personality traits and decision-making tendencies have led to inconsistent conclusions: maximising tendency has been found to be associated with the maladaptive trait of neuroticism, as well as with the adaptive traits of conscientiousness and agreeableness. Similarly, neuroticism has been found to be the strongest predictor of maximisation, along with low conscientiousness and extraversion.
- A recent study have taken into account the regulatory focus and mode theories and provided convincing evidence that promotion focus and assessment mode are antecedents of maximising.

What this topic adds:

- This research provided empirical support for the complexity and contradictory nature of the decision-making tendency and the reasonable assumption that maximisation may actually reflect three different aspects (alternative search, decision difficulty, and high standards) that are differentially related to personality traits.
- Interesting associations between self-regulatory orientations and decision-making tendencies emerged: locomotion was related positively to maximising tendency and negatively to satisficing tendency, whereas assessment was positively associated with the three tendencies of maximising, satisficing, and minimising.
- The results from structural equation model offered a convincing empirical support to the recently proposed motivational framework that differentiates between goals and strategies in the conceptualisation of maximisation and satisficing.

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Daily life is characterised by a large number of choices with positive and/or negative consequences on individuals (Chernev, Böckenholt, & Goodman, 2015; Schwartz, 2000, 2010). From the 1940s, rational choice theory (Von Neumann & Morgenstern, 1944) attempted to clarify the underlying processes of decision-making by assuming that individuals, after

making the comparisons among the options, choose so as to maximise their preferences. Conversely, Simon (1955, 1956) took into account human cognitive limitations in the evaluation of numerous options: maximising should be a non-adaptive process since individuals, when choosing, tend to encounter and evaluate goods on the basis of satisfactory solutions rather than optimal ones. In this context, the process Simon termed satisficing was considered a behavioural tendency. Drawing from Simon's approach, Schwartz (2000) argued that the tendency to satisfice and maximise is a global disposition or trait that characterises individuals when seeking the optimal alternative (Schwartz et al., 2002, p. 1184): maximisers seek what is unequivocally the best option by comparing the available alternatives, whereas satisficers seek options that meet the criteria they consider important (Cheek & Schwartz, 2016; Misuraca, Faraci, Gangemi, Carmeci, & Miceli, 2015; Misuraca, Teuscher, & Carmeci, 2016).

In order to measure individual differences in maximising, Schwartz et al. (2002) developed the most widely used Maximisation Scale (MS), despite its validity and reliability problems. Further versions have been proposed providing distinct conceptualisations of maximisation. The starting point was Nenkov, Morrin, Ward, Schwartz, and Hlland's (2008) approach according to which maximisation may be understood as the combination of (1) the desire for the best (high standards), (2) the tendency to seek out and compare alternatives (alternative search), and (3) the tendency to experience difficulty and stress while making decisions (decision difficulty).

Misuraca et al. (2015) have recently attempted to better define and measure maximisation by developing the Decision Making Tendency Inventory (DMTI). The instrument includes items assessing maximisation, satisficing, and a new decisional tendency, that is, *minimisation*, which corresponds to the tendency to settle for mediocrity, to set goals to be achieved with minimal effort, and to choose the option that meets the 'absolute minimum'. Actually, the factor analysis performed on the DMTI showed a six-factor solution, rather than the expected three-factor solution (Misuraca et al., 2015, p. 113).

This psychometric tool and the identification of the *minimisation* tendency were the spur for the present research. Two studies were conducted to explore the correlates of decision-making tendencies with a set of individual differences variables, such as personality traits and self-regulated motivation.

Personality and motivated self-regulation in decision-making

Considerable empirical research has been devoted to understanding the distinctive characteristics of decision-making tendencies by linking them to individuals' backgrounds,

goals, strategies, cognitive styles or personality traits especially when based on the Five Factor Theory (Appelt, Milch, Handgraaf, & Weber, 2011; Cheek & Schwartz, 2016). For example, maximising tendency has been found to be associated with the maladaptive trait of neuroticism, as well as with the adaptive traits of conscientiousness and agreeableness (Dalal, Diab, Zhu, & Hwang, 2015; Diab, Gillespie, & Highhouse, 2008; Hashemi, 2015; Purvis, Howell, & Iyer, 2011), thus leading to inconsistent conclusions.

Personality traits have also been investigated as predictors of decision-making tendencies: Neuroticism has been found to be the strongest predictor of maximisation, along with low conscientiousness and extraversion (Purvis, Howell, & Iyer, 2011; Hashemi, 2015), indicating how maximisation 'captures the stressful process of choosing that neurotic individuals undergo' (Purvis, Howell, & Iyer, 2011).

In light of these conflicting findings, an in depth investigation should better capture the decision-makers' profiles. For instance, Misuraca, Faraci, Gangemi, Carmeci, and Miceli (2015) research described the following personality correlates of decision-makers: *Resolute maximisers* are perseverant, focus attention on the goal, and search for a large amounts of information before selecting the best alternative; *fearful maximisers* are scrupulous, afraid of making wrong decisions, and experience regret; *more ambitious satisficers* set higher standards and always seek to find an option that meets these levels; *less ambitious satisficers* show low levels of conscientiousness, scrupulousness, and perseverance; both *indolent* and *parsimonious minimisers* are characterised by low levels of conscientiousness.

Individuals' goals and motivational strategies may also help clarify the nature of decision-making tendencies. Drawing upon the self-regulatory point of view, (Avnet and Higgins (2003, p. 525) suggested that 'the utility or value a person experiences from a chosen good is a function of the fit or non-fit between a person's current orientation during the choice process and the strategies used to make the choice'. In other words, the value of the good can be transferred from 'how' a choice is made to 'what' is chosen, that is, the value is focused on the goal rather than on the process. According to the self-regulation theory (Kruglanski et al., 2000), individuals implement two self-regulated strategies to reach any goal-directed activity, locomotion, referred to the movement from state to state by committing the psychological resources required to reach the goal, and assessment, referred to the comparative aspect of self-regulation because it is based on the critical evaluation of goals or means in order to judge the relative quality among alternatives. The integration of these self-regulatory systems within the personality framework was justified by their relation with personality factors (Kruglanski, Orehek, Higgins, Pierro, & Shalev, 2010). Locomotion was associated negatively with neuroticism and positively with

extraversion, agreeableness, and conscientiousness, and assessment was associated positively with neuroticism and openness to experience and negatively with agreeableness (Kruglanski et al., 2000).

Consistently with this perspective, the dual-component model of maximisation (Cheek & Schwartz, 2016) delineates two components, the *goal* and the *strategy*. The first aims at optimising decision-making by the best choice, whereas the second concerns the strategy of seeking out and comparing the alternatives. Such a model emphasises the role of both personal goals and cognitive-behavioural strategies adopted to achieve these goals. Accordingly, maximisers pursue the goal of choosing the best option through the strategy of alternative search (Cheek & Schwartz, 2016).

The distinction between goals and strategies in decision-making tendencies may lead to a better understanding of the motivational orientations that underlie the decision process. In their latest study, Hughes and Scholer (2017) have taken into account the regulatory focus and mode theories and provided convincing evidence that promotion focus and assessment mode are antecedents of maximising: while both orientations were associated with an optimisation goal, only assessment was positively associated with alternative search (Hughes & Scholer, 2017, p. 11).

The present research

Motivated by the need for greater conceptual clarity concerning the characteristics of maximisers and satisficers, this research attempted to better understand the role played by personality traits and self-regulated motivation in affecting decision-making tendencies through two studies.

Given the correlational approaches adopted by most of the research, Study 1 examined whether personality traits predict the decision-making tendencies, in line with Purvis, Howell, and Iyer (2011) and Hashemi (2015).

Specifically, (1) as conscientious individuals tend to be efficient, disciplined, responsible, and hold themselves to high standards of quality, while neurotics are anxious, depressed, worried, and insecure, conscientiousness and neuroticism were expected to be positive predictors of maximising and negative predictors of minimising; (2) conversely, as extroverts are active, sociable, happy, and talkative, while individuals open to experience are imaginative, cultured, curious, broad-minded, and intelligent, and finally, agreeable individuals are modest, flexible, warm, kind, and sympathetic, extraversion, openness to experience, and agreeableness were expected to be positive predictors of satisficing.

Study 2 tested whether locomotion and assessment orientations mediated the relationship between personality traits and decision-making tendencies. To date, the literature on

decision-making tendencies lacks research studies that explore the role of self-regulatory modes in influencing decision-making tendencies. Indeed, following Hughes and Scholer (2017), by distinguishing between decision-makers' goals and strategies, it is important to understand if and how the motivational components of self-regulation are linked to adaptive and maladaptive forms of decision-making tendencies.

In light of the Five Factor Theory which foresees a causal pathway between the five personality traits and individuals' dispositional capacity for self-regulation (McCrae & Löckenhoff, 2010, pp. 148–149), as well as on the basis of the above mentioned associations reported by Kruglanski, Thompson, Higgins, Atash, Pierro, Shah, and Spiegel (2000), it was posited that (H1) locomotion mode would be predicted positively by extraversion, conscientiousness, and agreeableness and negatively by neuroticism; (H2) assessment mode would be predicted positively by openness to experience and neuroticism and negatively by agreeableness.

Moreover, as assessment-oriented individuals tend to fully compare decision strategies and to take time to evaluate alternatives on their quality (Avnet & Higgins, 2003; Mauro, Pierro, Mannetti, Higgins, & Kruglanski, 2009), it was hypothesised that (H3) assessment mode would predict positively maximising and negatively minimising. In contrast, as locomotion-oriented individuals tend to move toward a goal without any distractions or delays and to commit to the resources needed to achieve this goal (Higgins, Kruglanski, & Pierro, 2003; Kruglanski et al., 2000), it was hypothesised that (H4) locomotion mode would positively predict satisficing. It should be noted that even though promotion focus has been recently preferred to locomotion (Hughes & Scholer, 2017), the latter was chosen in this study due to its theoretical link to satisficers' behaviours, that is, the tendency to select only important criteria without searching for any further options.

STUDY 1

Method

Participants and procedure

The sample comprised 209 undergraduate students ($M_{\text{age}} = 22.16$ years, standard deviation (SD) = 4.37; 155 females) recruited from Italian universities through convenience sampling. The study was performed in accordance with the ethical principles for conducting research with human participants, as well as with Italian law of privacy. Written informed consent was obtained from the respondents who anonymously complete a self-report questionnaire that took on average 10 min.

Measures

DTMI (Misuraca et al., 2015) is a 29-item scale assessing six decision-making tendencies, that is, Resolute maximising ('No matter what I do, I have the highest standard for myself'), Fearful maximising ('In all decisions that affect my work or studying, I am always afraid of not choosing the best options'), More ambitious satisficing ('In studying or working, I tend to choose solutions that guarantee satisfactory results for me'), Less ambitious satisficing ('In choosing between alternatives, I stop at the first that works for me'), Parsimonious minimising ('When I buy clothes, I choose the ones that I really need at the lowest price'), and Indolent minimising ('In studying or working, I set targets to be achieved with minimal effort'). Higher scores indicate the tendency to maximise, satisfice or minimise. The items are rated on a 7-point Likert scale (from 1 = *completely non-compliant* to 7 = *completely compliant*). Cronbach's α were .63 for Resolute maximisation, .57 for Fearful maximisation, .69 for More ambitious satisficing, .53 for Less ambitious satisficing, .71 for Parsimonious minimising, and .83 for Indolent minimising. The low reliability coefficients of Fearful maximisation and Less ambitious satisficing suggested a further examination of both total-item and inter-item correlations. As for Fearful maximisation, the correlation between the total and the item 10 ('Whenever I am faced with a choice, I try to imagine what all the other possibilities are, even ones that are not present at the moment') proved to be low ($r = .193$). However, Cronbach's α if item deleted was still low (.57). The average inter-item correlation was low, too. Regarding the dimension of Less ambitious satisficing, the total-item correlations were good, but the average inter-item correlation was low. Given these results, factor analyses were performed. An exploratory factor analysis (EFA) with principal components extraction and varimax rotation was run by imposing a solution with six factors. Items with factor loadings greater than .35 on the primary factor were retained. The KMO Measure of Sampling Adequacy (.759) demonstrated a sufficient proportion of common variance and the Bartlett's Test of Sphericity was significant ($\chi^2_{(406)} = 1,787.916$, $p = .000$). The variance explained was 51.41%. The items loadings were similar to those of the original scale. However, also in this case the reliabilities of the dimensions were low/sufficient (from $\alpha = .257$ to $\alpha = .811$). A second EFA was thus performed by imposing a three-factor solution (i.e., maximising, satisficing, and minimising) on the basis of Misuraca et al.' (2015, p. 112) initial purpose. The total variance explained was 36.16%. Factor 1 corresponds to Maximising (9 items, $\alpha = .82$), Factor 2 corresponds to Satisficing (12 items, $\alpha = .84$), and Factor 3 corresponds to Minimising (5 items, $\alpha = .80$). Items 22, 26, and 28 were excluded. A confirmatory factor analysis (CFA) was performed using a robust estimation method, the Mean and Variance Adjusted Maximum Likelihood (MLMV), to

test the three-factor structure. The chi-square statistic (χ^2) and its degree of freedom, the comparative-fit-index (CFI; $\geq .90$), the root-mean-square-error-of-approximation (RMSEA; values close to .06) plus its 90% confidence interval (CI), and the standardised-root-mean-square-residuals (SRMR; $\leq .08$) (Bentler & Bonett, 1980; Hu & Bentler, 1999) were considered. The fit indices were acceptable, $\chi^2(296) = 423.065$, $p = .000$, RMSEA = .045, 90% CI = .035–.055, CFI = .780, SRMR = .081. However, modification indices (MIs) suggested a covariance path between the error terms of items 7 and 8 (MI = 9.022). A second CFA showed better fit indices, $\chi^2(295) = 412.599$, $p = .000$, RMSEA = .044, 90% CI = .033–.053, CFI = .946, SRMR = .079.

The Ten Item Personality Inventory—Italian (TIPI; Chiorri, Bracco, Piccinno, Modafferi, & Battini, 2015) was used to measure the five personality traits according to the Five Factor theory. The instrument is composed of 10 items rated on a 7-point Likert scale (from 1 = *totally disagree* to 7 = *totally agree*). Each item consists of two descriptors using the common stem, 'I see myself as:'. Sample items are 'Extraverted, enthusiastic' (Extraversion), 'Sympathetic, warm' (Agreeableness), 'Dependable, self-disciplined' (Conscientiousness), 'Calm, emotionally stable' (Neuroticism), 'Open to new experiences, complex' (Openness to Experience). As Cronbach's alpha is a function of both the mean inter-item correlation and the number of items, low internal consistency estimates were expected. Although the authors of the instrument emphasised content validity considerations (Gosling, Rentfrow, & Swann, 2003, p. 516). Eisinga, Grotenhuis, and Pelzer (2013) recommended the use of the Spearman–Brown formula to estimate the reliability of 2-items measures. The values, interpreted as correlation coefficients, were acceptable: $\rho = .58$ for Extraversion; $\rho = .35$ for Agreeableness; $\rho = .57$ for Conscientiousness; $\rho = .36$ for Neuroticism; $\rho = .42$ for Openness to Experience.

Data analysis

Zero-order correlations and regression analyses were computed after calculating means and standard deviations. The analyses were performed using SPSS 20.0 for Windows (IBM Corp, 2011).

Results

Table 1 shows the means and standard deviations of the scores.

Bivariate correlations

Results from zero-order correlations revealed that Agreeableness was related positively to Maximising and negatively to Satisficing, Conscientiousness was associated positively with Maximising and negatively with Satisficing and Minimising, Neuroticism was positively associated with

Table 1 Descriptive statistics for decision-making tendencies and personality traits measures

	Min–Max	Mean	Standard deviation
Personality traits			
Extraversion	1–7	4.09	1.57
Agreeableness	1–7	5.11	1.26
Conscientiousness	1–7	5.31	1.24
Neuroticism	1–7	4.25	1.36
Openness to experience	1.50–7	4.71	1.17
Decision-making tendencies			
Maximisation	3.00–7.00	5.38	.73
Satisficing	1.17–5.67	3.47	.89
Minimising	1.00–7.00	3.83	1.18

Table 2 Bivariate correlations between decision-making tendencies and personality traits

	Maximising	Satisficing	Minimising
Extraversion	.032	-.045	-.032
Agreeableness	.181**	-.197**	-.019
Conscientiousness	.284**	-.282**	-.186**
Neuroticism	-.047	.209**	.085
Openness to experience	.162*	-.252**	-.020

* $p < .05$.

** $p < .01$.

Satisficing, Openness to Experience was correlated positively to Maximising and negatively to Satisficing (Table 2).

Because of covariances between minimising and satisficing ($r = .348, p = .000$), partial correlations with personality traits were computed for each tendency after controlling for the other tendencies.

As shown in Table 3, the associations between Maximising and Openness to experience, and between Minimising and Conscientiousness disappeared.

Regression analyses

Three multiple linear regression analyses were conducted to verify whether personality traits accounted for a statistically significant proportion of the variance in decision-making tendencies. Results indicated that the best predictor of Maximising was Conscientiousness, followed by Openness to experience. As for Satisficing, Openness to experience and

Table 3 Partial correlations between decision-making tendencies and personality traits

	Maximising	Satisficing	Minimising
Extraversion	.032	-.045	-.032
Agreeableness	.281**	-.297**	-.019
Conscientiousness	.384**	-.382**	-.186**
Neuroticism	-.047	.309**	.085
Openness to experience	.162*	-.352**	-.020

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Conscientiousness proved to be negative predictors of the tendency to satisfice. Finally, only Conscientiousness emerged as a negative predictor of Satisficing. Table 4 shows beta coefficients.

STUDY 2

Method

Participants and procedure

The original sample comprised 528 undergraduate students. As 24 participants did not complete the questionnaire and 44 were univariate and multivariate outliers, a total of 68 cases were removed after cleaning the dataset; the final sample was composed of 460 participants ($M_{age} = 22.36$ years, $SD = 4.01$; 342 females).

Measures

The above described TIPI was used. The Spearman–Brown coefficients were acceptable: $\rho = .63$ for Extraversion; $\rho = .32$ for Agreeableness; $\rho = .46$ for Conscientiousness; $\rho = .34$ for Neuroticism; $\rho = .33$ for Openness to Experience.

Decision-making tendencies were assessed by using the above described DMTI with three dimensions. Acceptable reliability coefficients emerged (Cronbach’s α were: .85 for Maximising, .88 for Satisficing, and .81 for Minimising, respectively).

The Locomotion and Assessment Scale (LAS; Kruglanski et al., 2000) was used to assess individual differences in self-regulation. The scale consists of two 12-item subscales measuring Locomotion (*‘I am a doer’*) and Assessment (*‘I am a critical person’*). The items were rated on a 6-point Likert scale (from 1 = *strongly disagree* to 6 = *strongly agree*).

Table 4 Multiple linear regression analyses

	Beta	t	Sig.
Dependent variable: maximising			
Extraversion	.010	.149	.881
Agreeableness	.147	1.992	.052
Conscientiousness	.271	3.833	.000
Neuroticism	.084	1.190	.236
Openness to experience	.209	3.130	.002
Dependent variable: satisficing			
Extraversion	-.001	-.022	.983
Agreeableness	-.130	-1.802	.070
Conscientiousness	-.237	-3.439	.001
Neuroticism	.085	1.251	.212
Openness to experience	-.271	-4.141	.000
Dependent variable: minimising			
Extraversion	.001	.014	.989
Agreeableness	.051	.664	.508
Conscientiousness	-.190	-2.551	.011
Neuroticism	.051	.684	.495
Openness to experience	-.021	-.300	.764

Table 5 Descriptive statistics

	Min–Max	Mean	Standard deviation
Personality traits			
Extraversion	1–7	3.98	1.58
Agreeableness	1–7	5.25	1.21
Conscientiousness	1–7	5.27	1.27
Neuroticism	1–7	4.16	1.37
Openness	1–7	4.69	1.17
Decision-making tendencies			
Maximisation	3.78–7.00	5.36	.65
Satisficing	1.17–5.92	3.44	.86
Minimising	1.00–7.00	3.77	1.11
Self-regulated strategies			
Locomotion	2.25–6.00	4.16	.58
Assessment	2.00–5.58	3.68	.56

Higher scores on each scale indicate the tendency to be locomotor or assessor. The scales showed acceptable internal consistencies (Cronbach's $\alpha = .82$ for Locomotion and .84 for Assessment).

Data analysis

First, data were examined using descriptive statistics and zero-order correlations between the variables of interest. Gender differences for the variables scores were analysed by using independent samples *t*-tests. The univariate normality of all items and scores was checked following Kim's (2013) standard guidelines: 'for sample sizes greater than 300 [...] either an absolute skew value larger than 2 or an absolute kurtosis (proper) larger than 7 may be used as reference values for determining substantial non-normality' (Kim, 2013, p. 53). The univariate outliers were also identified using the graphic approach (inspection of Boxplot). The Mahalanobis Distance analysis and the critical value based on the chi-square distribution values were used to identify multivariate outliers within the sample.

Second, the hypothesised model was tested by constructing a structural equation model (SEM) with personality traits, self-regulatory orientations, and decision-making tendencies as latent variables. The measurement model of personality traits was tested by using the reliability correction technique,

whereas the measurement models of self-regulatory modes and decision-making tendencies were assessed by using the parcels technique which increases parsimoniousness, reduces various sources of sampling error, and decreases the chances for residuals to be correlated (Little, Cunningham, Shahar, & Widaman, 2002). Parcels were created using a balancing method in which the scale item with the highest item-scale correlation was combined with the other scale items with the lowest item-scale correlation (Little, 2013). The MLMV robust estimation method was used. The model fit was evaluated using the Chi-square statistic (χ^2) and its degree of freedom (test values associated with $p > .05$), CFI $\geq .90$, RMSEA; value close to .06 plus its 90% CI, and SRMR $\leq .08$ (Bentler & Bonett, 1980; Hu & Bentler, 1999). Both direct and indirect effects were assessed.

Results

Descriptive statistics, correlations, and group differences

Tables 5 and 6 show the descriptive and correlation statistics.

Data revealed that (1) Maximising was positively associated with Extraversion, Agreeableness, Conscientiousness, Openness to experience, Locomotion and Assessment; (2) Satisficing correlated positively to Agreeableness and Assessment, and negatively to Extraversion, Conscientiousness, Openness to experience, and Locomotion; (3) Minimising was linked negatively to Extraversion and Openness to experience, and positively to Assessment. As for the correlations between personality traits and self-regulatory modes, results showed positive associations between Locomotion and Extraversion, Conscientiousness, and Openness to experience, and between Assessment and Neuroticism. Negative associations were finally found between Agreeableness and Assessment and between Neuroticism and Locomotion.

Gender differences were observed in Neuroticism, $t(458) = -5.182$, $p = .000$, Maximising, $t(458) = -2.39$, $p = .017$, and Satisficing, $t(458) = 2.00$, $p = .045$. Females scored higher in Neuroticism ($M = 4.32$, $SD = 1.30$) and

Table 6 Bivariate correlations for all analysed measures

	Personality traits					Self-regulatory modes	
	E	A	C	N	OE	Locomotion	Assessment
Decision-making tendency							
Maximising	.101*	.109*	.293**	-.037	.128**	.436**	.217**
Satisficing	-.153**	.114*	-.219**	.114	-.261**	-.251**	.151**
Minimising	-.106*	-.016	-.032	.026	-.124**	-.012	.124**
Self-regulatory modes							
Locomotion	.197**	.032	.344**	-.116*	.138**	–	–
Assessment	-.010	-.170**	-.030	.150**	-.051	.150**	–

Notes: A = agreeableness; C = conscientiousness; E = extraversion; N = neuroticism; OE = openness to experience.

* $p < .05$.

** $p < .01$.

Maximising ($M = 5.40$, $SD = .65$) than males ($M = 3.60$, $SD = 1.31$, and $M = 5.24$, $SD = .64$, respectively), whereas males scored higher in Satisficing ($M = 3.58$, $SD = .88$) than females ($M = 3.39$, $SD = .85$).

Structural equation model

The paths of the model were hypothesised on the basis of the significant correlation coefficients. The fit indices of the initial model were acceptable, $\chi^2(193) = 472.331$, $p = .000$, RMSEA = .056, 90% C.I. = .050–.063, CFI = .879, SRMR = .067. A careful inspection of MIs indicated that the fit would improve if parcels 3 and 4 of Locomotion were allowed to correlate (MI = 31.842). The model showed better fit indices, $\chi^2(192) = 437.764$, $p = .000$, RMSEA = .053, 90% C.I. = .046–.059, CFI = .929, SRMR = .067. The final model is presented in Fig. 1.

As shown, only the paths from Extraversion to Maximising and Minimising, from Neuroticism to Locomotion, from Openness to experience to Maximising, and from Locomotion and Assessment to Satisficing were non-significant.

The model accounted for 59.6% of the variance in Locomotion, 18.3% in Assessment, 45.4% in Maximising, 89.3% in Satisficing, and 28.2% in Minimising.

As for the indirect effects, findings revealed that (1) Maximising was indirectly affected by Extraversion ($\beta = .104$, $p = .012$), Conscientiousness ($\beta = .192$, $p = .003$), and Openness to experience ($\beta = .109$, $p = .012$) through Locomotion, and by Agreeableness ($\beta = -.130$, $p = .014$) and Neuroticism ($\beta = .085$, $p = .035$) through Assessment; (2) Minimising was indirectly affected by Agreeableness through Assessment ($\beta = -.056$, $p = .024$).

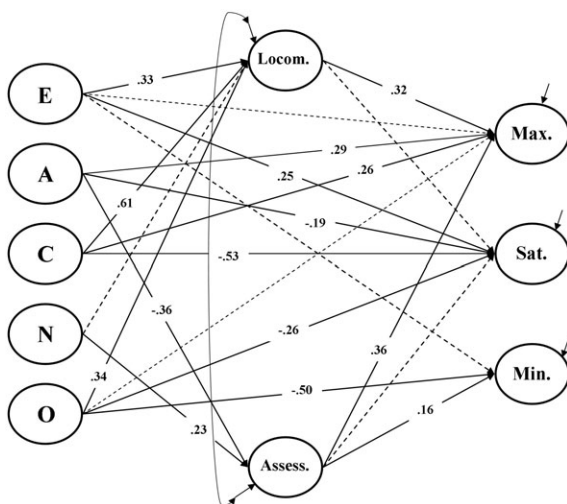


Figure 1 Tested model. A = agreeableness; assess. = assessment mode; C = conscientiousness; E = extraversion; Locom. = locomotion mode; max. = maximisation; min. = minimisation; N = neuroticism; O = openness to experience; sat. = satisfaction. Dashed lines indicate non-significant paths.

Multi-group analyses were performed to assess the invariance of the causal model across males and females. First, the validity of the hypothesised model was tested separately for each group. Results showed that the fit indices were acceptable for both groups, even though the model fitted better in females. As for multi-group models, chi-square difference tests and fit statistics proved cross-group equality of the configural model, the factor loadings and the structural regression paths across males and females. Goodness-of-fit statistics are shown in Table 7.

DISCUSSION

The aim of the present research was to examine individual differences in terms of personality traits and motivational strategies in decision-making tendencies across two studies. Following Misuraca et al.’s (2015) conceptualisation of decision-making tendencies, Study 1 investigated the personality profile of maximisers, satisficers, and minimisers. Correlation and regression analyses partially confirmed the hypothesised relationships, thus suggesting interesting considerations about the distinctive characteristics of decision-makers. Preliminary bivariate correlations indicated that maximising was, surprisingly, weakly positively associated with openness to experience and agreeableness, and moderately positively associated with conscientiousness; satisficing was moderately positively related to neuroticism, and negatively with conscientiousness, openness to experience, and agreeableness; minimising proved to be weakly negatively correlated to conscientiousness. When examining the partial correlations, some significant relationships disappeared, that is, the correlations between openness to experience and maximising and the correlation between conscientiousness and minimising. These findings partially supported past research, thus corroborating the conflicting nature of results reported in literature. Indeed, Misuraca et al. (2015) found conscientiousness to be correlated positively to resolute maximising and negatively to indolent minimising, whereas Dewberry, Juanchich, and Narendran (2013) reported positive associations between maximisation and openness to experience.

Regarding the role of personality traits in predicting decision-making tendencies, results indicated that two of the five personality traits accounted for the variance in maximising, satisficing, and minimising. The apparently counterintuitive relationships that emerged in the correlation analyses were confirmed: conscientiousness proved to be the strongest positive predictor of maximising, whereas openness to experience together with conscientiousness were positive predictors of satisficing. Congruently, conscientiousness was a negative predictor of minimising.

In general, these findings were in line with those described in past studies (e.g., Dalal et al., 2015; Purvis et al., 2011) and with Misuraca et al.’s (2015)

Table 7 Selected goodness-of-fit statistics for equality constrains model

Models	χ^2 (<i>df</i>)	<i>p</i> for χ^2 difference test	CFI	RMSEA (90% CI)
Males	285.956 (192)	–	.883	.064 (.048–.080)
Females	343.455 (192)	–	.914	–
Configural model	654.237 (384)	–	.897	.055 (.048–.062)
Metric model	637.621 (395)	.120	.917	.052 (.044–.059)
Structural regression paths	638.008 (396)	.289	.918	.052 (.044–.059)

Note. CFI = comparative-fit-index; RMSEA = root-mean-square-error-of-approximation.

conceptualisation of decision-making tendencies. In other words, the specific tendency of maximisers to achieve clearly established goals and seek the best alternative (Misuraca et al., 2015), is determined by the dispositional characteristics of those individuals who are open to experience, explore new ideas, are curious and ready for new challenges (Costa & McCrae, 1992). Dalal et al. (2015) argued that maximising and openness to experience are expected to be related because individuals who are high in openness and set high standards for their decisions share the desire for new information and curiosity. In addition, maximisers, since they are characterised by the desire to select the best option, are dispositionally more conscientious. In fact, conscientious individuals are achievement-oriented and set high standards for their behaviours (Colquitt & Simmering, 1998). Conversely, satisficers, as they are characterised by the desire to select an alternative that meets an acceptability threshold, as demonstrated in the current research, are dispositionally less conscientious and open to experience. Similar to satisficers, minimisers show low levels of conscientiousness, thus confirming Misuraca et al.' (2015) conceptualisation according to which minimisers, being less conscientious, tend to be uninterested in the quality of their decisions, to execute less meticulous search and to be less goal-oriented.

In sum, the results of the first study supported the complexity and contradictory nature of the construct and the reasonable assumption that maximisation may actually reflect three aspects of decision-making tendencies (alternative search, decision difficulty, and high standards) differentially related to both adaptive and maladaptive psychological traits (Nenkov et al., 2008).

Inspired by Hughes and Scholer's (2017) research, Study 2 attempted to examine whether self-regulated motivational processes can explain differences in decision-making by mediating the relationship between personality traits and decision-making tendencies. Surprisingly, locomotion proved to be correlated positively to maximising and negatively to satisficing, while assessment was positively associated with maximising, satisficing, and minimising. When examining the full model, locomotion partially mediated the relationships between conscientiousness and maximising, and totally mediated the relationship between extraversion, openness to experience and maximisation. In other

words, locomotors who are dispositionally more conscientious, open to experience and extrovert tend to focus their attention on the goal and to search for a huge amount of information in selecting the best alternative. In contrast, assessment mode, which positively predicted maximising and minimising, partially mediated the relationships between agreeableness and maximising, and totally mediated the relationship between agreeableness and minimising. Neuroticism, which had no significant links, indirectly affected maximising via assessment mode.

The multi-group analyses suggested that the mediational model was invariant across gender groups. Specifically, the configural, metric and structural paths invariance indicated that the baseline model, the factor loadings of the measurement model and structural weights are comparable across males and females. That is to say, gender did not influence the strength of the relationships in the model.

Taken together and in line with Hughes and Scholer's (2017) investigation, these findings revealed that both motivational orientations were associated with decision-making tendencies, even though assessment emerged as more explicative than locomotion, probably because the former constitutes the aspect of self-regulation dealing with making comparisons during decision processes (Higgins, Kruglanski, & Pierro, 2003).

A series of limitations should be highlighted. First, since the data were self-reported, correlational, and cross-sectional, some biases could not be controlled. Second, as the original factor structure of the DMTI was modified on the basis of the factor analyses, further studies should examine in depth the stability of the factor structure of the instrument, as suggested by the authors themselves (Misuraca et al., 2015, p. 115). Third, findings were scarcely generalisable due to the convenient and non-representative sampling technique used in both studies. Finally, Study 2 should be considered as precursory of future research to verify whether dispositional factors may determine decision-making tendencies.

In conclusion, although a substantial amount of the research on this topic was primarily focused on the outcomes of maximisation, until now no studies have examined dispositional motivational factors as antecedents of decision-making tendencies. The current research therefore provided interesting insights into the underlying

motivations and strategies that lead individuals to maximise, satisfice or minimise their choice. At the same time, it offered a convincing empirical support to the recently proposed motivational framework that differentiates between goals and strategies in the conceptualisation of maximisation and satisficing (Cheek & Schwartz, 2016; Hughes & Scholer, 2017). It also shed more light on the new construct of minimising (Misuraca et al., 2015) by better clarifying its dispositional characteristics. In terms of theoretical implications, the findings reported here extended the knowledge about individual differences in decision-making tendencies, thus contributing to clarification of some of the critical issues of past research (Hughes & Scholer, 2017) and to better understanding of why maximisation might not be as detrimental to well-being (Purvis et al., 2011, p. 374).

AUTHORS' CONTRIBUTION

SM: conception and design of the work; VdP: contributions to the conception and design of the work, analyses and interpretation of data; LM: analysis and interpretation of data; SdN and MS: revising the work critically for important intellectual content and for final approval of the version to be published. The authors declare that they have no conflict of interest.

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