
**COMUNICAR EN PANDEMIA:
DE LAS *FAKE NEWS*
A LA SOSTENIBILIDAD**

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Coordinadores: Joaquín Sotelo González y Natalia Abuín Vences

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Coordinadores

Joaquín Sotelo González

Natalia Abuín Vences



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COMMUNICATION AND DECISION MAKING. BIASES VERSUS EMOTIONAL INTELLIGENCE: WHO IS IN CONTROL OF OUR DECISIONS?

Ingrid Gil

Universidad Pontificia Comillas, Madrid, España

Patricia Martín Matas

Universidad Pontificia Comillas, Madrid, España

Julia Sanz López

Universidad Pontificia Comillas, Madrid, España

ABSTRACT

This research investigates how emotional intelligence (EQ) improves the quality of the decision-making process. The aim is to prove the relation between Emotional Intelligence and an enhanced decision-making process. To that end, we expose the academic debate on the influence of emotions in the decision-making process and we will contrast an EQ-led with a non-EQ-led decision-making process. Finally, we provide a compilation of debiasing strategies. Our conclusions are: (I) the selected cognitive biases prioritize subjective convictions over objective facts by virtue of the emotions attached to them. (II) Guiding most of our decisions through biases has negative consequences which is why questioning our beliefs is found necessary.

KEYWORDS

Emotional intelligence; decision-making process; biases; heuristics; cognitive appraisal.

1. INTRODUCTION

Would you bet \$100 on saying human beings are rational decision makers? If so, you may want to read what psychology has been teaching us since the 1970's. Up until that date decision makers were contemplated from the neoclassical economic perspective: we solely make decisions with the purpose of maximizing our utility, we have all the necessary impartial information at our disposal to balance the different alternatives, we are consistent and not influenced by our environment. But humans are not markets, not even imperfect ones. Not too many years later, dissenting voices broke with that status-quo to reveal that we are bounded rational, and thus, bounded rational decision-makers. "the neoclassical model perhaps serves as a model of the mind of God, but certainly not as a model of the mind of man" (Soukup et al., 2014).

We are emotional, subjective individuals with the ability to make reason-guided decisions aiming for objectivity. According to Knight's thought: heuristics are the basis on which humans have made most decisions and survived through time (Gigerenzer & Mousavi, 2013, pp. 2-32). Our brain processes thousands of pieces of information every day from external stimuli in the shape of learnings, experiences, beliefs, environmental conditionalities and, important to note, emotional feedback. These dissenting voices discovered that we have limited time and cognitive resources when making a decision and yet we seek a satisficing outcome. How? We unconsciously use shortcuts or heuristics that allow us to make fast and suitably accurate decisions. There is a never-ending, black or white debate on whether emotions weaken our decision-making. Not necessarily, in fact they can leverage it if only we learn to be knowledgeable of our emotions and use them strategically, allowing relevant ones to factor into the decision and ignoring those that may distort it. This is, in short, Emotional Intelligence.

Our life is guided by the consequences of our decisions which are frequently biased. Biases are inherent in our biology and drive most of our decisions and although an excessive reliance on these mental shortcuts blurs and weakens the quality of our judgements, they are indeed necessary and helpful. That influence we can develop strategies to attempt to prevent or attenuate the impact of such errors, and we argue that these developed strategies will in turn be added to our mental toolbox of heuristics. We expose the role of Emotional Intelligence as a good tool to counter biases and improve our decision-making process.

2. OBJETIVES AND METHODOLOGY

This research seeks to investigate the correlation between Emotional Intelligence (EQ) and an enhanced decision-making process. To do so we have proposed a

number of objectives which will guide us towards the answers and conclusions that we intend to achieve:

1. Examine the conditions where biases and heuristics occur and how our mental processes are affected by them.
2. Showcase how EQ skills contribute to attenuate the influence of cognitive biases.
3. Compile some debiasing strategies to combat the incidence of biases.

To meet our objectives the present research will be structured as follows: First, we will expose the relevant theories and academic debate on the influence of emotions in the decision-making process. Second, we will analyse the existing literature on the relation between emotional intelligence skills and an enhanced decision-making process. To that end, we will start by explaining the most prominent biases and heuristics, we will continue by contrasting an EQ-led with a non-EQ-led decision-making process.

The present study has resulted from a literature review in a span between the years 1974 until 2019 from different online scientific and academic journals as well as online and physical books reflected in the bibliography. The selection criteria for the literature review were the following:

1. The findings have had significant relevance and recognition in the field of study.
2. The findings proved to have considerable applications.
3. The findings were innovative and challenging.
4. The authors or institutions were reputable and/or set precedents in the field of study.
5. The articles focused on biases, emotions, emotional intelligence and debiasing strategies applied only to decision-making, especially under conditions of uncertainty and risk.

English has been the conducting research language given that the bulk of literature on the topic is written in this language, yet articles in Spanish were also examined. The keywords that were selected for the research process were: appraisal, avoid, biases, debias, decision-making, dual brain, ecological rationality, emotion regulation, emotional intelligence, heuristics, leadership, and uncertainty.

3. RESULTS

We want to discuss how emotional intelligence is a good toolkit to try to avoid or attenuate the impact of cognitive errors and improve as much as it is in our hands (or minds) the quality of the decision-making process. To that end we firstly need to define some of the most prominent biases and heuristics. Secondly, we will explain the EQ skills and decision-making traits to then prove either a positive or negative correlation. We will finally list some EQ decision-making strategies to attenuate the impact of cognitive errors and ensure a quality process.

3.1. HEURISTICS

This section and the following will provide a compilation of the most prominent biases and heuristics influencing our decision-making. We examine to which degree and how we are affected by them as well as the circumstances where we are more prone to experience them.

Representativeness

The representativeness heuristic makes associations in terms of how a reality is similar to another reality, in this way, when an event evokes an association with another specific reality, we will assess that correlation to be more valid or we may bet the association to be more accurate. “Consequently, strong associates will be judged to have occurred together frequently” (Kahneman & Tversky, 1974). This type of (automatic) decision-making strategy leans towards the illusion of validity bias which states that the confidence of our choices depends substantially on the extent to which the compared realities are similar or representative of each other.

Kahneman discovered that “consistency is a major determinant of one’s confidence in predictions” (Kahneman & Tversky, 1974). We produce these correlations based on prejudgments, stereotypes or pre-established ideas drawn from the frequency a reality corresponds to the so-called “base rate frequency”. The danger of this bias lies in the fact that events are judged to be more probable on the base of similarity, hence disregarding the objective facts. “For example, suppose one is given a description of a company and is asked to predict its future profit. If the description of the company is very favorable, a very high profit will appear most representative of that description; if the description is mediocre, a mediocre performance will appear most representative” (Kahneman & Tversky, 1974).

Availability

People consider the probability of an event to happen based on how fast similar past events are recalled, therefore events that are readily remembered, known as “a salient event” (Kahneman, 2011), will be given greater consideration, even more if

it comes to a personal memorable, recent and/or dramatic event. Owing to the fact that decision weights are heavily affected by emotions and controlled by System 1 rejecting the salient alternative compels System 2 to work. “Emotional vividness influences availability and judgments of probability, and thus explains our response to rare events” (Kahneman, 2011).

Anchoring

Refers to giving a greater positive assessment to certain probabilities once they are, consciously or unconsciously, attached to a reference point (base rate), this is to say, the value of a reality is drawn from past similar experiences and conditioned by the environment, hence we are likely to anchor to that event as a reference point that is setting the precedence for future decisions on similar circumstances.

Gigerenzer and Gaissmaier devoted their research to respond to the following question: “when should people rely on a given heuristic rather than a complex strategy to make better judgments?” (Gigerenzer & Gaissmaier, 2011). Their results, which still prevail nowadays in the field, concluded that most of the time simple heuristics lead to more accurate decisions than complex decision-making methods, this was named as “less-is-more effects” (Gigerenzer & Gaissmaier, 2011) meaning that when assessing different alternatives less available information results in favorable outcomes without, however surprisingly, sacrificing accuracy. Thus, breaking with the stigma that heuristics and biases trade-off decision accuracy: “Unlike the two-system models of reasoning that link heuristics to unconscious, associative, and error-prone processes, no such link is made in this review” (Gigerenzer & Gaissmaier, 2011).

Besides, they believed that we need to beware of the bias-flexibility balance instead of pursuing to eliminate systematic errors: “an intelligent mind needs some beneficial degree of bias, that is, to ignore part of the available information, but also a degree of flexibility, that allows for a beneficial degree of learning. The combination of these two characteristics makes it possible to achieve low total error and higher accurate predictions under uncertainty” (Marewski & Schooler, 2016).

Simple, fast and frugal heuristics, defined as those rules of thumbs that take into account a few factors to make a decision, “tend to succeed as opposed to considering multiple factors in environments with (a) moderate to high uncertainty and (b) moderate to high redundancy” (Gigerenzer & Gaissmaier, 2011). These simple, fast and frugal heuristics are suitable and enable the decision-maker to adapt to the decision environment (ecological rationality).

We have selected three ordinary simple heuristics (figure 1) tied to the conditions where they may succeed:

Heuristic	Description	Counterintuitive Results
Recognition heuristic (Goldstein & Gigerenzer, 2002)	If one of two alternatives is recognized, infer that it has the higher value on the criterion.	Less-is-more effect
Fluency heuristic (Schooler & Hertwig, 2005)	If both alternatives are recognized but one is recognized faster, infer that it has the higher value on the criterion.	Less-is-more effect
Take-the-best (Gigerenzer & Goldstein, 1996)	To infer which of two alternatives has the higher value. (a) search through cues in order of validity; (b) stop search as soon as a cue discriminates; (c) choose the alternative this cue favors	Often predicts more accurately than multiple regression, neural networks, exemplar models, and decision-tree algorithms

Figure 1. Fast and frugal heuristics. Source: (Gigerenzer & Mousavi, 2013).

Nevertheless, recalling Simon Hebert “adaptive toolbox” concept, “learned and evolved capacities such as the ability to memorize, recognition memory and social skills” (Gigerenzer & Mousavi, 2013), there is an endless number of heuristics available for our strategic use. Gigerenzer et al claimed that experience enables people to exploit and “learn to select proper heuristics from their adaptive toolbox” (Gigerenzer & Gaissmaier, 2011).

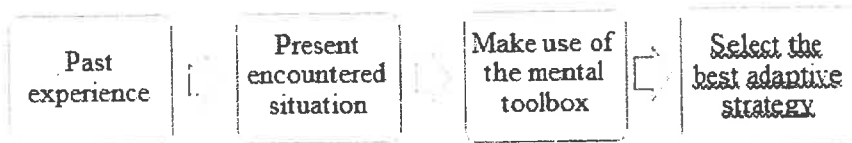


Figure 2. Bounded rationality decision-making process. Source: Own elaboration.

Furthermore, fast and frugal heuristics are the best alternative under conditions of uncertainty since by manipulating the available information whilst intentionally ignoring the anxiety related to the unknown proves more efficient in terms of time and resources.

3.2. BIASES

Loss aversion

The higher the risk the greater loss aversion. In scenarios where the probability of winning and losing are equal “loss aversion causes extremely risk-averse choices” (Kahneman, 2011) because the emotional weight assigned to the words gain and loss “occurs before our rational brain assesses the expected outcomes of the alternatives” (Kahneman, 2011).

In scenarios where the alternatives facing are either a sure loss or a larger loss “diminishing sensitivity causes risk-seeking” (Kahneman, 2011). People want to make the decision that will bring them the highest expected revenue and satisfactory outcome. Yet they tend to overweight the probabilities and bias the assessment of their choices. This phenomenon can be explained through the possibility effect by which “we naturally tend to overweight small risks even if the outcome for gains is higher” (Kahneman, 2011). In addition, the certainty effect explains our tendency to select the alternative believed to produce a sure gain compared to a probable one.

Optimistic bias

When the outcome of a decision is considered to bring the expected favorable results, risk taking increases as the cost of failure seems sufficiently low. Kahneman and Tversky suggested that risk taking is due to exaggerated optimistic perceptions of the benefits, which boosts overconfidence and leads to underestimate the costs. The authors argued that “in terms of its consequences for decisions, the optimistic bias may well be the most significant of the cognitive biases [...] it evokes a sense of prudence when there is none” (Kahneman, 2011).

Framing bias

The same piece of information however presented in different ways “can lead to different decisions” (Lockton, 2012) which are largely reliant on whether the outcome is framed as a gain or a loss. As words are “emotionally loaded” concepts then a positive or negative communicative expression of the same information elicits different reactions and perceptions hence different decision outcomes. Furthermore, not only does the framing matter but also the order in which information is presented leading to overestimating or underestimating the information, this is known as the serial position effect.

Confirmation bias

It refers to the tendency to search for and pay closer attention to the information that feeds our existing beliefs and perspectives which hinders from opening the mind to contrasting ideas that challenge our knowledge or opinion. We tend to surround

ourselves the most with like-minded people; social media retrieves for us unlimited content on the same topics and perspectives; mainstream news platforms select and frame for us the important events about which we ought to care using a linear rhetoric solely providing one side of the coin's reality. The jeopardy of not being cognizant of our confirmation bias is rather high since it is an obstacle for personal and professional growth.

Priming bias

Thoughts and behaviors are influenced by stimuli to which we pay no attention at all or of which we may be unaware. The idea or judgment to which we anchor, primes our thinking for us and hinders us from imagining how different our responses would have been had the anchor been different or inexistent. We should beware of all the environmental conditionings and experiences constraining the scope of creativity to assess more alternatives to combat this effect.

Hindsight bias

We are naturally inclined to judge success based on the outcome of our decisions disregarding and undermining the fact that by the time the decision was made we had to bear the cost of uncertainty and assume a lack of information on the future environment and, of course, the consequences that only become obvious afterwards. We ought not to blame ourselves for failure simply because we are bounded-rational human beings. Nonetheless, we find it hard to recognize that once we adopt a new view of the world, we immediately lose much of our ability to recall what we used to believe.

In turn, lessons learned from past good and bad decision outcomes are applied in similar future situations, thus we fall prey to the illusion of understanding feeding the belief that we can to some extent foresee the future, although truth is that the future might differ from the past consequences of our past actions out of which the lessons were extracted.

The sunk cost fallacy

This systematic error makes us continue with a deemed-to-failure project or activity on the grounds of having invested too many resources, either time or money, up to a point that we deny renouncing.

The planning fallacy

This bias leads us to underestimate the time needed and the actual cost of a project. It has been found to be "aggravated in groups who tend to be more optimistic than individuals and to escalate their commitments to a course of action that is failing, particularly if members identify strongly within the group" (Sunstein & Hastie, 2014).

Affect bias

People make judgements and decisions based on their current emotional state which has been provoked by recent experiences that are irrelevant and prejudicial to the decision-making process.

3.3. EQ IN DECISION-MAKING

Emotionally intelligent people do not turn off their emotions but maintain the ones that are connected and relevant to the decision. "Individuals with higher emotion-understanding ability can more correctly identify the events that caused specific emotions, whereas individuals with lower emotion understanding ability are more likely to identify the wrong causes" (Yip & Côté, 2012).

Emotional intelligence provides the freedom to use emotions, both negative and positive, for a purpose (not to suppress them) and take advantage of the knowledge on our mental processes. Negative emotions are related to risk aversion as they activate threat identification, "attention to detail, detection of errors and problems, and careful information processing" whereas positive emotions are related to risk taking activating "creativity, integrative thinking, and inductive reasoning" as well as a tendency to optimism (George, 2000).

Everybody is subject to cognitive biases due to human nature, however, the intensity, type of bias and frequency by which everyone is affected varies based on the level of emotion understanding. For instance, if a low emotionally intelligent executive bears with a traffic jam driving to a meeting involving some major decision-making, he is likely to bring negative emotions into the meeting and concentrate on the feelings evoked by such an event which will likely block risk-taking behaviors. However, if he is aware of and manages his emotions, he will not permit his unrelated emotions to influence the success of the meeting which leaves some room for risk taking attitudes.

We argue that being knowledgeable of our biases and of some strategies to attenuate their impact, such as emotional intelligence skills, can enhance the quality of our decision-making process.

Self-awareness means being mindful of both our limitations and our strengths and implies key competencies such as self-confidence and self-assessment. Self-awareness "helps us to become aware of the conscious and unconscious biases" (Harvard University & New York University, 2008) in order to control the incidence and reduce the impact. "By increasing our self-awareness around our own emotional judgement, and developing our emotional intelligence, we are more likely to make good, informed, thought-through decisions" (Harvard University & New York University, 2008).

Self-management involves “self-control, trustworthiness, conscientiousness, adaptability, achievement drive and initiative” (Sumathy et al., 2015). These competencies intervene in the decision-making process by facilitating the required “emotional control” and “mental flexibility” (Orejarena et al., 2019) to face uncertainty and change, which are highly appreciated in the current volatile, uncertain, complex, and ambiguous (VUCA) world.

The social components of emotional intelligence, such as “empathy, service orientation and organizational awareness” (Sumathy et al., 2015), refer to the ability to understand and manage others’ emotions as well as to recognize the impact of our behavior on others which fosters, in turn, our motivation to learn to control biases in the decision-making process. A holistic application of these social skills serves as a “change catalyst” (Hess & Bacigalupo, 2011) to increase influence, instill a sense of purpose, motivate and develop others’ skills, efficient communication, build trust and bonds, all in all leadership skills.

Goleman noted: “the very best leaders, while diverse in their leadership styles, share in common the characteristics of self-awareness, self-regulation, motivation, empathy and social skill. These skills allow superb leaders to understand their own as well as others’ emotional makeup well enough to move people to accomplish institutional objectives as well as successful negotiations and effective leadership” (Hess & Bacigalupo, 2011).

Figure 3. EQ skills in the decision-making process. Source: (George, 2000).

Appraisal and expression of emotion	Use of emotions to enhance cognitive processes and decision making	Knowledge about emotions	Management of emotions
Aware of own emotions	Emotions direct attention and signal focus of attention	Knowing the causes of emotions	Meta-regulation of mood (reflection on the causes, appropriateness, and changeability of emotions)
Can accurately express own emotions	Emotions facilitate making choices	Knowing the consequences of emotions	Positive mood maintenance
Aware of others’ emotions	Use of specific emotions to enhance certain kinds of cognitive processes	Knowing how emotions progress over time	Negative mood repair or improvement
Can accurately express others’ emotions	Use of shifts in emotions to promote flexibility		Management of others’ emotions
Empathy			

Figure 3 shows the characteristics of EQ applied to the decision-making process and it evidences that having EQ traits enhances its quality.

Studies have shown that the ability to perceive emotions accurately is associated with outcomes such as successful negotiations and effective leadership.

Figure 4. EQ and decision-making competences. Source: (Sumathy et al., 2015).

Dimensions		Mean	Standard. deviation	Mean percent
Emotional intelligence	Self- awareness	12.87	1.68	85.8
	Self- regulation	21.78	2.66	87.1
	Self motivation	17.58	2.48	87.9
	Empathy	22.13	2.99	88.5
	Social skills	35.18	4.87	88.0
Decision Making	Participation	47.62	5.26	85.0
	Empowerment	68.53	7.18	81.6
	Felt accountability	48.46	5.78	86.5

Figure 4 shows the level of emotional intelligence and decision-making skills of the selected 150 executives for the study. The mean percentage evidences a high correlation in value between decision making skills and emotional intelligence (mean and standard deviation data were used to obtain the mean percentage).

3.4. DEBIASING

In this section we will name and then elaborate on and critically analyze some of the most frequently proposed emotional intelligence ‘debiasing strategies judged to be effective based upon our literature review for the sake of a less flawed decision-making process.

“Given the massive costs that can result from suboptimal decision making, it is critical for our field to focus increased effort on improving our knowledge about strategies that can lead to better decisions” (Harvard University & New York University, 2008).

1. Announcing a “trip wire” (Soll et al., 2015). This technique was initially employed to prevent Mount Everest ‘climbers from pushing themselves ahead in risky conditions, therefore if the goal has not been accomplished by a reasonable deadline under specified conditions, the project should be abandoned or reconsidered. This technique avoids the sunk cost fallacy.
2. Avoiding delaying the decision more than necessary to gather as much data as possible. As we have previously shown through bounded and ecological rationality theories, first, we have limited cognitive and temporal capacities and second, more does not equal better as fast and frugal heuristics allow us to make accurate and satisfactory decisions.
3. Be present. Learning from past successes and failures as well as looking ahead should orientate our decisions whilst a mindful focus on the present should be the goal to prevent emotions elicited by past or future events from conditioning the quality of the process.
4. Be the architect of your environment. Design an environment and context by the time of the decision-making that leverages focus and creativity,

where emotional triggers are reduced and free from too many material or immaterial distractions for the sake of clarity and ease of mind.

5. Blinding: this technique simply requires executing an activity without having prior knowledge of the person who is dependent on our judgment. It has been proved effective against stereotypes and associations such as the halo effect.
6. Cognitive distance requires observing the issue as an external viewer to pinpoint flaws and biases. It allows us to assess the facts in an objective way and develop the capacity to question ourselves. This technique reduces the experience of emotions, particularly negative ones causing anxiety, by abandoning our emotionally loaded egocentric perspective to focus on a neutral reality. This way, we will act upon reflection and assertiveness instead of reactivity.
7. Considering the opposite either by involving more people or by training our mind to challenge our perception of reality and expand our knowledge on other perspectives. This technique is certainly effective against the confirmation bias. We may pose ourselves questions of the kind: what would this look like if it were different? what does the counter-narrative defend? how would (someone of our choice) consider or react to this decision? Additionally, humility is the primary preconditioning to let ourselves widen our mind to contrasting information. "Thinking the opposite may be a good defense against anchoring effects as it negates the bias" (Kahneman, 2011).
8. Checking our emotional state. As we have seen both positive and negative moods influence the quality of our decisions and the repercussions of such even if these emotions are not originated by the decision act, therefore it is imperative to beware of the source that elicited our current emotional state and then pave ourselves to attempt to maintain a neutral mood during the decision-making process. This technique is powerful to combat the affect bias. "Any change in a decision's context that promotes cool-headed System 2 thinking has the potential to reduce common biases resulting from hotheadedness, such as impulsivity and concern about relative outcomes" (Harvard University & New York University, 2008).
9. Focusing on the quality of the process. When all our concerns and efforts are concentrated on working for the best quality process possible, we will not worry too much about the results. Monitoring and evaluation mechanisms help assemble all the variables of which we have control, however as the future environment may be different, there are many factors outside of our control influencing the decision outcome. Worrying about the process, risk policies and the premortem strategy help mitigate the hindsight bias.
10. Generating enough alternatives and considering them one by one. "A decision can be no better than the best option. Analyzing the pros and cons of several options won't do you any good if you've failed to identify the best ones" (Soll et al., 2015). We can also ask ourselves "what else could I do?"
11. Group decision making. Groups are a double-sword tool they can either intensify and compound individual biases or deliberately attenuate them. In order to avoid a counterproductive effect, groups must: One, be composed of different-minded people (to avoid confirmation bias). Two, must think critically about each proposal (to avoid an anchor). Three, every member must voice its opinion (to avoid false consensus bias). Four, note all the ideas to make sure one particular idea does not shine and spreads over the group's minds (to avoid availability bias). Five, the leader should listen actively and encourage disagreement. Six, promote group gratification to ensure people keep bringing in new perspectives (to avoid salience). Seven, invite experts or form a group of different profiles. Eight, appoint a devil's advocate, to put on the table contrasting positions (to avoid confirmation bias). Nine, request a second group deliberation. Finally, allow anonymous voting to reduce group pressure and silence effect (Soll et al., 2015).
12. Involving external actors unrelated to the decision has proved efficacious in adding fresh and debiased perspectives.
13. "Making three estimates" (Soll et al., 2015). Low, middle and high probability. Low and high probabilities should be the least likely but are useful to prepare for either shortfalls or excesses. The middle estimate is thus more likely to fall within the real outcome. This technique avoids the narrow-minded thinking tendency.
14. Looking from above to consider a holistic perspective of all noteworthy factors and to grasp a bird's-eye approach of the actual magnitude of the decision implications which allows us to reframe the situation and decision-weights.
15. Long-run mindset requires to align short term with long term goals as well as to allocate our efforts on the benefits drawn from pursuing the sacrificing though highly rewarding long-term goals instead of conceding to the less beneficial short-term actions. Kahneman proposes to "think like a trader" as a cue to loss aversion, this is, "treating each decision as the compound of many [...] decision makers who are prone to focusing on the small picture (isolate decisions) would obtain better results by implementing a risk policy to recourse to when facing similar risky decisions" (Kahneman, 2011). Kahneman argued that the heart of the matter is to be able to mitigate the pain of the occasional loss by focusing our attention on the long run

benefits. “The combination of an outside view with a risk policy should be the goal of organizations to avoid loss aversion” (Kahneman, 2011).

16. Premortem strategy. Also named as “prospective hindsight” (Soll et al., 2015), consists of brainstorming threats and possible causes of failure and preparing responses to it, in case failure happens, as well as the steps to avoid it. This technique is reported to help us prevent the hindsight bias and, we argue, loss aversion too since risks would have been already envisioned and balanced. In addition, Kahneman wrote that this strategy “reduces the damage of WYSIATI effect (what you see is all there is)” (Kahneman, 2011). In stoic philosophy, this strategy is known as *premeditatio malorum* on how to prepare for adversity.
17. Starting with the why: “why have I come to interpret, think, speak and act the way I do?” If the deliberative, slow-processing System 2 fails in adding the logic-based, premeditated ideas into the intuitive response, we can intentionally strive to train the habit of giving purpose to our gut feelings, which we might turn to accept or disregard afterwards, in order to drive our decision-making and behavior meaningfully knowing the actual reason behind and not in automatic mode. This is no easy task but rather requires perseverance, willingness, and effort.
18. Taking time to consider all the factors, perspectives and estimates. Sleeping on the decision and taking a break favors a fresh cognitive state and reduces biases such as anchor. Yet, prolonged periods of reflection may add more biases.

Wilson and Brekke proposed a remedy once a bias is detected and, most importantly, we are willing to correct it.

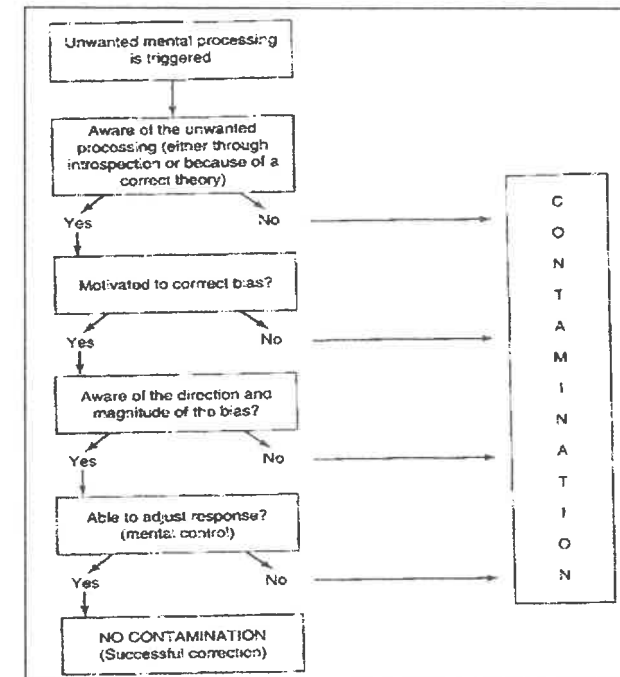


Figure 5. stages towards debiased judgements. Source: (Kahneman, 2002).

There are some dissenting scholars such as Wilson and Brekke who defend that the attempt to correct the inference of a bias may result in counter productivity. They argue that people who have consumed biased information hardly can swift to an unbiased judgement similar to someone who has not. According to them, the debiasing process may suffer from three errors: “insufficient correction (debiasing in the direction of accuracy that does not go far enough), unnecessary correction (debiasing when there was no bias), and overcorrection (too much debiasing, such that judgements end up biased in the opposite direction)” (Kahneman, 2002).

In fact, continuous vigilance may lead to the “bias bias” (Gigerenzer, 2018) and in turn to unnecessary debiasing strategies which may finish by biasing our judgments. As Kahneman stated: “because System 1 operates automatically and cannot be turned off at will, errors of intuitive thought are often difficult to prevent. Biases cannot always be avoided because System 2 may have no clue to the error. Continuous vigilance is not necessarily good, and it is certainly impractical. Constantly questioning our own thinking would be impossibly tedious. The best we can do is a compromise: learn to recognize situations in which mistakes are likely and try harder to avoid significant mistakes when stakes are high” (Kahneman, 2011).

4. CONCLUSIONS

After completing the research, we gained awareness on the limitations and possible improvements that can be made for the sake of more refined conclusions and relevant findings such as:

Considering more variables linked to EQ and decision-making beyond their traits, for instance, a holistic approach to the environment and context where the decision-making takes place.

Limiting the whole discussion on proving their relation between EQ and enhanced decision-making by reviewing the existing literature. However, we recognize that this would be fairly hard in the context of a TFG given both time and resources limitations which is why we decided to concentrate on a specific topic. To deepen and expand on the practical application in different professional environments:

Interesting future lines of research could study the effectiveness of implementing EQ training in labor contexts in particular in work environments where emotions are taken to one's limit in some occasions such as the army, teaching, medicine, business, humanitarian aid or any other high level position, among others.

Another research topic could be to study if EQ awareness after training makes companies (especially management and human resources positions) more human and understanding of the crucial, and sometimes limiting, psychological factor on employee performance and behavior.

Finally, given the detrimental repercussions of a low emotion understanding capacity on daily life behavior and decision-making, EQ shall be equally valued and promoted as IQ for which educational institutions have a primary role and responsibility in teaching. The implementation of EQ competencies into the educational system's agenda would be an interesting, promising further line of research.

Counting on the guidance and supervision from relevant departments of the university such as psychology or business.

The chosen literature review methodology has proved successful in helping us meet all the research objectives. Nevertheless, despite the decent amount of contrasted information, collected from the previously indicated browsers, this research has been limited by access restriction to academic and scientific journals such as Science and PubMed, as well as restricted papers and online books, all of which would have provided valuable additional and contrasting data.

The multidisciplinary framework of this paper, though offering a wide perspective, may have resulted in shortages in some topics for the sake of proportionality, coherence and conformity to the number of pages of a TFG.

Nonetheless, this paper has also led us to some conclusions and proposals:

We proved a positive relation between emotional intelligence and an enhanced decision-making capacity. This finding compels, first of all, any professional field, particularly useful for highly people-to-people oriented, teamwork, complex environments and emotionally challenging jobs. Second of all, at an individual level, the present paper offers a wide scope of the existing prominent data (since the late 60's until today) demonstrating how developing EQ skills improves our quality of life.

In contrast to some other revised papers, ours differs from the rest in terms of its multidisciplinary offering, in addition, a large list of different debiasing techniques captured from psychology, business and philosophy.

The implications of leveraging the quality of the decision-making process with EQ skills reflect how emotional self-government not only attenuates the influence of cognitive biases but also contributes key added valuable competences to society, both in the professional and personal sphere.

Interesting future lines of research could be to study the effectiveness of implementing EQ training in labor contexts in particular in work environments where emotions are taken to one's limit in some occasions such as the army, teaching, medicine, business, humanitarian aid or any other high level position, among others. Another research topic could be to study if EQ awareness after training makes companies (especially management and human resources positions) more human and understanding of the crucial, and sometimes limiting, psychological factor on employee performance and behavior. Finally, given the detrimental repercussions of a low emotion understanding capacity on daily life behavior and decision-making, EQ shall be equally valued and promoted as IQ for which educational institutions have a primary role and responsibility in teaching. The implementation of EQ competencies into the educational system's agenda would be an interesting, promising further line of research.

Having blossomed relatively recently, there is considerable misunderstanding and lack of knowledge on Emotional Intelligence. In an IQ-led society with rapidly growing demand for people with EQ skills, it is imperative to educate in it.

After due examination of the conditions where biases and heuristics occur and how our mental processes are affected by them, it can be asserted that trusting the use of simple heuristics is more pragmatic than time-consuming, error-prone, bias-generating, energy-depletable methods. Their degree of incidence is (pre-) determined by the context and varies across individuals. A relevant finding about the selection of the studied biases and heuristics is that they all unconsciously but also to some extent consciously disregard objectivity in return for prioritizing subjective convictions because they are inseparable from the assignment of emotional values.

It is certainly true (as Kahneman asserted in his dual brain theory clarifications) that a permanent state of questioning our own thoughts up to the point of overanalysis can be certainly painful and detrimental. However, we slightly disagree. We contend that challenging our beliefs; not trusting first-hand thoughts without due consideration; and questioning the roots of our thoughts is indeed imperative to detach from an attitude that could make us slaves of our beliefs and resistant to change even in spite of such showing contrary evidence, thus risking creating and live in a virtual reality cemented upon biases.

5. REFERENCES

- Babeş-Bolyai University. (2010). *Emotion Regulation and Decision Making Under Risk and Uncertainty*. Retrieved from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.924.4931&rep=rep1&type=pdf>
- Bourgeat, P. (2015). *THE PERILS OF EQUATING SYSTEM 1 WITH EMOTION AND IRRATIONALITY*. Retrieved from: https://www.ipsos.com/sites/default/files/2017-03/IpsosMarketing_POV_PerilsOfEquatingSystem1.pdf.
- Cortada de Kohan, N. (2008). Los Sesgos Cognitivos en la Toma de Decisiones. *International Journal of Psychological Research*, 68-73. Retrieved from: <https://www.redalyc.org/pdf/2990/299023503010.pdf>
- Galimberti, M. (2012). *EMOCIÓN Y VALORACIÓN COGNITIVA*. Retrieved from: <https://marinagalimberti.com/wp-content/uploads/2017/08/EMOCI%C3%93N-Y-VALORACI%C3%93N-COGNITIVA.pdf>
- George, J. M. (2000). *Emotions and leadership: The role of emotional intelligence*. Retrieved from: <https://aludvboxdotcom.files.wordpress.com/2016/07/emotions-and-leadership-the-role-of-emotional-intelligence.pdf>
- Gigerenzer, G. (2018). The Bias Bias in Behavioral Economics. *Review of Behavioral Economics*, 303-336. Retrieved from: https://pure.mpg.de/rest/items/item_3037697/component/file_3047156/content
- _____, Gaissmaier, W. (2011). Heuristic Decision Making. *Annual Review of Psychology*, 452-473. Retrieved from: https://www.researchgate.net/publication/49653132_Heuristic_Decision_Making/link/09e4150a8853aa1597000000/download
- _____, Mousavi, S. (2013). Risk, Uncertainty, and Heuristics. *Journal of Business Research*, 2-32. Retrieved from: https://www.researchgate.net/publication/262490815_Risk_uncertainty_and_heuristics
- _____, Selten, R. (2002). *Rethinking Rationality*. Retrieved from: <https://bit.ly/2QZiMse>
- Goldstein, D., Gigerenzer, G. (2002). Models of Ecological Rationality: The Recognition Heuristic. *Psychology review*, 2-17. Retrieved from: https://www.researchgate.net/publication/11499120_Models_of_Ecological_Rationality_The_Recognition_Heuristic
- Harvard University, New York University. (2008). *How can decision making be improved?* Retrieved from: https://www.hbs.edu/faculty/Publication%20Files/08-102_1670bc7e-dc3c-49c8-bc5f-1eba2e78e335.pdf
- Hess, J., Bacigalupo, A. (2011). *Enhancing decisions and decision-making processes through the application of emotional intelligence skills*. Emerald. Retrieved from: <https://pdfs.semanticscholar.org/770f/36e43dc8c93d6aa1bd632190483f4abf4dc8.pdf>
- Hess, J., Bacigalupo, A. (2013). Applying Emotional Intelligence Skills to Leadership and Decision Making in Non-Profit Organizations. *Administrative Sciences*, 1-19. Retrieved from: https://www.researchgate.net/publication/269514140_Applying_Emotional_Intelligence_Skills_to_Leadership_and_Decision_Making_in_Non-Profit_Organizations
- Kahneman, D. (2002). Mental Contamination and the Debiasing Problem. En T. Gilovich (Ed.), *Heuristics and Biases the Psychology of Intuitive Judgment* (pp. 185-200). Retrieved from: <http://www.people.virginia.edu/~tdw/wilson.centerbar.brekke.contam.pdf>
- _____. (2003). Maps of Bounded Rationality: Psychology for Behavioral Economics. *The American Economic Review*, 2-23. Retrieved from: https://scholar.princeton.edu/sites/default/files/kahneman/files/maps_bounded_rationality_dk_2003.pdf
- _____. (2011). *Thinking, Fast and Slow*. Penguin Psychology.
- _____, Tversky, A. (1974). Judgment under Uncertainty: Heuristics and Biases. *Science*, 1-10. Retrieved from: <https://www2.psych.ubc.ca/~schaller/psyc590Readings/TverskyKahneman1974.pdf>
- Lockton, D. (2012). *Cognitive biases, heuristics and decision-making in design for behaviour change*. Retrieved from: https://www.researchgate.net/publication/256029769_Cognitive_Biases_Heuristics_and_Decision-Making_in_Design_for_Behaviour_Change

Marewski, J., Schooler, L. (2016). *An Ecological Model of Memory and Inferences*. Retrieved from: https://www.researchgate.net/publication/306502757_An_Ecological_Model_of_Memory_and_Inferences

Michellini, Y., Godoy, J. C. (2019). *Efecto de emociones en toma de riesgo, deshonestidad y cognición social en adultos emergentes universitarios*. Retrieved from: <https://www.quadernsdepsicologia.cat/article/download/v21-n3-michellini-godoy/1508-pdf-es>

Orejarena, H., Zambrano, O., Carvajal, M. (2019). *Emotional intelligence and its influence on organizational leadership in the VUCA world*. Atlantis Press. Retrieved from: https://www.researchgate.net/publication/336888960_Emotional_intelligence_and_its_influence_on_organizational_leadership_in_the_VUCA_world

Pérez Nieto, M. Á., Redondo Delgado, M. M.^a. (2006). *PROCESOS DE VALORACIÓN Y EMOCIÓN: CARACTERÍSTICAS, DESARROLLO, CLASIFICACIÓN Y ESTADO ACTUAL*. Retrieved from: <http://reme.uji.es/articulos/numero22/revisio/num22revisio.pdf>

Project Management Institute. (2006). *Managing risk attitude using emotional literacy*. Retrieved from: <https://www.pmi.org/learning/library/managing-risk-attitude-using-emotional-literacy-8156>

Schettkat, R. (2018). *Revision or Revolution? A Note on Behavioral vs. Neoclassical Economics*. Retrieved from: <https://www.econstor.eu/bitstream/10419/180367/1/Revision%20or%20Revolution%20SDP.pdf>

Selten, R. (1999). *What is Bounded Rationality?* Retrieved from: <https://www.wiwi.uni-bonn.de/sfb303/papers/1999/b/bonnsfb454.pdf>

Soll, J., Milkman, K., Payne, J. (2015). *Outsmart your own biases*. Retrieved from: <https://hbsp.harvard.edu/download?url=%2Fcourses%2F761350%2Fitems%2FR1505D-PDF-ENG%2Fcontent&metadata=e30%3D>

Soukup, A., Maitah, M., Svoboda, R. (2014). *The Concept of Rationality in Neoclassical and Behavioural Economic Theory*. *Modern Applied Science*, 2-10. Retrieved from: https://www.researchgate.net/publication/276676364_The_Concept_of_Rationality_in_Neoclassical_and_Behavioural_Economic_Theory

Sunstein, R., Hastie, R. (2014). *Making Dumb Groups Smarter*. Harvard Business Review. Retrieved from: <https://hbsp.harvard.edu/download?url=%2Fcourses%2F761350%2Fitems%2FR1412F-PDF-ENG%2Fcontent&metadata=e30%3D>

Sumathy, L., Madhavi, C., Felix, A. (2015). *Influence of Emotional Intelligence on Decision Making by Leaders*. *American International Journal of Social Science*, 1-7. Retrieved from: <https://www.semanticscholar.org/>

[paper/Influence-of-Emotional-Intelligence-on-Decision-by-Sumathy.-Felix/d7d7958186f17b0d5c7c772a04f4e849a986f71e](https://www.researchgate.net/publication/306502757_An_Ecological_Model_of_Memory_and_Inferences)

Vargas Hernandez, J., Perez Ortega, R. (2019). *Bounded rationality in decision-making*. Retrieved from: <https://medcraveonline.com/MOJCRR/MOJCRR-02-00047.pdf>

Viale, R. (2016). *THE AFFLICTIONS OF BEHAVIORAL ECONOMICS INFORMED NUDGE*. Retrieved from: https://www.researchgate.net/publication/305931068_The_Afflictions_of_Behavioral_Economics_Nudge

Yip, J., Côté, S. (2012). *The Emotionally Intelligent Decision Maker: Emotion-Understanding Ability Reduces the Effect of Incidental Anxiety on Risk Taking*. *Psychological Science*, 1-9. Retrieved from: https://mba.americaeconomia.com/sites/mba.americaeconomia.com/files/yip_cote_2013.pdf

