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Personal Autonomy and Decision Making

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Abstract. This study investigates the relationship between personal autonomy and decision-making performance and gender differences in decision-making performance. Three hypotheses are formulated: (1) individuals with a high level of personal autonomy will have superior decision-making performance; (2) personal autonomy has a positive effect on decision-making performance; (3) there are significant gender differences in decision-making performance. Although some relationships were insignificant, the research suggests exploring the cognitive processes that influence decision-making styles and analyzing how they vary depending on the sample. The study contributes to the existing literature by offering new perspectives on autonomy and decision-making capacity and highlighting the importance of exploring these complex relationships.

Keywords. personal autonomy, decision-making performance, gender differences, decision-making capacity, cognitive processes, decision-making styles

1. Theoretical Framework
1.1. Personal Autonomy

Autonomy is a complex and diverse concept with deep philosophical roots and multiple interpretations in various research fields. Traditionally, autonomy is viewed as freedom of choice without constraints. Early empirical philosophers argued that autonomy involves complete individual freedom that should only be limited by the need to protect the interests of others. In the modern context, personal autonomy is understood as the capacity of an individual to self-govern. However, there is extensive debate regarding the nature of autonomy, which may include aspects related to morality or be perceived as a neutral capacity to make decisions and pursue a course of action without necessarily involving specific moral content (Zhang et al., 2023).

In line with self-determination theory, the procedural view of autonomy defines autonomy as the capacity to act according to one's own goals and to experience volition in achieving them. Self-determination theory classifies human behaviors on a continuum from fully autonomous to completely non-autonomous based on the underlying motivations. Intrinsically motivated

behaviors are considered autonomous, while extrinsically motivated behaviors can be autonomous depending on the degree of internalization of the external regulation. Additionally, autonomy is seen as a fundamental psychological need, and its support by the environment is associated with personal achievement and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000; Zhang et al., 2023).

Albu (2007) defined personal autonomy as a fundamental personality trait characterized by the individual's ability to make decisions and manage their own life and the feeling of control and freedom associated with this capacity. It involves choosing and acting according to one's values, needs, and interests without being significantly influenced by external factors or constraints. In short, personal autonomy refers to the ability to be in control of one's destiny and the sense of having the freedom to follow one's path in life.

1.2. Decision-Making Capacity

Theoretically, *decision-making* represents choosing from a series of alternatives to achieve a desired outcome. This definition captures three key elements. First, the decision-making process involves selecting an option/choice from several alternatives, resources, and opportunities. Second, the decision-making process is dynamic, involving several factors and subprocesses. Third, the desired outcome involves a goal or target resulting from the mental activity that the decision-maker undertakes to make the choice (Savioni et al., 2023).

In the specialized literature, there are two main perspectives in analyzing the decision-making process: *normative and descriptive*. The normative approach assumes that decision-makers make rational decisions based on preferences independent of the specific means of obtaining them or the detailed description of the options. This perspective offers a theoretical framework for how decisions should be made rather than how they are made in practice. On the other hand, the descriptive approach starts from the premise that various factors often influence people's choices, suggesting certain empirical generalizations that characterize how people make decisions. Thus, the decision-making process typically involves evaluating at least two options that differ in various aspects. Choosing one option over the other requires a global evaluation of the alternatives using various reasoning and information processing (Bailo et al., 2019; Kou et al., 2014; Savioni et al., 2023). In most cases, decision-making occurs in the context of uncertainty, where the future outcomes of available options cannot be predicted with certainty but only estimated in terms of probability (Savioni et al., 2023). Numerous theories in the field of cognition highlight that decision-making can be based on more immediate or more elaborate cognitive processes. The widely known theory by Kahneman and Tversky (1979, 2013) describes the decision-making process in a context of uncertainty. According to these authors, under risk conditions, a solution can be probabilistically reached based on empirical evidence, violating the principles of economic rationality that previously underpinned the study of decision-making processes (Savioni et al., 2023). A large part of the research on human decision-making focuses on decisions made by experts (Fortin-Guichard et al., 2020), where important decisions are made by a group of decision-makers seeking consensus (Palomares et al., 2012) or in simulated and non-ecological contexts such as laboratories (Hepler & Feltz, 2012; Koehler et al., 2015), where participants are given a series of hypothetical and autonomous decision scenarios and asked to choose from a set of options. However, these approaches often exclude essential aspects of life choices, such as clarifying goals, collecting information, and weighing multiple criteria without considering the real impact of these

decisions. Life decisions are influenced by various factors, including context, social interaction, and individual differences, and can have significant consequences for the individual's future life (Savioni et al., 2023).

1.3. Specialized Literature

To explain the relationship between personal autonomy and decision-making, we will rely on the model explained by Zhang et al. (2023). Based on certain limitations in the existing literature, the authors proposed a functional model of personal autonomy that considers the individual's opportunities to choose between behavioral options for pursuing a goal in social and organizational contexts. The model is based on psychological and neurocognitive models of goal-oriented behavior, according to which individuals are challenged by three main decisions: *what*, *when*, and *how*. The "*what*" decision determines the goal a person will achieve in a particular situation. In other words, it is the target behavior that someone decides to undertake to solve a problem, face a challenge, or meet a need. The "*when*" decision determines the timing of the action to achieve the target behavior (i.e., to reach the goal). The "*how*" decision defines how the behavioral goal is achieved, as there are usually several means to achieve the same goal, and the "*how*" decision selects one of the means or methods. In the same context, a "*how*" decision is subordinate to the corresponding "*what*" decision, and several "*how*" decisions can be associated with the same "*what*" decision.

Extending these ideas to personal autonomy, the authors consider autonomy a direct function of the opportunities to decide what to do, when, and how to act. Consequently, removing any of the three components from control undermines autonomy and potentially reduces the capacity for action and the motivation experienced to pursue the personal goal in question (i.e., goal motivation; Zhang et al., 2023).

Although no studies in the specialized literature directly analyze the relationship between the two concepts, we can say that personal autonomy plays a crucial role in this decision-making process because it allows the individual to express their will and take responsibility for the choices he made. When personal autonomy is strongly supported, individuals are more likely to participate in decision-making actively. Personal autonomy and decision-making complement each other, forming a delicate balance between independence and interdependence. Being autonomous means having the power to choose and act, and the decision-making process becomes an expression of our identity and values.

Furthermore, personal autonomy can influence how a person makes decisions, determining the goals and values they pursue and how they choose to act to achieve them. In turn, decision-making can contribute to developing and affirming personal autonomy by providing opportunities to express one's will and exercise the ability to act according to one's goals and values.

2. Methodology
2.1. Objectives and Hypotheses of the Research

The objectives of this study are to observe both the relationship between personal autonomy and decision-making and the effect that personal autonomy has on decision-making performance.

Additionally, we aim to see if there are gender differences regarding decision-making performance. Thus, we will have the following research hypotheses:

1. Individuals with a high level of personal autonomy will have higher decision-making performance.
2. Personal autonomy affects decision-making performance.
3. There are significant differences between females and males regarding decision-making performance.

2.2. Sample of Subjects

This research design is a cross-sectional, non-experimental one, conducted on a representative sample of 50 participants, aged between 30 and 66 years, with an average age of 39.42 years (M=39.42; SD=7.885), randomly selected from across the country. Regarding gender, 48% are men (24 individuals), and the remaining 52% are women (26 individuals). As for the area of residence, 88% (44 individuals) come from urban areas, and 12% (6 individuals) come from rural areas.

2.3. Instruments Used
2.3.1 Decision-Making Capacity Test

The Decision-Making Capacity Test is part of the BTPAC Battery and evaluates the rationality of the decision-maker, specifically "reduced sensitivity to decision-making errors." More precisely, the objective of this test is to assess the rationality of the decision-maker. This refers to a reduced sensitivity to decision biases highlighted by empirical research that has addressed the issue of the limited rationality of the human decision-maker. Another construct that is evaluated is the degree of indecision of the decision-maker. This refers to the extent to which the decision-maker cannot choose one of the available alternatives (and opts for the alternative: d) I cannot decide) Alternatively, in other words, it avoids making a firm decision in a situation where the alternatives are known. The test comprises 14 items that describe decision-making situations and present the alternatives for which the subjects can opt, constructed in situations with multiple-choice responses.

2.3.2 Personal Autonomy Test

To measure personal autonomy, we used a questionnaire consisting of 36 items developed by Albu (2007), grouped into four scales, one for each dimension of personal autonomy: value autonomy, cognitive autonomy, behavioral autonomy, and emotional autonomy. The items contain responses on a 5-point Likert scale, where 1 = very little and 5 = very much. The items are scored such that the highest score (5) corresponds to a high level of personal autonomy, and the lowest score (1) corresponds to a low level (e.g., item: "*I stop wearing a piece of clothing I like if my friends tell me it is out of fashion*").

2.4. Research design and procedure

This research design is empirical, cross-sectional, and non-experimental, conducted on a convenience sample of 50 participants selected from the general population. They were randomly

chosen from the online environment. The administered questionnaire is self-declarative, comprising the abovementioned scales and demographic information regarding gender, age, education level, marital, relational, professional status, residency, and work environment. It was applied using Google Forms and distributed on social networks (Facebook, WhatsApp). Respondents were informed about the anonymous and confidential nature of the research to ensure the sincerest responses. After the questionnaire was completed with the required number of respondents for the research, it was closed, and the stage of processing the obtained data, analyzing the results, and interpreting them was initiated. For this purpose, we used the SPSS 25 statistical program. Conclusions were drawn at the end.

3. Data analysis and interpretation
3.1. Data analysis

Before testing the hypotheses, it was necessary to perform a preliminary processing of the collected data. Firstly, we conducted analyses of variance, descriptive statistics, and correlation for the obtained data. Secondly, we performed a simple linear regression analysis to test the effect of personal autonomy on decision-making capacity performance. Thirdly, we conducted an independent samples *t*-test to compare the performance of decision-making capacity between women and men. The homogeneity of variances was tested using the Levene's test. All hypotheses were tested using the IBM SPSS Statistics 25 statistical program.

3.2. Hypothesis testing

To test the first hypothesis, we conducted a bivariate correlational analysis, specifically Pearson correlation, between personal autonomy and decision-making capacity using the statistical analysis program SPSS. It is observed that there is no significant relationship between personal autonomy and decision-making capacity (r=-.213; $p > .05 = .137$). Therefore, the hypothesis is rejected (Table 1).

Table 1. Descriptive statistics and correlations between variables

Variabile	N	M	SD	1	2
1. Personal autonomy	50	121.64	18.192	-	-.213
2. Decision-making capacity	50	21.74	2.319		-

Note: *p < .05; **p < .001

To investigate the effect of personal autonomy on decision-making capacity, a simple regression analysis was conducted. The predictor was personal autonomy, and the criterion was decision-making capacity performance. The predictor variable is not statistically significant (B = .027, p > .05). Personal autonomy explains 0.4% of decision-making capacity performance (R^2 = .045). In conclusion, personal autonomy, within this study, does not play a significant role in

identifying decision-making capacity performance [F(1,48) = 2.284, p > .05 = .137], which means we reject the research hypothesis and accept the null hypothesis. Personal autonomy does not significantly affect decision-making capacity performance (Table 2).

Table 2. Simple regression analysis of the relationship between personal autonomy and decision-making capacity performance

Variabile	B	95% CI	for B	SE B	p	β	R	R²
		LL	UL					
Constant	2.955	-1.491	7.40	2.211	.188			
Personal autonomy	.027	-.009	.053	.018	.137	.213	.213	.045

Notes: CI = confidence interval; LL = lower limit; UL = upper limit

Furthermore, to test the third hypothesis, an independent samples t-test was conducted to compare the decision-making capacity performance between group 1 (*M* = 5.38; *SD* = 2.061), represented by *females*, and group 2 (*M* = 7.21; *SD* = 2.245), represented by *males*. The homogeneity of variances was tested using Levene's test: if the probability associated with Levene's test is more significant than 0.05, then the variances of the two groups are equal, and if it is less than or equal to 0.05, we do not accept the homogeneity of variances. In our case, the results of Levene's test for homogeneity of variances indicate that F = .047; p > .05 = .829; thus, we can conclude that the condition of variance homogeneity is met. The results of the t-test showed that, assuming equal variances, there are significant differences in decision-making capacity performance between group 1 - females - and group 2 - males [*t*(48) = -2.995, *p* < .05 = .004, *d* = 0.85, 95% *CI*: -3.048, -.599]. Therefore, we reject the null hypothesis, indicating sufficient evidence to conclude that the mean scores of decision-making capacity performance significantly differ between the two groups. The mean performance of decision-making capacity is higher for males (M = 7.21) than females (M = 5.38). In the 95% confidence interval, the mean difference is between -3.048 and -0.599, indicating that females perform significantly less than males in decision-making capacity (Table 3).

Table 3. The results of the independent samples t-test for decision-making capacity performance: women versus men.

Mean	t	df	p	Cohen's d
-1.83	-2.995	48	< .05	.85

3.3. Interpreting the results.

Following our study, one of the three proposed hypotheses was confirmed: hypothesis number 3. *There are significant differences between females and males regarding decision-making capacity performance*. Studies show that each decision-maker is viewed as an autonomous system, or autonomy is a property of each stakeholder participating in the decision-making process. This means that each decision-maker or stakeholder has their own goal to achieve and has the autonomy

to decide on their own (Prilandita et al., 2016). However, our study's results showed no significant relationship between personal autonomy and decision-making capacity, meaning personal autonomy does not affect decision-making capacity performance. In this case, it is essential to consider intervening variables, such as time pressure, which may influence how people make decisions, specific context, factors like participants' experience level, specificity of decision situations, and education level (Frank et al., 2019). Additionally, our study's results indicate significant differences between genders (female and male) regarding decision-making capacity performance, with males obtaining higher average scores than females. Thus, the results are in line with studies from the specialized literature. Women are more prone than men to report intuitive decision-making styles (Sadler-Smith, 2011), unlike men who rely more on reason (Sinclair et al., 2010). For example, in the study conducted by Sinclair et al. (2010), participants were asked to express their feelings associated with winning or losing in a competition, and the results indicated that women reported more frequent use of intuition in such situations, while men showed a pronounced preference for reason. Feelings and instinctual experience are specific to the affective/experiential mode, characterized as rapid, whereas the rational mode is slow and uses reasoning and deliberation. Additionally, men and women differ in how much they involve others in decision-making. Women are more likely than men to approve of dependency on others and to seek support (Delaney et al., 2015). Moreover, to support the obtained results, it is necessary to reinforce the following aspects: men may tend to be more confident in decision-making and goal-oriented. At the same time, women may be more intuitive and relationship-focused in the decision-making process. In a deliberative decision-making mode, people use more cognitive resources, while the intuitive mode is easily driven by emotions and readily accessible rules (Frank et al., 2019). Delaney et al. (2015) demonstrated that women use intuition while men are logical and independent. Women were more likely than men to belong to the dependent decision-making profile. Women may use other people for support and advice when making decisions, similar to how women are more likely than men to use social support as a coping strategy.

Conclusions

This study enhances the existing literature findings. Personal autonomy, defined as an individual's capacity to guide their actions and choices according to their values and interests, is the foundation for the decision-making process. Although the work had non-significant relationships, it encourages researchers to approach cognitive decision-making processes that guide decision-making styles. Examining how styles cluster within various samples will also enhance understanding of the complexity of decision-making.

Limitations and Future Research Directions

This study has certain limitations. *Firstly*, it adopts a cross-sectional design. As specified, decision-making may depend on the specificity of decision situations and the timing of task administration. It could be assessed through a longitudinal design whether respondents would respond similarly or if responses depended on their state when completing the questionnaire. *Secondly*, the sample size could limit the generalization of results. *Thirdly*, the study mainly included individuals between 30 and 40 years old; therefore, differences based on age could not be

evaluated. Future studies could focus on age differences, considering that advanced age may be associated with a decision-making profile focused on intuition and spontaneity rather than rationality. Research on aging and decision-making suggests that age differences in dependent styles should be investigated. Dependence on others may increase with age as older adults face a decline in fluid abilities (Delaney et al., 2015).

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