ASSOCIATION OF POLYTECHNICS IN NORTHERN PORTUGAL

POLYTECHNIC INSTITUTE OF BRAGANÇA

Relationship Between Investor's Profile and the Level of Emotional Competence

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A dissertation presented to the Polytechnic Institute of Bragança
To obtain the degree of master's in accounting and Finance

Supervisors:

Prof. Doutora Ana Paula Monte
Prof. Doutora Maria Augusta Romão da Veiga Branco

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Abstract

Over time, the assumptions of traditional financial theories have been questioned, particularly the research área of behavioral finance led to new insights into human behavior in financial matters. Behavioral finance explores the psychological aspects of investors' behavior and tries to understand how limited rational behavior is in decision making. Withresearch on risk tolerance, that leads to the investor profiles ranging from conservative to aggressive.. The behavioral finance studies are related to the Emotional Intelligence studies, which introduced the Emotional Competence studies. Emotional Competence is divided into five dimensions: Self-Awareness, Emotions Management, Self-Motivation, Empathy, and Social Emotions Management behaves at the time of the decision. This research tries to understand if there is a relationship between the investor's profile and his emotional competence. This investigative study is characterized as qualitative-quantitative exploratory research with specific objectives: (i) To know the sociodemographic characteristics of the sample; (ii) Identify the profile of the individual investor: conservative, moderate, or aggressive; (iii) Identify the level of Emotional Competence of the individual investors (iv) Identify the most relevant Emotional Competence among the sample; and finally (v) Analyze the relationships between the dimensions of Emotional Competence and the types of Investor's Profile. The results of this research indicate that there is a relation between the investor's profile and his/her emotional competence. It also reveals that empathy is a very important skill and that the motivational variable has great value among the skills. The reseach shows significant results that indicate the correlation between investors'profiles and emotional intelligence. Nevertheless, there is definitely need for further research on this topic.

Keywords: behavioral finance, emotional competence, investor's profile, prospect theory, empathy, self-motivation

Resumo

Com o tempo, os pressupostos das teorias financeiras tradicionais foram questionados, principalmente a área de pesquisa de finanças comportamentais que levou a novos *insights* sobre o comportamento humano em questões financeiras. As finanças comportamentais exploram os aspectos psicológicos do comportamento dos investidores e tenta entender como o comportamento racional é limitado na tomada de decisões. Com pesquisas sobre tolerância ao risco, que leva a perfis de investidores que variam do conservador ao agressivo. Os estudos de finanças comportamentais estão relacionados aos estudos de Inteligência Emocional, que introduziram os estudos de Competência Emocional. A Competência Emocional é dividida em cinco dimensões: Autoconsciência, Gestão das Emoções, Auto-Motivação, Empatia e Gestão das Emoções Sociais se comporta no momento da decisão. Esta pesquisa busca entender se existe relação entre o perfil do investidor e sua competência emocional. Este estudo investigativo caracteriza-se como uma pesquisa exploratória qualitativo-quantitativa com objetivos específicos: (i) Conhecer as características sociodemográficas da amostra; (ii) Identificar o perfil do investidor pessoa física: conservador, moderado ou agressivo; (iii) Identificar o nível de Competência Emocional dos investidores individuais (iv) Identificar a Competência Emocional mais relevante entre a amostra; e finalmente (v) Analisar as relações entre as dimensões da Competência Emocional e os tipos de Perfil do Investidor. Os resultados desta pesquisa indicam que existe uma relação entre o perfil do investidor e sua competência emocional. Revela também que a empatia é uma habilidade muito importante e que a variável motivacional tem grande valor entre as habilidades. A pesquisa mostra resultados significativos que indicam a correlação entre os perfis dos investidores e a inteligência emocional. No entanto, definitivamente há necessidade de mais pesquisas sobre este tópico.

Palavras - Chave: finanças comportamentais, competência emocional, perfil do investidor, teoria da perspectiva, empatia, automotivação.

Resumen

Con el tiempo, los supuestos de las teorías financieras tradicionales han sido cuestionados, en particular el área de investigación de las finanzas conductuales condujo a nuevos conocimientos sobre el comportamiento humano en asuntos financieros. Las finanzas conductuales exploran los aspectos psicológicos del comportamiento de los inversores e intenta comprender cuán limitado es el comportamiento racional en la toma de decisiones. Con investigación sobre tolerancia al riesgo, que conduce a perfiles de inversionistas que van desde conservadores a agresivos. Los estudios de finanzas conductuales están relacionados con los estudios de Inteligencia Emocional, que introdujeron los estudios de Competencia Emocional. La Competencia Emocional se divide en cinco dimensiones: Autoconciencia, Manejo de las Emociones, Auto-Motivación, Empatía, y Manejo de las Emociones Sociales que se comporta en el momento de la decisión. Esta investigación intenta comprender si existe una relación entre el perfil del inversor y su competencia emocional. Este estudio investigativo se caracteriza por ser una investigación exploratoria cualitativo-cuantitativa con objetivos específicos: (i) Conocer las características sociodemográficas de la muestra; (ii) Identificar el perfil del inversor individual: conservador, moderado o agresivo; (iii) Identificar el nivel de Competencia Emocional de los inversores individuales (iv) Identificar la Competencia Emocional más relevante entre la muestra; y finalmente (v) Analizar las relaciones entre las dimensiones de Competencia Emocional y los tipos de Perfil del Inversor. Los resultados de esta investigación indican que existe una relación entre el perfil del inversionista y su competencia emocional. También revela que la empatía es una habilidad muy importante y que la variable motivacional tiene un gran valor entre las habilidades. La investigación muestra resultados significativos que indican la correlación entre los perfiles de los inversores y la inteligencia emocional. Sin embargo, definitivamente es necesario realizar más investigaciones sobre este tema.

Palabras clave: finanzas del comportamiento, competencia emocional, perfil del inversor, teoría de la perspectiva, empatía, auto-motivación.

To my parents.

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Abbreviations, Acronyms and Symbols

CSN - Children with Special Needs.

EC - Emotional Competence.

ECI - Emotional Competence Inventory.

EI - Emotional intelligence.

EVCE - Emotional Competence Veiga Scale. ,

IQ - Intelligence quotient.

RNCCI - National Network of Integrated Continued Care.

ROR - Rate of Return.

SPSS - Statistical Package for Social Science.

x - Arithmetic Mean.

n - Absolute Frequency.

r - Pearson's correlation coefficient.

s - Standard Deviation.

α - Cronbach alpha.

% - Relative Frequency.

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Introduction

Making financial decisions on a daily basis is part of the life of most people in the world. People are always concerned about their money, and the best way on how to invest it. Many studies, especially from Kahneman and Tversky (1979, 2011), have shown the connection between Emotional Intelligence and financial decisions, understanding that the brain has two sides: rational and irrational. Starting from there, the studies have also shown that the rational side can learn from the irrational one. Therefore, from a financial point of view, it is possible to improve an investor's profile.

Emotional Competencies is an area to be studied by behavioral finance, in order to seek the best skills that fit the best profiles. According to Goleman (2000), Emotional Competence is an ability, based on Emotional intelligence, that results in extraordinary work performance. Veiga-Branco (2005) considers Emotional Competence an action measured through a level of realization. The author also explains five dimensions of emotional competencies: Self-Awareness; Emotions Management; Self-Motivation; Empathy and Social Emotions Management.

Thus, this study has aimed to understand how each of those emotional competences can relate to an individual investor's profile. In this way it may lead to a better understanding that the financial decisions you take can be constantly improved by developing your emotional competence. The investor´s profile that can be measured for any person who makes his or her own financial decisions is based on five categories: Conservative, Moderately Conservative, Moderate, Moderately Aggressive, or Aggressive. The purpose is to know the link between these Profiles to understand the risk tolerance. Nevertheless, identify the dimensions of Emotional Competence that can be improved, in order to become better investors.

The motivations for this research started with the classes from the Professor Ana Paula Monte, who has inspired the research on Behavioral Finance, and the book from Kahneman *"Thinking Fast and Slow"* (2011). Afterward, the studies of Professor Maria Augusta Romão da Veiga Branco in Emotional Competences were also inspired.

My objective is to understand which emotional competences an investor needs to succeed and how these competences influence, and how these competencies influence their decision-making process, more precisely the investor's profile (in risk taking and investing – conservative/aggressive). This investigative study is characterized as qualitative-quantitative exploratory research with the specific objectives: (i) To know the sociodemographic characteristics of the sample; (ii) Identify the profile of the individual investor: conservative, moderate, or aggressive; (iii) Identify the level of Emotional Competence of the individual investors (iv) Identify the most relevant Emotional Competence among

the sample; and finally (v) Analyze the relationships between the dimensions of Emotional Competence and the types of Investor's Profile.

The sample was defined by convenience by person who make financial decisions with his or her income, and speak Portuguese language, independently of their nationality. In other words, the sample is formed by an independent person that makes decisions on income, namely, saving, investing, keeping, etc. Seeking better clarification of the objectives, the data collection was made in a survey by structured questionnaire, divided into three parts: First the Socio-demographic characterization, then the questions on the Investor's Profile ((Merrill Lynch & Co., 2013),) where participants had to choose between different investment scenarios according to their preferences, and lastly the Emotional Competence Veiga Scale (ECVS), which is related to behavioral and attitudinal variables for the five Emotional Competencies domains.

The dissertation is organized into two main parts: the theoretical framework and the empirical study. The theoretical framework is divided into three main subjects: Behavioral Finance, Investor's Profile, and Emotional Competences. Behavioral Finance will be explained in the beginning of the study, together with theories that will help to get a better clarification of Behavioral Finance's application and how decision-making processes work from a behavioral perspective. Investor's Profile includes the explanation of how the profiles can be defined and the characteristics from each profile. In the chapter Emotional Competences I will explain briefly the starting point of this concept, its applications and the five domains of Emotional Competences. The second part presents the empirical study itself including the research methodology, the presentation, discussion of results, conclusions, limitations of the study, and future works. Finally, the bibliographical references and annexes.

1. Theoretical framework

This topic introduces the ideas from other authors concerning behavioral finance and its applications as well the concepts of emotional competencies. The purpose is to explain both ideas and show the influence of rationality and irrationality in order to create a professional basis for the study. Furthermore, I will explain how the Emotional Competence may interfere in an Investor's Profile. This first chapter encompasses the theories that have been used to formulate the basis for this study, in order to understand of how behavioral economics works and how Emotional Competence can be applied in the financial field, it covers all the relevant theories behind these two concepts. The aim is to understand the relations between an investor's profile and their competences, and the following chapter has a view on all relevant research on this topic.

1.1. Introduction to Behavioral Finance

The academic beginning of Behavioral Finance has started with a social and individual behavior study. The first author in this history was Adam Smith (1759), an economist and philosopher, who used the philosophical concepts to explain financial behavior. He has written the book: *"The Theory of Moral Sentiments"*, one of the biggest references to Behavioral Economics (Costa, 2009).

Contemporary pioneers of the most relevant works in Behavioral Finance are Daniel Kahneman and Amos Tversky. The article: *"Prospect Theory: an analysis of decision under risk",* in 1979

investigates the human behavior for a decision under risk. This work introduced the concept of loss aversion, one of the most relevant concepts for the financial field (Köbberling & Wakker, 2005).

In his book, Danel Kahnemann introduces a concept related to Behavioral Finance. It was a breakthrough in psychology as well as in the area of finance. Together with his friend Amos Tversky, Kahnemann analyzes imperfection in human intuition which affects all judgements and choices human beings can make (Kahneman, 2011).

Behavioral finance is fundamentally divided into psychology and the limits of arbitrage. The main goal of psychology is to explain and understand the reasoning patterns in human beings, e.g. looking for the role of emotional and cognitive processes in decision making. The limit of arbitrage refers to the existence of arbitrage opportunities in the financial markets. Behavior Finance tries to explain the connection between these two elements (Barberis & Thaler, 2003).

Traditional studies about finance are based on rational agents, but these theories are not able to explain satisfactorily the most important aspects in the history of finance. This is why a new paradigm has been studied, which consists that the agent does not always have a rational behavior, and this is the foundation of Behavioral Finance, it goes beyond rational behavior (Yoshinaga, Oliveira, Silveira, & Barros, 2008). The authors identified flaws in standard models and critize that rational bahavior cannot completely explain the agent's decision. The lack of realistic psychology compromises the theories. In case that the agent is not a rational decision-maker, you can hardly predict his or her decisions. The value of realistic psychology in finance is to get a better understanding and to predict in a more reliable way financial decisions (Franceschini, 2015).

Behavioral Finance seeks how to explain the concept of bounded rationality and its consequences. The need to understand the cognitive and emotional bias in a decision introduces psychology to the financial field. These studies introduce the term Emotional intelligence (EI) and how it can affect the decisions in the business area (Lobão, 2012). Initially, after many discoveries about the brain and its abilities, Daniel Goleman, a psychologist and journalist, introduces in 1995 the term EI which creates a whole new concept (Lopes, 2018). Today it is possible to explain that EI is the ability to manage emotions, as well as recognize their meaning and the relations between the reasons, assimilate the feeling, and solve problems based on them (Mayer, Caruso, & Salovey, 2000).

Goleman (1995) divides the human mind into two parts. One part has the rational ability, understands and comprehends the word, can reflect, and is conscious. The other part is emotional, impulsive, illogical, and not very conscious. Normally, these two parts of the mind work simultaneously and human beings make their decisions based on interactions between the rational and the emotional mind (Goleman, 1995).

Kahneman (2011) uses the same idea of two parts in the brain. He introduces, as a character, System 1 which works very fast. It is the intuitive, instinctive, emotional and unconscious part. It activates

our ‘automatic pilot’ that drives our thinking most of the time, as shown in Figure 1. The fast system tells us intuitively how we deal with ordinary things in life, e.g. how the lights are turned on and off. System 2 is rational, is careful, solves problems, takes more effort in mental activities. Both systems work together. First, System 1 tries to solve a problem quickly. However, if the issue is more complicated, System 2 get activated. The brain starts the process to think rationally and to pay more attention to the issue (Kahneman, 2011).

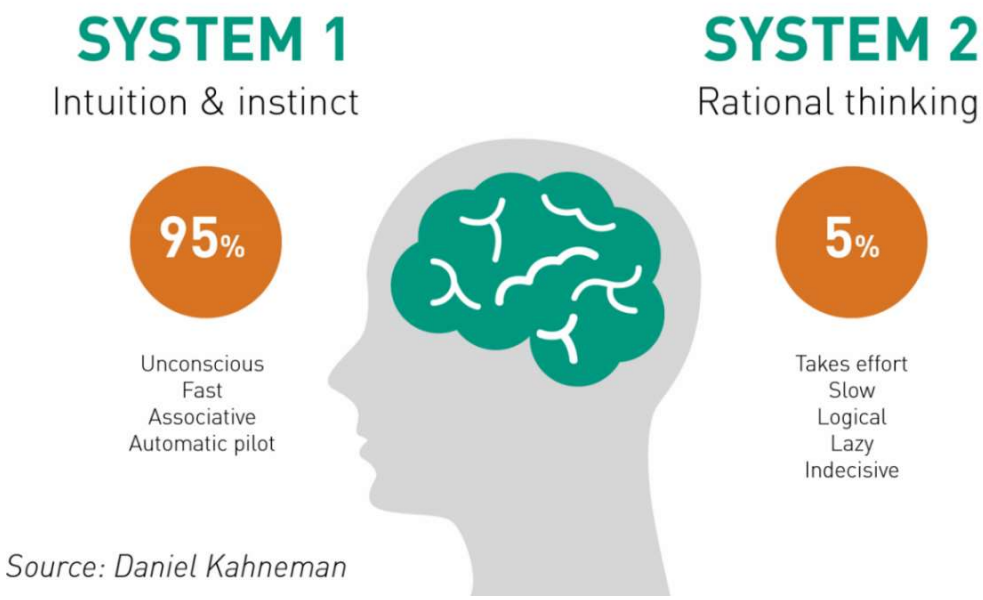


Figure 1 - System 1 and System 2.
[retrieved from https://bit.ly/36aTVZp]

As Shefrin (2002) observed, behavioral finance made huge progress after the publication of the psychological studies. Many discoveries had been quoted in Kahneman’s, Tversky’s, and Slovic’s works (1982). With the main role in behavioral finance history, these authors have introduced ideas that were a breakthrough for standard finance. Slovic’s has mentioned the misperceptions about risk (1969; 1972). Kahneman and Tversky Kahneman and Tversky published two articles regarding heuristic-driven errors (1974) and framed dependence (1979) (Shefrin, 2002) that had a strong impact on Behavior Finance. Kahneman and Tversky (1979) while studying the decision-making process under risk, introduced the prospect theory which is considered to be the foundation of behavioral finance (Prosad, Kapoor, & Sengupta, 2015).

1.2. Prospect Theory

Goal of the Prospect Theory is to find out whether an agent takes into consideration the risk to win or lose in decision-making processes. To understand better why the majority is risk-averse when it is about winning and why prone for risks when it is about losing. In this work, they also could find out that the agents suffer more from a loss than to enjoy their gains. This theory is important to understand investors' behavior. It introduces cognitive biases in decision-making processes (Kahneman & Tversky, 1979).

Humans have a hard time to evaluate all available information and its variables during a decision-making process. Consequently, the chose only some pieces of information to decide. This is an irrational process (Araujo & Silva, 2007). According to Black (1986), there are two explanations for irrational thinking: or the agents enjoy the irrational thinking, as in the popular expression "following your gut", or they do not realize any irrationality due to common behaviour or habits in their daily life (Black, 1986).

The prospect theory assumes that the agent's concern is not only about achieving the final goal of the desired wealth but also to the alterations caused by its loss or gains. Thereby the decision is analyzed independently. Through this theory Kahneman and Tversky (1979), have proposed a hypothetical value function that explains the risk aversion around gains and the prones for risk around losses. As shown in Figure 2, the hypothetical value function is defined through a reference point, The concave to gains implies risk aversion, the convex to losses risk-seeking. Normally the first one is steeper, a clear indication for loss aversion (Kahneman & Tversky, 1979).

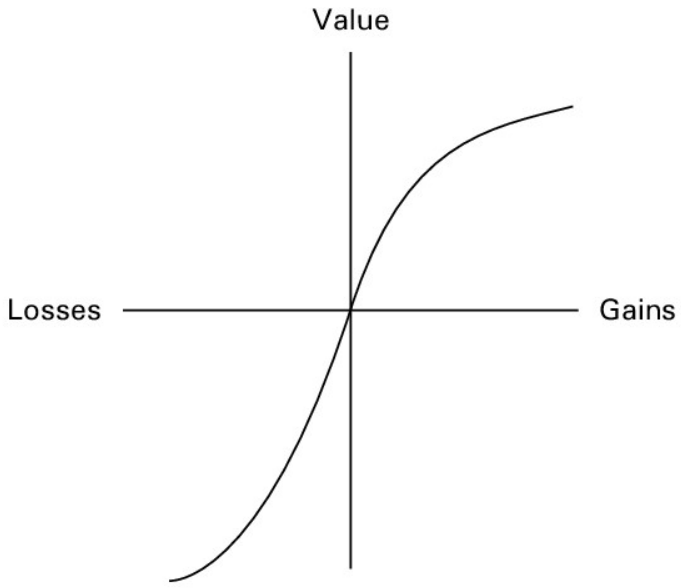


Figure 2 - Hypothetical Value Function.

[adapted from Kahneman & Tversky (1979)]

Mineto (2005) e Pires (2006) explain the two phases of the choosing process as described by Kahneman and Tversky (1979). The first phase is the editing phase where the decision-maker build a preliminary idea of the prospects. In this part, the prospect will be represented simplified in order to an easier evaluation and make the decision using acts, contingencies, and results. The second phase is the evaluation phase, after the edition of each prospect the decision-maker has access to values, and then he can make his choice, usually, the highest prospect is chosen (Mineto, 2005; Pires, 2006).

1.2.1. Certainty Effect

Certainty effect describes an investor's tendency to overweight a decision when having an accurate option. In other words, this effect tries to explain when people overestimate results that are apparently certain, relative to results that are merely possible (Kahneman & Tversky, 1979).

The first famous example of the certainty effect was the Allais Paradox (Allais, 1953 cited by Li & Chapman, 2009), as shown in Figure 3. The majority of people chose A. for Choice 1 and D. for Choice 2, even though Choice 2 is derived by deducting 89% of $1M from both choices in Choice 1. Later, Kahneman and Tversky (1979) have also demonstrated that people prefer A. to Choice 1 and prefer D. to Choice 2 using a common ratio the Choice 2 was derived by dividing the probabilities from Choice 1 (Li & Chapman, 2009).

Study	Choice 1	Choice 2
Allais paradox (Allais, 1953)	A. 100% chance of $1 M	C. 11% chance of $1 M
	B. 10% chance of $5 M 89% chance of $1 M	D. 10% chance of $5 M
Common ratio effect (Kahneman & Tversky, 1979)	A. 100% chance of $3,000	C. 25% chance of $3,000
	B. 80% chance of $4,000	D. 20% chance of $4,000

Figure 3 - Examples of Certainty Effect

[Retrieved from Li & Chapman (2009)]

The certainty effect influences the agent when giving more importance to certainty results than to unpredictable result. The certainty effect influences the agent to be averse to risk in case of gains, and prone to risk in case of loss (Kahneman & Tversky, 1979). *"Not only do people overweight certainty, they are also subject to an illusion of certainty"* (Li & Chapman, 2009, p. 156).

1.1.2. Reflection Effect

This effect explains why an agent averse to risk in gains is also averse to risk in loss and the other way round (Cohen, Jaffray, & Said, 1987). The reflection effect is based on the agent's need of a reference value. An agent has averse to risk behavior for gains and will seek the risk for losses with high odds. For wins and losses with low odds the standard behavior switches (Baucells & Villasís, 2010).

Kahneman (2011) has described a fourfold pattern. This pattern explains the reflection effect, as shown in Figure 4. As also explained above, the probability changes the pattern of the decision-making agent (Kahneman, 2011).

Figure 4 - Fourfold Pattern for Risk Aversion or Risk Seeking.

[adapted from https://bit.ly/36fijJk]

1.1.3. Overconfidence Effect

Overconfidence is also studied by cognitive psychology. It has a huge impact on financial decisions, for example when the ability to predict market events is overestimated. Freitas (2006) also points that the overconfidence has one main reason: the agent has very narrow confidence intervals for their quantitative estimates. According to Fischhoff, Sloviv e Lichtenstein (1977 quoted by Freitas, 2006) th the events which the investors believe that will happen occur 80% of the time, compared to only 20% of events not taken into consideration (Freitas, 2006).

Normally people are more overconfident than accurate. This could be explained by its social-cognitive mechanisms, as the effects of judgmental heuristics. This overconfidence comes from a desire of people to see themselves as knowledgeable and competent (Blanton, Pelham, DeHart, & Carvallo, 2001). Overconfident people normally set the high guess too low, and the low guess too high. Shefrin (2002) divided the overconfidence effect into two main implications. First, the investors are inclined to make bad decisions, due to a lack of information that they fail fail to realize. Second, they overtrade frequently, what leads to an excessive volume of trades (Shefrin, 2002).

The overconfidence effect is known as a cognitive bias where the agents recognize themselves with better qualities than the general population. They believe they are better than the average. In the financial field, this type of agent presents an impulsive behavior. Normally they take more risk to pursuit more gains (Thaler, 2008). "*Most of these researches reveal that overconfidence is an illusion of superior knowledge in investors, which is strengthened by their past successes. This tendency makes them trade more as they become sure of the positive outcome"* (Prosad, Kapoor, & Sengupta, 2015, p. 14).

1.1.4. Representativeness

Representativeness is known as a tendency of people to make decisions only taking into consideration a recent event that they are still able to remember. Investors normally have this inclination to look to this particularly recent event and considering it to be the most relevant one. Dharand Kumar (2001) studied trends of prices for stocks bought by more than 62,000 households. After this analysis, he realized that people normally buy stocks with a recent atypical return. Later, Karstner (2005) attributed that the overreaction of investors to earnings' announcements can be related to the representativeness bias, stating that first they extrapolate the return surprise and then overreact to subsequent return surprises (Prosad, Kapoor, & Sengupta, 2015).

The representativeness has several implications on the decision-making process. People are inclined to misjudge frequent appearances a choice for good investment, for example those in luxury companies. Lakonishok, Shleifer, and Vishny (1994) instead have studied this assumption and found a cognitive error: Luxury companies are frequently a bad investment. Nevertheless, people consider a quality product, good management or unexpected growth to be a viable investment (Chen, Kim, Nofsinger, & Rui, 2007).

While studying the theories among the Prospect Theory, Kahneman and Tversky (1972) have also taken into consideration the representative bias. The have pointed the fact that average people normally judge the representative event more likely to happen than other options. Representativeness is easier to simply "do" than to characterize. People choose between two possibilities and decide for the one that is more representative. There was found some evidence instead that this bias plays a role in

moments of uncertainty, e.g. when there is no ‘correct answer’. In this case, people feel inclined to choose the representative one. This is why it can play an important role in probabilities judgement, for example in political or clinical deliberations (Kahneman & Tversky, 1972).

1.1.5. Availability Bias

This bias is explained as people normally are inclined to choose something they are familiar with or where they have a prevalence for a particular result. People tend to prioritize events that they can easily remember and comprehend (Prosad, Kapoor, & Sengupta, 2015). This effect explains why people are affected by waves of public attention and investors very often choose only those stocks that are in the centre of current debates (Kliger & Kudryavtsev, 2010).

Availability is an effect that uses the strength of associations as a basis for the judgment frequency. In general because frequent events are easier to remember than infrequent ones. Apart from frequency, the subjective perception of the probability of events is another factor. Kahneman and Tversky have concluded concluded that when people evalute availability with reasonable speed and accuracy, their judgement is biased by the availability of information and retrieval (Tversky & Kahneman, 1973). *“Perhaps the most obvious demonstration of availability in real life is the impact of the fortuitous availability of incidents or scenarios”* (Tversky & Kahneman, 1973, p. 230)

1.1.6. Loss Aversion

A psychological concept that influences all people is loss aversion. Flávia and Biachi (2015) emphasize that people normally have a sensibility to lose more than gains. They have concluded that average people are twice times more sensitive to losses than to gains (Ávila & Bianchi, 2015). Through many observations in the research on risky choice, those choices may be easier to explain by assuming a relative more neutral point of reference than wealth or welfare. Another result is that the worst chances are more feasible than a chance with improvements or gains (Kahneman, Knetsch, & Thaler, 1991).

Kahneman and Tversky, quoted by Kahneman (2011), have realized at a certain point that they were looking only for differences in bets with win probabilities (high ow low). Changing the point of view, they have concluded that the risk aversion becomes a risk-seeking (Kahneman, 2011).

Considering the following example:

a) 100% chance to win $900 or a 90% chance to win $1000.

b) 100% chance of losing $900 or a 90% chance of losing $1000.

This example is an easy way that Kahneman and Tversky have found to explain how people's risk aversion can switch depending on the chances of loss. In option a), most people choose the chance to win $900, an example of risk aversion. In the option "b)" most people prefer to take the risk than assume the loss, an example of loss aversion (Kahneman, 2011).

When comparing losses and gains, Kahneman (2011) says that the losses are assumed to be better than the earnings. That discrepancy between the potential of positive or negative expectations has an evolutionary history. Organisms that consider threats more important than opportunities have a bigger chance of survival and reproduction (Kahneman, 2011).

The loss aversion concept has an interesting approach. Nofsinger (2018) noted that people that fear loss make irrational decisions because they do not acquire or pay attention to the relevant information. An example is an investor who buys shares only taking into consideration its past performance. By betting that the share price will continue to rise, he ignores current information from the market (Nofsinger, 2018).

1.1.7. Mental Accounting

"Mental accounting places the prospect theoretic treatment into a broader framework, by clarifying conditions under which the disposition effect holds when realization proceeds are reinvested in a swap" (Shefrin & Statman, 1985, p. 778). Thaler (1999) explains how mental accounting is a cognitive process. It describes the way how people make accounting, keep track of their money and try to control it (Thaler, 1999).

"A well-known song implores poker players to `never count your money while you're sitting at the table'. An analysis of dynamic mental accounting shows why this is excellent advice, in poker as well as in other situations involving decision making under uncertainty (such as investing)" (Thaler, 1999, p. 184). The process of mental accounting can only be learned by observing behaviors and by intermediating the rules. These rules are not neutral. For this reason trying to understand the mental accounting process may help to clarify how decision-making processes work (Thaler, 1999).

Thaler (1999) has also given more attention to three components of mental accounting:

1. How is the recognition and collection of results and how it is evaluated in the decision-making process.
2. The assignment of activities to a specif mental account.
3. The frequency that those accounts are appraised (Thaler, 1999).

Mental accounting is defined by the separation of the accounts. The evaluation of the performance of each account is separated, instead of analyzing it as a range. Barberis and Huang (2001)

have studied investor´s mental accounting system and how they affect asset prices. Although mental accounting helps investors to make decisions with complex information, they have concluded that it creates a distortion in asset prices (Prosad, Kapoor, & Sengupta, 2015).

1.1.8. Disposition Effect

The disposition effect is known as the effect when the investors sell the winner's stocks first and hide/hold on to their losers one. This effect can be explained by several factors. First, the “editing stage” defined by Kahneman and Tversky frames all possible choices, this phase frame all the possible choices into gains or losses and establish a referential point. In the second phase, called the “evaluation stage”, the investors define a valuation function (Figure 2), which is concave to gains and convex to losses. It indicates the risk aversion to gains and risk.seeking to losses (Shefrin & Statman, 1985).

“People avoid actions that create regret and seek actions that cause pride” (Chen, Kim, Nofsinger, & Rui, 2007, pp. 426-427) Selling the winner first would stimulate pride, by encouraging the action of having made a good decision. Seeling the loser first would reinforce the poor decision and develop into a regret sentiment (Nofsinger, 2018). Therefore, investors often made the decision to sell stocks with a good position and performance first, thus they evaluate themselves as good decision-makers. Nevertheless, they hold on to stocks with bad performance because they are not ready to acknowledge their mistakes and poor decision (Chen, Kim, Nofsinger, & Rui, 2007).

1.2. Decision-making process

The human being makes decisions all the time, either consciously or unconsciously. Normally, he or she gathers all possible information in a situation that they understand as a decision-making process. For that process, people believe that more information is always the best but that is not completely true. Studies have shown that a large quantity of information can confuse the decision-making process. As it is not a complete consciously process, we cannot process all that we see (Saaty, 2008).

According to Baker et al. (2001), the decision-making process, the decision-maker and the stakeholder should be clearly defined. These definitions reduce disagreements in the process. Decision-making processes are similar to problem solving and follow a similar path from the definition of a problem to its solution. Baker (2001) describes this process in 8 steps, shown in Figure 5 (Baker, et al., 2001):

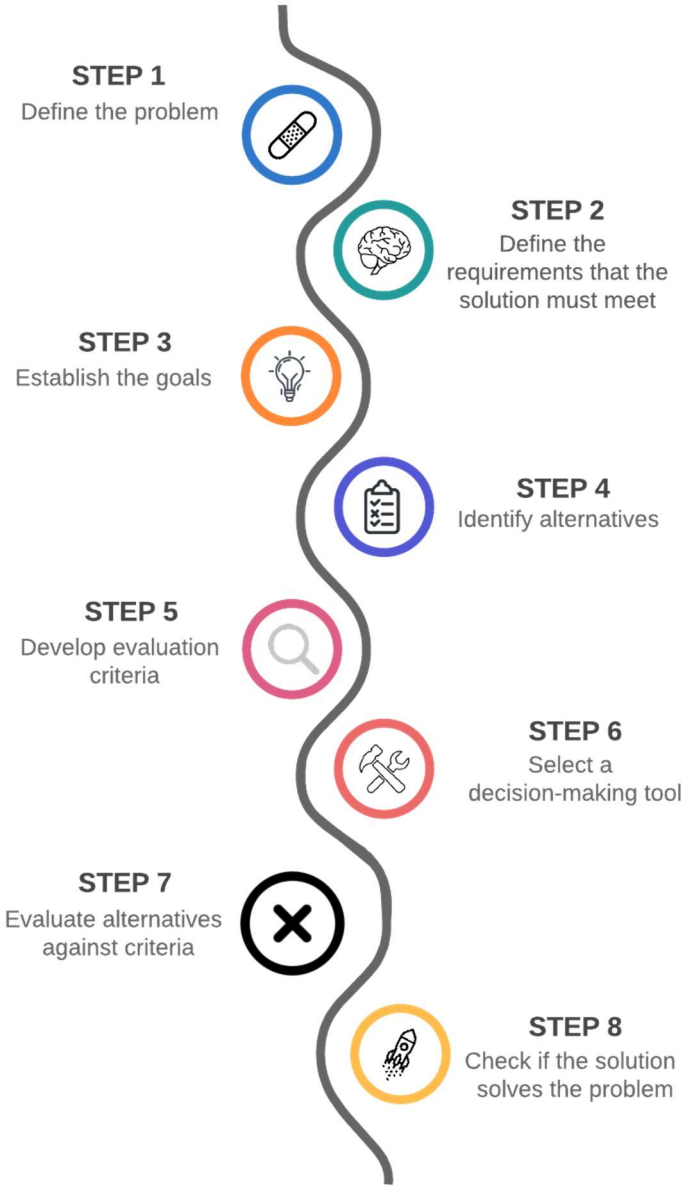


Figure 5 - Decision-Making process.

[adapted from Baker, et al. (2001)]

i. Define the problem: This is a crucial part of the process: it is very important to clarify the idea and to reduce to a minimum as possible the main problem. The key is to ask as many questions as possible to ensure that the final report will include the appropriate answers.

ii. Determine Requirements: A requirement is the conditions that a solution must solve the problem. In other words, the requirement is a minimum set that the decision-maker should take into consideration in order to get a good solution. This is why it is very important to determine which are these requirements.

iii. Establish Goals: Goals, like requirements, are desires that the decision-maker should try to achieve. They are positive solutions that have to established in the beginning of the process.
iv. Identify Alternatives: Alternatives should determine the conditions of the requirements. All alternatives need to be clear and should offer different approaches to be analyzed during the decision-making process.
v. Define Criteria: Since it is quite impossible to achieve all goals with one alternative only, the definition of a criterion may be useful. This criterion should be strictly linked to the goals. It may clarify how well different alternatives will lead to achieve the goal.
vi. Select a Decision-Making Tool: A good decision-making tool can easily facilitate. This tool needs to meet the complexity of the problem and the ability of the team who is managing it.
vii. Evaluate Alternatives against Criteria: The alternatives can be evaluated through a quantitative or qualitative method, and the criteria should rank these alternatives. These analyses should improve the quality of the selection process.
viii. Validate Solution against Problem Statement: To finalize the process, the solution should be checked against the requirements and fulfill the desired goals.

Damasio (1996) explained that the decision-making process without emotional behavior would be practically impossible because the human being would analyze for hours the consequences and all the biases in every decision. The decision has two complementary ways: the rational and the emotional.

This process process is supported by an automatic mechanism that Damasio (1996) calls Somatic Marker. The somatic marker acts as an alarm for negative situations and helps the agent to make a decision quicker, due to the mechanism that has a neurological connection and learns from our secondary emotions and sentiments (Damasio, 1996).

Using a card game paradigm to analyze behaviors, it has been possible to conclude that when the somatic marker is not adequate and activated, gamblers have chosen the most dangerous bets, and the mechanism does not send an alarm to this dangerous choice. Without the mechanism, due to a lesion in the cortex, these individuals have a problem to distinguish “good and bad” in ambitious sceneries (Bechara, Damasio, Damasio, & Anderson, 1994).

Loomes and Sugden (1982) give a good example to explain the “primary” and “secondary” trigger of the somatic marker. In a scenario of a decision-making investment, when receiving the market news, the primary inducers are triggered as an innate response to it. This reaction contrasts with the secondary inducers, which are triggered by the recall of emotional events. These trigger reflection and consideration in order to avoid an impulsive investment response (Loomes & Sugden, 1982).

1.3. Type of investors

When talking about an investment, it is very important to analyze its profitability, safety, and liquidity. The rentability is also known as the rate of return (ROR), the value or percentage of increase or decrease in a certain period. Safety is measured through the risk of the investment. Liquidity is how easily this investment can be turned into money (Cavalcante, Misumi, & Rudge, 2005).

According to Toscano Júnior (2004), the most important aspect for an investor is to identify investments that suit best with the investor's profile. Each investor has its own individual profile and preferences in relation to three main categories: conservative, moderate and aggressive. Figure 6 shows an example of how these three types of investors manage their investments (Toscano Júnior, 2004).

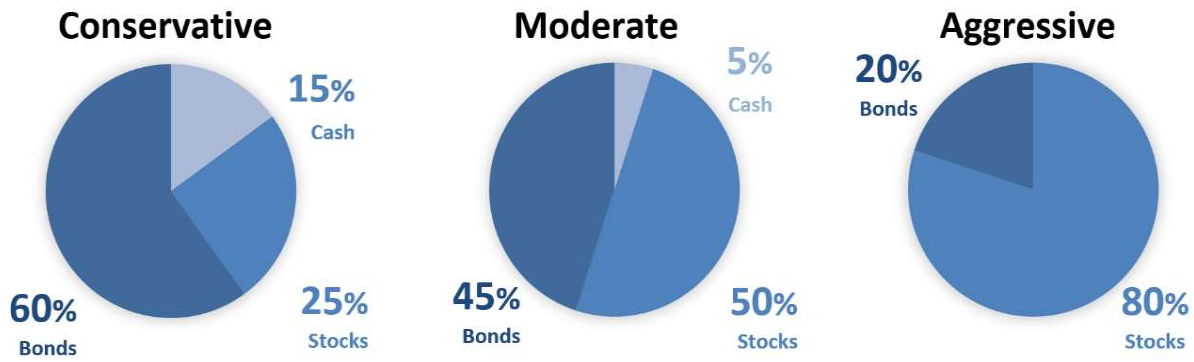


Figure 6 - Investor Profile.
[adapted from https://bit.ly/2TMLIFA]

- Conservative: This is the 'loss aversion' type of investors. They are afraid to lose their capital and prefer more secure investments, such as fixed-income investments. They accept lower returns for capital preservation.
- Moderate: This type of investors is willing to take some risks in order to achieve more reasonable returns. Their main concern is stable growth.
- Aggressive: These investors are the speculators. The "risk-seekers". Usually, they have a diversified investment, willing willing to accept risk and losses. They are comfortable with volatility in order to achieve a long-term increase of their capital (Toscano Júnior, 2004).

According to Buffet (2003), it is not necessary to have a huge Intelligence Quotient (IQ), insights into the business or privileged information to make a successful investment. What is necessary is a solid structure to make a decision and the ability to control your emotions (Buffett, 2003).

Looking from a behavioral finance perspective it is understandable that investors are not completely rational. Barberis and Thaler (2003) assume that unlike the rational investor, the irrational investor cannot perfectly comprehend and synthesize enormous volumes of complex information before making an investment decision (Barberis & Thaler, 2003).

The investor's profile relies on several different criteria, such as time frame, personality and income. (Merrill Lynch & Co., 2013):

- Time Frame: It can probably indicate how risky an investor can be. Usually, a time frame of less time indicates a more conservative investing approach. The longer the time frame has been planned the more investors are willing to take risks;
- Personality: A person's personality plays an important role in his or her investment profile. Some people have 'riskier', some a 'more careful' personality;
- Income: People with a higher income are willing to take more risks because they can maintain and recover from the loss of investment. In contrast to this, people with less income feel more comfortable with a conservative approach, conserving their assets with a graduating growth.

A more specific approach of the investor's profile distinguishes between five types of investors (Merrill Lynch & Co., 2013):

- Conservative: The main focus is on stability and preservation of the capital. Conservative investors are willing to take a very low level of risk, with a much-reduced risk of loss and a high level of liquidity.
- Moderately Conservative: The focus is a minimal loss and volatility. This type of investor is accepting minor losses, too. Normally their investments are more focused on cash and fixed income.
- Moderate: The focus here is to achieve a balance between stability and appreciation. Their investments are typically based on fixed income and volatility.
- Moderately Aggressive: The emphasis here is to achieve goals over time. The investor at this level is willing to take a relative level of risk and volatility. Normally investments are more concentrated on asset classes and some equities.
- Aggressive: Aggressive investors' focus iis to achieve an over average appreciation. They normally assume a very high level of risk and volatility. The investment is heavily weighted to equities.

1.4. Emotional Competence

Emotional Competence (EC) is an ability acquired through Emotional Intelligence (EI). It is possible develop EC over the years of life. Goleman (1998), has tried to clarify the differences between the two concepts. Emotional Competence is connected to the Emotional Intelligence of a human being. People have the potential of EI and the ability to develop their EC. The higher a person's EI the better is his aptitude to develop emotional competences (Goleman, 1998).

Precisely, EI is the ability to include emotions into reasoning. EC requires a certain level of realization which can be reached by memories and reflection around five domains (Veiga-Branco, 2007). The first theoretical construct of EI was established by John Mayer and Peter Solovey. It was published by Goleman (1995,1999). Thus, They found that people with emotional intelligence pay attention to their emotions, use them, understand them, and deal with them well. These abilities serve as adaptive functions that provide advantages to themselves and others. To understand whether a person has a high level of EI, both authors analyze four basic skills (Goleman, 1995; Mayer & Salovey, 1990).

- Perception and correct expression of emotions: Ability to perceive and express one's own emotions and those of others correctly.
- Emotional thought facilitation: Ability to use emotions in a way that facilitates thinking.
- Understanding of emotions: Ability to understand emotions, emotional language, and emotional signals.
- Emotions to achieve goals: Ability to deal with emotions with the objective of achieving goals.

Emotional Competences cannot exist without Emotional Intelligence, Wakeman (2006) believes that a person with the capability to regulate emotions is more suitable to develop EC. Additionally, he claims that the level of EI of a person can be measured, to a certain degree, through the EC, thus it is a result of several factors including EI (Wakeman, 2006).

Goleman (1998) has explained that empathy is a very important skill that enables us to read emotions, understand social behavior and cope with the emotions we have filtered. Boies (2020) after Martin Hoffman, has divided empathy into four dimensions substantial to the human being: cognitive, affective, motivational, and prosocial (Boies, 2020).

- Cognitive: The ability to interpret and recognize what others are feeling.
- Affective: The emotional impact generated from a situation experienced by others in an individual.
- Motivational: The motivation to take any action related to the other person.

- Prosocial: The concrete action (Boies, 2020).

Unlike what most people think, the concept of EC has emerged from mixed models of EI, like Goleman's and Bar-on's, the concept came from two authors Saarni (1990, 1995, 1997) and Bisquerra (2000, 2003). They have developed the idea of Emotional Competencies, focused on education and training for children and adolescents. Later, Veiga-Branco (2019) started her studies on teachers from Portugal, presenting the EC concept, from Goleman's EI mixed model.

Veiga-Branco (2005) explained three concepts from an integrative and simultaneously perspective. EI is the ability to be rational with emotions and indicates an innate capacity. She also has introduced the five domains: Self-Awareness; Emotions Management; Self-Motivation; Empathy; and Social Emotions Management. The visible expression of EI is emotional realization: Everything that a person learns and applies about emotions, or is related to emotions, show the action itself (Veiga-Branco, 2005). Nevertheless, it is possible to say that EI has an innate aspect (Goleman, 1998) and that EC is a set of aspects and qualities that can be developed through life experience. It is possible to develop some domains of EC more than others (Veiga-Branco, 2004). Quoting Veiga-Branco (2005), *"a person's Emotional Intelligence determines one's Emotional Realization, and therefore, once one accesses the emotional behaviors performed, through a scrutinizing exercise, one is accessing one's level of Emotional Competence*" (Veiga-Branco, 2005, p. 171)

Since Emotional Intelligence has become an important topic, the business world started to be interested in its applications. Furthermore, studies regarding how EI can help performance in business started to increase in numbers. People started asking how EC could be even more effective (Abraham, 2004). In order to become a good leader, there are a few very important qualities, like integrity, maturity, business acumen and social skills (Charan, 1999), which are related to EI and can be improved by studies and qualification.

Abraham (1999), collaborating with Mayer and Salovey (1990) has also argued about the relation between EI and the competence for social skills. To him, social skills allow to monitor and evaluate emotions in groups in a certain social environment, and use that knowledge to take action (Abraham, 1999).

Veiga-Branco defines Emotional Education as a transversal formation for all human beings. A formation to guide the development and motivation in the universe of Emotional Education, to relearn new attitudes towards negative emotions, and reorganize their perceptions around abilities that can improve the quality of private and work life (Veiga-Branco, 2015).

The Emotional Competence Inventory (ECI) measures competencies that an individual can learn and improve through time (Boyatzis, Goleman, & Rhee, 2000). Goleman (1998) also explains that these skills are essential to improve performance. Separated into five elements, the ECI measures 25 different

competencies in the following categories: “(1) self-awareness; (2) motivation; (3) self-regulation; (4) empathy, and (5) adaptability in relationships” (Goleman, 1998).

Quoting Veiga-Branco (2004), it is possible to explain the five dimensions of EC in the following way:

- Self-awareness: The ability to understand the state of mind the emotions about it. The neuro activity changes as it creates self-consciousness, which facilitates the ability to control emotion in negative situations. Being aware of negative emotions that disturb you can increase your ability to think first and take no action lead by emotions.
- Emotion management: Emotional management is about the self-knowledge of the feelings. Goleman (1995) explains that someone who does not know how to manage his or her feelings has more difficulty dealing with adversities in life. Veiga-Branco (2004) completes the theory when saying that people need to be aware of their feelings, know when they might pop up, understand their biographical roots, and are able to react in the right way.
- Self-motivation: Through Self-Motivation we explore emotions, feelings, and everything that could interfere in our daily motivation. In other word, it is the ability to understand how negative and positive feelings can be motivational. As Goleman (1995) said, the ability to control impulsive reactions, to postpone rewards, anxiety, optimism and hope are keys to devlop self-motivation. To him, anxiety is the fundamental key to exceed frustration.
- Empathy: In the process of feeling empathy, self-awareness is a very important key. Without understanding his or her feelings, a person will not be able to sympathize and understand someone else's feelings. Empathy is the ability to read another person, through gestures eye-contact, expressions, etc. And even more, it is the ability to put yourself in someone else’s place, understanding how he or she may feel in that situation and being able to help.
- Social Emotions Management: This is an ability that comes after improving the others. For being able to understand group feelings and also influence them, a person needs to know his or her own emotions and demonstrate the ability to synchronize with other people and manage the group emotions.

Veiga-Branco started the first studies about EC in Portugal (Table 1) using the Emotional Competence Veiga Scale (ECVS), in an educative context with 250 teachers of the Superior Schools in the Polytechnic of the District of Bragança (Veiga-Branco, 1999), followed by studies developed with 464 teachers at an elementary and high school level in the district of Bragança (Veiga-Branco, 2004a, 2005), Afterwards, she studied 314 nurses in a hospital context with a contractual relationship to the Hospital de São Sebastião (Vilela, 2006) and in the 297 nurses working in public hospitals in the district of Leiria (Agostinho, 2010).

Table 1 - Comparative chronological Emotional Competency Level presentation, in different studies/samples, with Emotional Competence Veiga Scale (Veiga-Branco, 2005) application over 18 years, in Portugal.

Author / Dimension		1	2	3	4	5	CE Total
Veiga-Branco (1999/2000) n=250 - Professors	**x**	4,83	3,78	3,76	4,61	2,83	**3,97**
	s	0,72	0,55	0,53	0,74	0,50	**0,45**
	α	0,81	0,68	0,85	0,82	0,85	**0,91**
Veiga-Branco (2005) n=464 - Teachers	**x**	4,16	3,48	3,63	4,60	4,36	**3,99**
	s	1,39	1,46	1,32	1,25	1,18	**0,99**
	α	0,69	0,80	0,78	0,88	0,87	**0,93**
Vilela (2006) n=314 - Nurses	**x**	4,05	3,55	3,43	4,87	4,44	**3,96**
	s	0,51	0,53	0,48	0,68	0,61	**0,38**
	α	0,71	0,69	0,75	0,83	0,85	**-**
Agostinho (2010) n=297- Nurses	**x**	4,98	4,05	4,93	4,40	4,35	**4,58**
	s	0,61	0,47	0,52	0,64	0,64	**0,44**
	α	0,71	0,77	0,75	0,84	0,86	**-**
Caetano (2012) n=33 – Social Assistents	**x**	4,4	4,1	3,8	3,7	4,9	**4,7**
	s	1,32	0,67	0,78	0,66	0,78	**0,77**
	α	0,85	0,83	0,84	0,85	0,88	**0,95**
Afonso (2012) n=58 - Physiotherapists	**x**	4,1	3,8	3,6	4,8	4,6	**4,2**
	s	0,47	0,71	0,56	0,64	0,70	**0,48**
	α	0,69	0,81	0,80	0,79	0,87	**-**
Alves (2012) n=438 – Hig Ed. Students	**x**	4,6	3,9	3,9	4,7	4,6	**4,3**
	s	0,64	0,71	0,66	0,84	0,85	**0,58**
	α	0,78	0,79	0,81	0,86	0,89	**0,94**
Lopes (2013) n=154 - Nurses	**x**	4,1	3,9	3,8	5,1	4,6	**4,2**
	s	1,14	1,65	1,69	1,00	1,10	**1,14**
	α	0,62	0,75	0,71	0,85	0,83	**-**
Costa (2014) n=165 - Politicians	**x**	3,95	3,12	3,30	4,83	4,61	**3,73**
	s	1,35	1,31	1,18	1,22	1,31	**1,28**
	α	0,71	0,78	0,75	0,84	0,85	**-**
Veiga-Branco et al. (2016) n=22 - Diabetics	**x**	4,26	3,77	3,70	3,83	4,38	**3,98**
	s	0,58	0,81	0,65	0,84	4,49	**0,99**
	α	0,61	0,85	0,74	0,84	0,88	**0.92**
Francisco (2017) n=174 - Nurses	**x**	4,0	3,9	3,7	4,7	4,5	**4,1**
	s	0,48	0,58	0,43	0,74	0,89	**0,43**
	α	0,66	0,71	0,64	0,86	0,85	**0,89**
Rodrigues (2017) n=102 - Health professionals	**x**	4,9	4,6	5,1	5,1	4,7	**4,9**
	s	0,66	0,62	0,67	0,74	0,76	**0,55**
	α	0,81	0,72	0,82	0,84	0,84	**-**
PSI-WELL (2018) n=472 Parents	**x**	4,27	4,01	3,99	4,96	4,82	**4,40**
	s	0,66	0,66	0,56	0,94	0,87	**0,52**
	α	0,74	0,73	0,69	0,89	0,90	**0,90**
PSI-WELL (2018) n=188 Parents Without CSN	**x**	4,23	3,85	3,95	4,73	4,78	**4,3**
	s	0,62	0,69	0,61	0,78	0,76	**0,50**
	α	0,73	0,79	0,83	0,85	0,89	**0,92**
PSI-WELL (2018) n=284 With CSN	**x**	4,28	4,12	4,03	5,11	4,85	**4,48**
	s	0,69	0,62	0,53	1,00	0,93	**0,52**
	α	0,75	0,69	0,78	0,90	0,90	**0,89**
Ferreira, C. (2018) n= 78 Caregivers (formal and informal)	**x**	5,11	4,59	4,98	4,73	4,54	**4,82**
	s	0,77	0,54	0,72	0,78	0,72	**0,61**
	α	0,91	0,70	0,90	0,88	0,89	**0,96**

Legend: 1-Self-Awareness, 2-Emotion Management, 3-Self-Motivation, 4-Empathy, 5-Emotions Social Management

There were studies with 33 social workers of the National Network of Integrated Continued Care - RNCCI (Caetano, 2012), in 58 Physiotherapists of the RNCCI (Afonso, 2012), in 438 students of higher education (Alves, Neves, Azevedo & Gonçalves, 2012), in 154 nurses of the RNCCI (Lopes, 2013), in

165 Portuguese politicians (Costa, 2014), in 71 nurses of a Health Center Grouping of the Center Region (Tavares, 2017), in 174 nurses of a Hospital Center of the Center Region (Francisco, 2017) and 102 health professionals performing functions in Portugal in the approach to the critically ill (Rodrigues, 2017), a study of 68 formal and informal caregivers (Fereira, 2018), However, the most recent one is a study that has started from the recognition of the socio-cultural characteristics in a sample with parents of children with special needs (CSN), a sample with 472 parents (188 parents without Child Special Needs (CSN), and 284 without CSN).

The overall results made it possible to determine average numbers and to analyze variables of the EC. That helped to create EC profiles. The results presents a substantial change in relation to Goleman's initial model. Veiga-Branco also pointed out that the studies should be progressively continued in order to get a better understanding of the variables of EC (Ferreira, 2018).

The studies mentioned covered a fundamental procedure, the factor analysis. Thus, from the EVCE, the authors extracted the main factors from sets of items that integrate each of the EC domains, explaining the variation of behaviors and attitudes of the sample. The last, still ongoing study was not used for this analysis due to an insufficient number of respondents was not used this analysis.

1.5. Empirical research related to Emotional Competence and Investor's Profile

For a long time in history, the financial field only recognized alleged rationality, which is limited by the human being natural biology. After an increase in neurological studies, the perspective that the emotional areas of our brain are connected to the rational ones was a revolution in the understanding of human behavior. Notwithstanding, these studies initiated a whole new era in the world of finance because they enabled us to analyze the behavior of investors and managers in a much more accurate way (Gonzaga & Rodrigues, 2018).

Goleman and Kahneman explain in their work the irrationality and rationality of the brain. Kahneman (2011) describes how the rational and emotional areas interact. Furthermore, he explains how the irrational areas are able to influence the rational neuronal systems (Kahneman, 2011). Goleman (1995) through introduces Emotional Competences in his studies on Emotional Intelligence (Goleman, 1995). Nevertheless, based on the premise of Kahneman's studies, it is even possible to assume that as a result of the irrational side being able to teach the rational, Goleman (1995) could explain how EC can be improved through time. The different dimensions of EC can be developed even by people who cannot demonstrate it by now (Goleman, 1995).

Toscana Júnior (2004) considered that one of the most important things in an investment is the investor's profile (Toscano Júnior, 2004). Thus, as Kahneman and Goleman explained that is feasible to

teach rationality, it is also possible to assume that an investor can improve his profile according to the market's necessities (Kahneman, 2011).

In a research made in Brazil has been investigated if there is a manifestation of the investor's preferences in accordance with the premises of the Prospect Theory. Since there is much evidence for this theory and of studies regarding the limited rationality in investors (as some previously cited here in chapter 1.2.), through a questionnaire they have analyzed if the investor's behaviors were compatible with the Prospect Theory or with Expect Utility theory (from the standard financial studies). At least 6 out of 10 questions were answered in conformance with the Prospect Theory. Which led them to acknowledge that individuals violate the theory of Expected Utility as decision-makers, contributing to Kahneman's and Tversky's (1979) study on Prospect Theory (De Bortoli, da Costa, Goulart, & Campara, 2009).

In another research from Dhiman and Raheja (2018) have investigated if there is a relation between EI and the risk tolerance of investors. The sample was an investor who invests through LSC Securities Ltd in Punjab. Several pieces of literature have already confirmed that EI dimensions have an impact on investor's risk tolerance. Notwithstanding, the studies from Creevy, Soane, Nicholson, and Willman (2011), Debusk and Austin (2011), and Idris (2014) have shown that self-awareness and motivation are the most relevant dimension for risk tolerance perspective. Which led to the conclusion that EI has a direct relation with the investment decisions, and that the EI dimensions Self-Awareness, handling emotions and motivation are related to risk tolerance (Dhiman & Raheja, 2018).

Nevertheless, it is worth mentioning there is not any study that relates investors' profiles to their emotional competence. By now, they have been analyzed only separately. The lack of studies that combine both aspects makes this research an exploratory one with many opportunities for further investigation.

2. Research methodology

After a short and concise research on the theoretical framework, this chapter introduces the methodology of the research, the objectives, and questions. Then will follow the methods by the methods used in the investigative work, the description of how the data collection has been made, a description of the questionnaire used, the definition of the sample, and the methods that have been used to the treatment of the collected data.

2.1. Research Objectives

The main goal of this research is to seek a better understanding of how emotional competence can be related to an investor's profile. The most recent studies about finances include the idea of financial behavior and replace the theory of unlimited rationality - the main assumption of neoclassical theory - with the principle of limited rationality (Milanez, 2003). These new researches have been the kick-off point for Behavioral Finance studies.

Several psychologists, as Daniel Kahneman, Amos Tversky, Hersh Shefrin, Richard Thaler, and others, have made incredible discoveries in this field, and they are the biggest inspiration for this study. The present work objective is is trying to understand which emotional competencies an investor must have to be successful, and how these competencies influence their decision-making process, namely the investor profile (in risk-taking and return). The specific objectives of this research are:

1. To know the sociodemographic characteristics of the sample;
2. Identify the profile of the individual investor: conservative, moderate, or aggressive;

3. Identify the level of Emotional Competence of the individual investors;
4. Identify the most relevant Emotional Competence among the sample;
5. Analyze the relationships between the dimensions of Emotional Competence and the types of Investor's Profile.

The question of research has been explained by Arnold (2013) *"In the big picture of statistical inquiry the investigative question is the statistical question or problem that needs answering or solving"* (Arnold, 2013, p. 27). After the knowledge acquired from the theoretical framework and the definition of the objectives of this research, it was possible to define the investigative question for this study:

- How do the socio-demographic variables characterize the sample?
- What are the Investor's Profiles from the participants?
- What are the EC's profiles of the sample?
- What correlation can be identified between the Investor's Profile and the EC?

2.2. Methods

The research presented here is characterized by being an exploratory study. As Gil (2008) states, the main objective of exploratory research is "*to develop, clarify and modify concepts and ideas, with a view to formulating hypotheses for further investigations*" (Gil, 2008, p. 27).

To achieve the proposed objectives in this work, the research is defined as exploratory and descriptive. According to Barros and Lehfeld (2007), the researcher is not able to interfere in the whole study, for example in the analysis, the register, and the interpretation of the facts (Barros & Lehfeld, 2007). Mishra and Alok (2011) give the following definition of descriptive research: *"Descriptive research consists of a survey and fact-finding investigation of different kinds. The main purpose of descriptive research is explanation of the set of circumstances as it is present as such"* (Mishra & Alok, 2011, p. 2).

Perovano (2016) explains that the descriptive process aims to identify, record, and analyze the characteristics, factors, or variables that relate to the phenomenon or process. This type of research can be understood as a case study where, after data collection, and analysis of the relationships between the variables is performed for a later determination of the effects in a company, production system, or product (Perovano, 2016).

Looking for even better clarification of this descriptive research, qualitative and quantive methods will be used. The qualitative approach requires a broad study of the object of research, considering the context in which it is inserted and the characteristics of the society to which it belongs. Specific criteria that can be applied to different paradigms and qualitative research designs were

described by Morrow (2005), namely: social validity, subjectivity and reflectivity, data adequacy, and interpretation adequacy (Morrow, 2005)

The quantitative method aims to classify the characteristics, measure, and establish statistical models for an explanation of what was observed. For these studies, the researcher should use recommended tools such as questionnaires to collect numerical data and add numbers or statistical details to the research. The quantitative approach is more efficient to test hypotheses (McCusker & Gunaydin, 2014).

> Quantitative vs. Qualitative: In natural sciences and social sciences, quantitative research is based on the aspect of quantity or extent. It is related to object that can be expressed in terms of quantity or something that can be counted. Such type of research involve systematic experimental analysis of observable phenomenon via statistical, mathematical, or computational techniques in numerical form such as statistics, percentages, etc. Whereas qualitative research, is concerned with qualitative phenomenon, i.e., relating to quality or variety. Such type of research is typically descriptive and harder to analyze than quantitative data. Qualitative research involves looking in-depth at non-numerical data. It is more naturalistic or anthropological (Mishra & Alok, 2011, p. 3).

2.3. Data Collection and Sample

In an attempt to better explain the relationship between the investor's profile and emotional competencies, a survey with a structured questionnaire will be used. This tries to first stipulate the characteristics of the participants, then their profile as an investor, and finally their emotional competencies. After having found the answers to these questions, it is possible to draw statistics for the results, i.e., to stipulate similarities and try to understand which connection can be made between the emotional competence and the investor's profile. The questionnaire, according to Gil (2008), can be defined *"as the investigation technique composed of a more or less high number of questions presented in writing to people, with the objective of knowing opinions, beliefs, feelings, interests, expectations, lived situations, etc."* (Gil, 2008, p. 121).

The questionnaire is structured as follows. First, there are questions regarding the participants' characteristics followed by questions about possible investments in order to trace a profile. Lastly, there are psychological questions to identify the participant's emotional competencies. Therefore, the questionnaire is divided into three parts:

Socio-demographic characterization: This part is regarding the characteristics of each participant, such as age, gender, marital status, degree, etc. That is an important part of the questionnaire, because with these answers it will be possible to segregate the results and analyze if this data interfere.

Investor's Profile: The questions regarding the investor's profile were retrieved from Merrill Lynch & Co. (2013). These questions demonstrate different investment scenarios, and each participant should

choose the option that suits him or her better. The investor's profile is based on the result of all answers in the questionnaire. The model to determine the investor profile has three steps (Merrill Lynch & Co., 2013). In the first step, to each question will be assigned a certain number of points ranging between 1 and 9. Afterwards, the points given to each question will be added to a total score.

Table 2 - Point by answers to each question of the Investor's Profile questionnaire

Questions/ answer	1	2	3	4	5	6
A	1	1	1	1	1	1
B	3	3	3	3	3	3
C	5	7	7	5	5	5
D	7	9	9	7	7	7
E	9	-	-	9	9	9

Source: Adapted from Merrill Lynch & Co (2013, p. 3).

After having the score, from step 1, the step 2 and 3 using questions 7 to 9, having into account the total score (total number of points in the first step) based on the answer to a specific question 3, 1, 8 or 9 combined with the answer to question 7, is possible to determine if the Investor's Profile is Conservative, Moderately Conservative, Moderate, Moderately Aggressive, or Aggressive, as shown in Table 3.

Table 3 - Score to determine the Investor's Profile

Total points 6-15			
Response to Question 3	Response to question 7		
	a - SHORT	b - MEDIUM	c - LONG
a	Conservative	Conservative	Conservative
b, c or d	Conservative	Conservative	Moderately Conservative
Total points 16-25			
Response to Question 1	Response to question 7		
	a - SHORT	b - MEDIUM	c - LONG
a	Conservative	Conservative	Moderately Conservative
b, c or d	Moderately Conservative	Moderately Conservative	Moderately Conservative
e	Moderately Conservative	Moderately Conservative	Moderate

To be continued

Continuation Table 3 - Score to determine the Investor's Profile

Total points 26-34			
Response to Question 1	Response to question 7		
	a - SHORT	b - MEDIUM	c - LONG
a	Moderately Conservative	Conservative	Moderate
b, c or d	Moderately Conservative	Moderate	Moderate
e	Moderate	Moderate	Moderately Aggressive

Total points 35-44			
Response to Question 8	Response to question 7		
	a - SHORT	b - MEDIUM	c - LONG
a - YES	Moderate	Moderate	Moderately Aggressive
b - NO	Proceed to the next chart		
Response to Question 9	Response to question 7		
	a - SHORT	b - MEDIUM	c - LONG
a - YES	Moderate	Moderately Aggressive	Aggressive
b - NO	Moderate	Moderate	Moderately Aggressive

Total points 45-54			
	Response to question 7		
	a - SHORT	b - MEDIUM	c - LONG
	Moderate	Aggressive	Aggressive

Source: Adapted from (Merrill Lynch & Co., 2013).

To explain how to determine the investor profile using the model of Merrill Lynch & Co. (2013) you may want to consider the following example. Let's suppose you have answered "b" to all questions in the section of investor's profile. Using table 2, your total score will be 18. Then using table 3, it is checked the answers to question 1 and 7 in the chart for points between 16-25. As the answer is b for question 1 and question 7, in this example, your investor's profile will be Moderately Conservative (Marôco, 2018).

The third part is the “Emotional Competence Veiga Scale” (ECVS), which was developed by Professor Maria Augusta Romão da Veiga Branco. The scale consists of 86 items of competencies from the five dimensions of EC (Ferreira, 2018):

- Self-awareness: 20 items
- Emotion Management: 19 items
- Self-Motivation: 21 items
- Empathy: 12 items
- Social Emotions Management: 14 items.

These items are ordinal variables, measured through a likert temporal frequency scale, ranging from 1 to 7, when: 1 – “never”; 2 – “rarely”, 3 – “infrequent”; 4 – “as a rule”; 5 – “frequent”; 6 – “very frequent” and 7 – “always”. The participants can can choose the category of frequency that describes the situation best from their point of view.

Taking into consideration a descriptive statistical analysis, the cut-off point is 4, due to it is a medium point. The score goes from a minimum of 86 (=86x1) to a maximum of 344 (=86x7), and the cut-off is 344 (=86x4). The ECVS measures the following 3 levels of competencies: low level: between 1 to 3.49; moderate level: between 3.50 to 5.45; high level: between 5.46 to 7. Furthermore, some items must be assumed in inverted form, as shown in Table 4.

Table 4 - Inverted Items Emotional Competence dimensions from Emotional Competence Veiga Scale.

EC Dimensions	Inverted Items
Self-Awareness	1: b, c, f 2: a, b, c, d 3: a, e, g
Emotion Management	2: a, b 3: a, e 4: a, c
Self-Motivation	1: c, d, e, f 2: c, d, f 3: a, c, d, e
Empathy	3: b

Source: Adapted from (Ferreira, 2018).

According to Eid Júnior (2017), savers are people or organizations that only save their resources, on the other hand, whereas investors look for resources to invest in diverse assets (Eid Júnior, 2017). Quoting the Corporate Finance Institute™, the individual investor is categorized as someone who invests

in small quantities and assets on their own. They are known as the retail or individual investor (Corporate Finance Institute™, 2020). Therefore, the target population is mostly savers and individual investors with an income.

The questionnaire was made in the tool “Google Forms’”, Since most partipants come from Portuguese speaking countries, the chosen language of the questionnaire is Portuguese. The Survey sample method is a non-probability, convenience sample with a snowball effect. The target sample are individuals older the 18 years with own income and savings. The questionnaire was sent to family and friends and other acquaintances of the author that fit into the specifications. It was also sent to the Rotary Club of São Miguel do Iguaçu (Brazil). However, it should be noted that the instrument used guarantees the principle of confidentiality and anonymity of the information collected.

The questionnaire was available only for 10 days, 07/10/2020 to 17/10/2020 due to the urgency to collect data. The data was processed with help of the Microsoft 365 Excel Version 2008 to build the database as well as with the program MatLab 2020 to determine the investor’s profile. The statistical analysis was performed by using the Statistical Package for Social Science - SPSS version 23.

2.4. Data analysis methods

Data collection was the first stage of the empirical study. Equally important was the prior definition of the methodology and research design. In a later stage, the data processing and analysis allows codifying, categorizing, and gathering data in a database with meaning and appropriate to the objectives and research questions (Análise Estatística .PT, 2020). “*Descriptive statistics can be considered as a set of analytical techniques used to summarize the set of data collected in a given investigation, which are generally organized through numbers, tables, and graphs”* (Morais, 2005, p. 8).

To analyze the sociodemographic variables, descriptive statistics were calculated, based on relative (%) and absolute (n) frequencies, measures of central tendency (arithmetic mean, x), and measures of dispersion (standard deviation, s). Here was used, as previously mentioned, the software SPSS version 23. It A confidentiality test, known as Cronbach alpha (α), was performed to measure the degree of internal consistency between the Total EC and its dimensions. This coefficient is a form of measurement that allows the correlation between the items, varying between zero and one. It is understood as acceptable reliability values between 0.6 and 0.7, good above 0.8 and high above 0.95 (Marôco, 2018).

It was performed a normality test – Shapiro Wilk – was conducted in order to verify the linear correlation by meeting the prerequisites of Pearson's correlation coefficient (ρ). According to Moore (2007), this coefficient is a measure of linear association between variables. Using the correlation

allowed to examine the interdependence between dependent and independent variables. The significance value used was $\rho \leq 0,05$, and a significance value of $\rho \leq 0,10$ (Moore, 2007).

Nevertheless, in order to know if there is a dependency correlation between the investor's profile with Emotional Competence levels, Fisher's exact test was used in order to verify if there is a nonrandom association between categorical variables (Weisstein, 2020).

3. Presentation of Research Results

This chapter presents the research results. According to Shuttleworth (2009) the results should be described objectively, without interpretations, and following a logical sequence. Figures, text, and tables can be used to express them, in order to have a concise and clear structure. It should be organized in such a way that the necessary evidence is highlighted to answer each research question (Shuttleworth, 2009). In the first part will be presented the socio-demographic analysis, the investor's profile results and analysis, the Emotional Competencies (EC) results and analysis, and the correlations analysis between the investor's profile and EC.

3.1. Socio-demographic characterization of the sample

The sample is composed of 131 participants, all over 18 years old, with own income and decision-making power over their money. Regarding the characterization for the variables "gender" and "age range", shown in Table 5 was noted that the majority of the respondents were female, corresponding to 53,4% (n=70). The most represented range of age is between 26 to 35, corresponding to 39,7% (n=52). 4,6% (n=6) of the participants have revealed their age, and 2,3% (n=3) have chosen not to answer the question about their gender.

Table 5 - Distribution of absolute (n) and relative (%) frequencies for the variables: "Gender" and "Age Range"

	Gender						Total	
	Female		Male		Not Disclosed			
Age Range	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
18-25	12	9,20%	17	13,00%	0	0,00%	**29**	**22,10%**
26-35	27	20,60%	24	18,30%	1	0,80%	**52**	**39,70%**
36-45	11	8,40%	6	4,60%	2	1,50%	**19**	**14,50%**
46-55	12	9,20%	7	5,30%	0	0,00%	**19**	**14,50%**
56-65	4	3,10%	2	1,50%	0	0,00%	**6**	**4,60%**
Null	4	3,10%	2	1,50%	0	0,00%	**6**	**4,60%**
Total	**70**	**53,40%**	**58**	**44,30%**	**3**	**2,30%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

Regarding the variables “Nationality” and “Level of education”, it is possible to see in Table 6 that the that the majority if respondents are Brazilians 68,7% (n=90), followed by Portuguese with 25,2% (n=33). Regarding the level of education, most of the respondents – 29,8% (n=39) make part of the category College completed. There are 1,5% (n=2) that only have Basic Education Level, 4,6% (n=6) that have not answered the question regarding their nationality, and 1,5% (n=2) from other nationalities, Cape Verde and Germany.

Table 6 - Distribution of absolute (n) and relative (%) frequencies for the variables “Nationality” and “Level of education”

	Nationality								Total	
	Brazil		Portugal		Others		Null			
Level of Education	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Ph.D. Incomplete	5	3,80%	1	0,80%	0	0,00%	1	0,80%	**7**	**5,30%**
Master Completed	17	13,00%	4	3,10%	0	0,00%	1	0,80%	**22**	**16,80%**
Master Incompleted	16	12,20%	5	3,80%	0	0,00%	1	0,80%	**22**	**16,80%**
College Completed	25	19,10%	13	9,90%	0	0,00%	1	0,80%	**39**	**29,80%**
College Incomplete	14	10,70%	3	2,30%	1	0,80%	2	1,50%	**20**	**15,30%**
High School Completed	10	7,60%	7	5,30%	0	0,00%	0	0,00%	**17**	**13,00%**
Basic Education	2	1,50%	0	0,00%	1	0,80%	0	0,00%	**3**	**2,30%**
Others	1	0,80%	0	0,00%	0	0,00%	0	0,00%	**1**	**0,80%**
Total	**90**	**68,70%**	**33**	**25,20%**	**2**	**1,50%**	**6**	**4,60%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

In order to better know the sample, respondents were also asked about their knowledge on EC, if they have ever heard about it, and if they know what it is. As sown in Table 7, the majority of respondents 39,7% (n=52) answered that they do not know about EC, Among those who do not know anything about it 21,4% (n=28) wants to have training on the topic. Only 12,2% (n=16) of the respondents know about EC, and 2,3% (n=3) would like to have more training on the topic. Finally, 7,6% (n=10) have knowledge on the topic due to training.

Table 7 - Distribution of absolute (n) and relative (%) frequencies for the variables "Level of Education" and "Knowledge in Emotional Competence"

	Knowledge in Emotional Competence												**Total**	
	No, and do not know about		No, but I would like to have training about		No, but I have read about it		Yes, and I know something about		Yes, but I would like to have more training		Yes, but I do not know much about it			
Level of Education	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Ph.D. Incomplete	2	1,50%	0	0,00%	5	3,80%	0	0,00%	0	0,00%	0	0,00%	**7**	**5,30%**
Master Completed	14	10,70%	2	1,50%	4	3,10%	0	0,00%	0	0,00%	2	1,50%	**22**	**16,80%**
Master Incomplete	8	6,10%	6	4,60%	4	3,10%	3	2,30%	0	0,00%	1	0,80%	**22**	**16,80%**
College Completed	9	6,90%	10	7,60%	13	9,90%	5	3,80%	2	1,50%	0	0,00%	**39**	**29,80%**
College Incompleted	8	6,10%	5	3,80%	5	3,80%	1	0,80%	1	0,80%	0	0,00%	**20**	**15,30%**
High School Completed	9	6,90%	3	2,30%	4	3,10%	1	0,80%	0	0,00%	0	0,00%	**17**	**13,00%**
Basic Education	2	1,50%	1	0,80%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	**3**	**2,30%**
Others	0	0,00%	1	0,80%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	**1**	**0,80%**
Total	**52**	**39,70%**	**28**	**21,40%**	**35**	**26,70%**	**10**	**7,60%**	**3**	**2,30%**	**3**	**2,30%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

With respect to the marital status of respondents of the sample, shown in Table 8, the single people represent 60,3% (n=79) of the sample, followed by married people, 28,2% (n=37) and the consensual union status, 5,3% (n=7). A widower 0,8% (n=1), and divorced people 2,3% (n=3) A 3,1% (n=4) have answered “other” as a Marital Status.

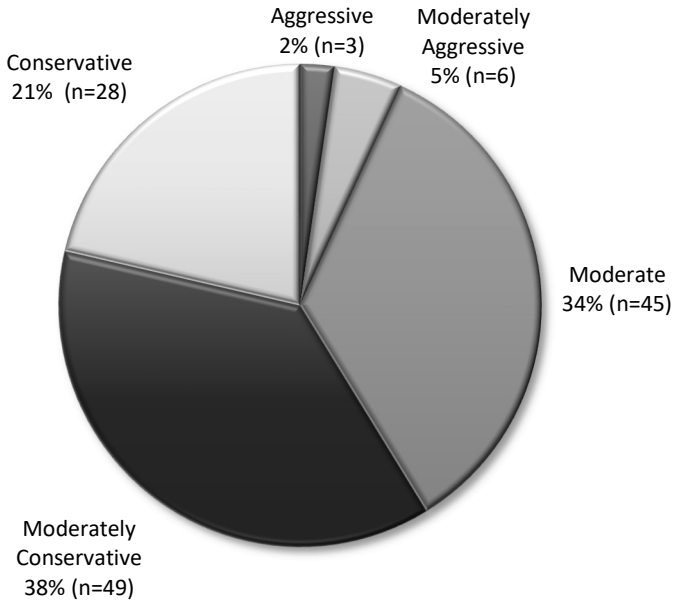
Table 8 - Distribution of absolute (n) and relative (%) frequencies for the variable "Marital Status"

Marital Status	n	%
Married	37	28,20%
Divorced	3	2,30%
Consensual Union	7	5,30%
Single	79	60,30%
Widower	1	0,80%
Other	4	3,10%
Total	**131**	**100%**

Legend: n- absolute frequency; % - relative frequency

3.2. Investor's Profile

Based on the data, it was possible ot define an investor's profile for 131 participants (Graphic 1), according to Merrill Lynch & Co (2013) model. Moderately Conservative represents 38% (n=49) of the sample, Moderate 34% (n=45), Conservative 21% (n=28), the profile's less identified was: Moderately Aggressive 5% (n=6), and Aggressive 2% (n=3).



Graphic 1 - Distribution of absolute (n) and relative (%) frequencies for the Investor's profiles defined through the questionnaire

Comparing the data collected from the variables “Level of Education” and the “Investor’s Profile”, it possible we see in Table 9 that the majority of the “Moderately Conservative” (approximately 69%) makes part of the education level “College Completed”. They represent 10,7% (n=14), followed by “Master Completed” 7,6% (n=10), and “Master Incomplete” with 4,6% (n=6).

Also the majority of people in the category ‘Conservative’ indicate their level of education with “College completed” 9,2% (n=12). In the profile “Moderate”, it is possible to observe the same percentage of “College complete” and “College incompleted”, representing each 8,4% (n=11). 3,8% (n=5) of people with a Ph.D. Incomplete make part of the category “Moderately Aggressive”. 1,5% (n=2) with “College Completed” of the categorie “Aggressive”

Table 9 - Distribution of absolute (n) and relative (%) frequencies for the variables "Level of Education" and "Investor's Profile"

	Investor’s Profile										**Total**	
	Aggressive		Moderately Aggressive		Moderate		Moderately Conservative		Conservative			
Level of Education	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Ph.D. Incomplete	0	0,00%	5	3,80%	1	0,80%	1	0,80%	0	0,00%	**7**	**5,30%**
Master Completed	0	0,00%	1	0,80%	8	6,10%	10	7,60%	3	2,30%	**22**	**16,80%**
Master Incomplete	1	0,80%	1	0,80%	10	7,60%	6	4,60%	4	3,10%	**22**	**16,80%**
College Completed	2	1,50%	0	0,00%	11	8,40%	14	10,70%	12	9,20%	**39**	**29,80%**
College Incompleted	0	0,00%	2	1,50%	11	8,40%	5	3,80%	2	1,50%	**20**	**15,30%**
High School Completed	0	0,00%	0	0,00%	4	3,10%	8	6,10%	5	3,80%	**17**	**13,00%**
Basic Education	0	0,00%	0	0,00%	0	0,00%	1	0,80%	2	1,50%	**3**	**2,30%**
Others	0	0,00%	1	0,80%	0	0,00%	0	0,00%	0	0,00%	**1**	**0,80%**
Total	**3**	**2,30%**	**10**	**7,60%**	**45**	**34,40%**	**45**	**34,40%**	**28**	**21,40%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

When crossing the variables “Age Range” with the “Investor’s Profile”, it is possible to notice in Table 10 the difference of age among the respondents. The highest incidence in the profile is “Moderately Conservative” with participants between age 26-35, representing 14,5% (n=19), the second category in this class of age is ‘Moderate’ with participants aged between 26-35, representing 13,7% (n=18). Very low instead is represented the profile ‘Aggressive’ with participants between ages of 18-25 and 26-35, sequentially, 1,5% (n=2) and 0,8% (n=1). The oldest participants, between the ages of 56-65 are spread in the following profiles: “Moderate”, 2,3% (n=3), “Moderately Conservative”, 1,5% (n=2), and “Conservative”, 0,8% (n=1).

Table 10 - Distribution of absolute (n) and relative (%) frequencies for the variables "Age Range" and "Investor's Profile"

Age Range	**Investor's Profile**										**Total**	
	Aggressive		Moderately Aggressive		Moderate		Moderately Conservative		Conservative			
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
18-25	2	1,50%	0	0,00%	10	7,60%	11	8,40%	6	4,60%	**29**	**22,10%**
26-35	1	0,80%	4	3,10%	18	13,70%	19	14,50%	10	7,60%	**52**	**39,70%**
36-45	0	0,00%	1	0,80%	7	5,30%	4	3,10%	7	5,30%	**19**	**14,50%**
46-55	0	0,00%	1	0,80%	4	3,10%	10	7,60%	4	3,10%	**19**	**14,50%**
56-65	0	0,00%	0	0,00%	3	2,30%	2	1,50%	1	0,80%	**6**	**4,60%**
Null	0	0,00%	0	0,00%	3	2,30%	3	2,30%	0	0,00%	**6**	**4,60%**
Total	**3**	**2,30%**	**6**	**4,60%**	**45**	**34,40%**	**49**	**37,40%**	**28**	**21,40%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

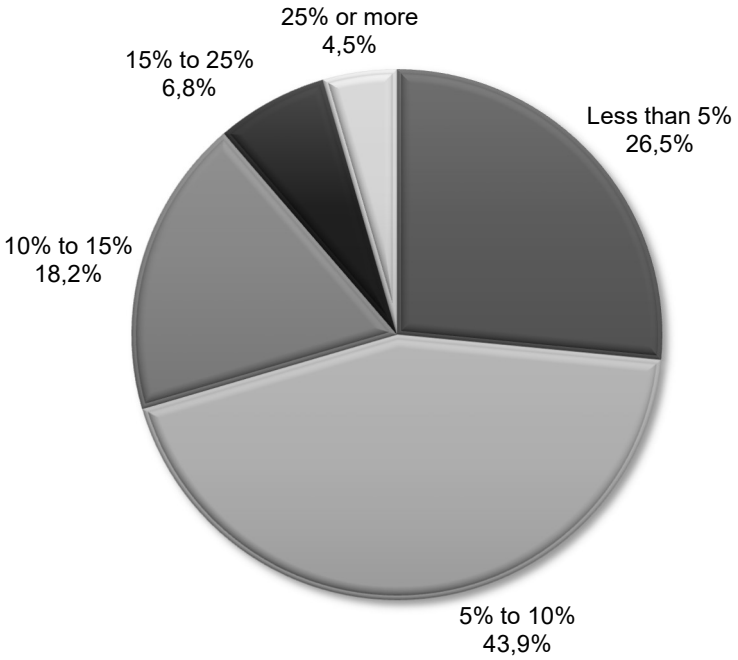
Crossing the variable “Investor’s Profile” with “Gender”, shown in Table **11**, it is possible to see that most of the females are moderately conservative, 23,66% (n=31), followed by conservative with 14,50% (n=19). For males, the most common profile is moderate, with 18,32% (n=24), followed by moderately conservative, with 13,74% (n=18). All the people that have not disclosed their gender, have a moderate profile in common, representing 2,29% (n=3).

Table 11 - Distribution of absolute (n) and relative (%) frequencies for the variables "Gender" and "Investor's Profile"

Gender	Investor's Profile										Total	
	Aggressive		Moderately Aggressive		Moderate		Moderately Conservative		Conservative			
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Female	0	0,00%	2	1,53%	18	13,74%	31	23,66%	19	14,50%	**70**	**53,44%**
Male	3	2,29%	4	3,05%	24	18,32%	18	13,74%	9	6,87%	**58**	**44,27%**
Not Disclosed	0	0,00%	0	0,00%	3	2,29%	0	0,00%	0	0,00%	**3**	**2,29%**
Total	**3**	**2,29%**	**6**	**4,58%**	**45**	**34,35%**	**49**	**37,40%**	**28**	**21,37%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

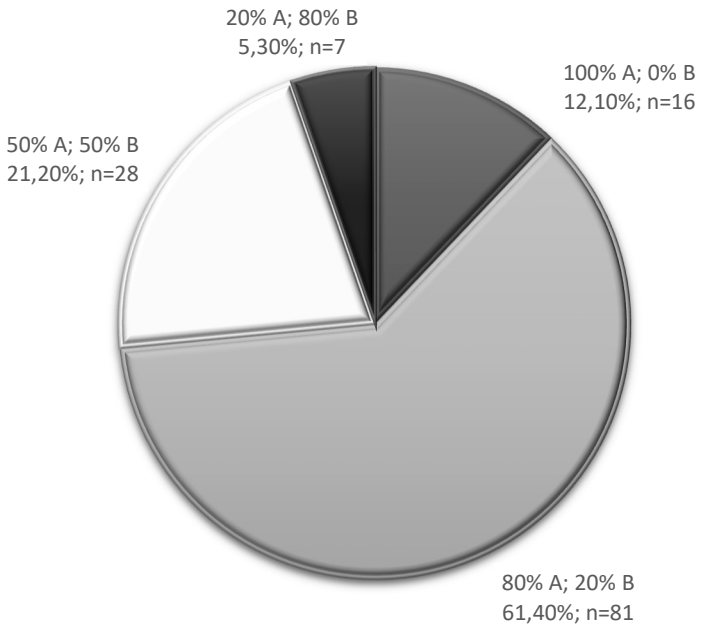
Graphic 2 shows the distribution for one of the questions retrieved from the investor's profile questionnaire. In Appendix I - Questionnaire, respondents have been asked how much risk they are willing to take before changing his investments, and up to what extent they are accepting to lose.



Graphic 2 - Distribution of a question retrieved from the questionnaire, example of loss aversion.

This question relates to loss-aversion, a concept from Prospect Theory which will be further explained in chapter 4.1. In Graphic 2 it is possible to observe that 43,9% (n=57) is accepting to lose between 5% to 10% of their investments; 26,5% (n=35) less than 5%; 18,2% (n=24) between 10% to 15%; 6,8% (n=9) between 15% to 25%; and only 4,5% (n=6) would accept to lose more than 25% of their invested money.

Graphic 3 exhibits the distribution for another question of the investor's profile questionnaire. The question is shown in Appendix I - Questionnaire. The respondent must choose how to invest in a portfolio with two options. Option A guarantees a minimal risk of loss but less return compared to option B which aims for a much better return while accepting the risk of higher and uncertain loss.

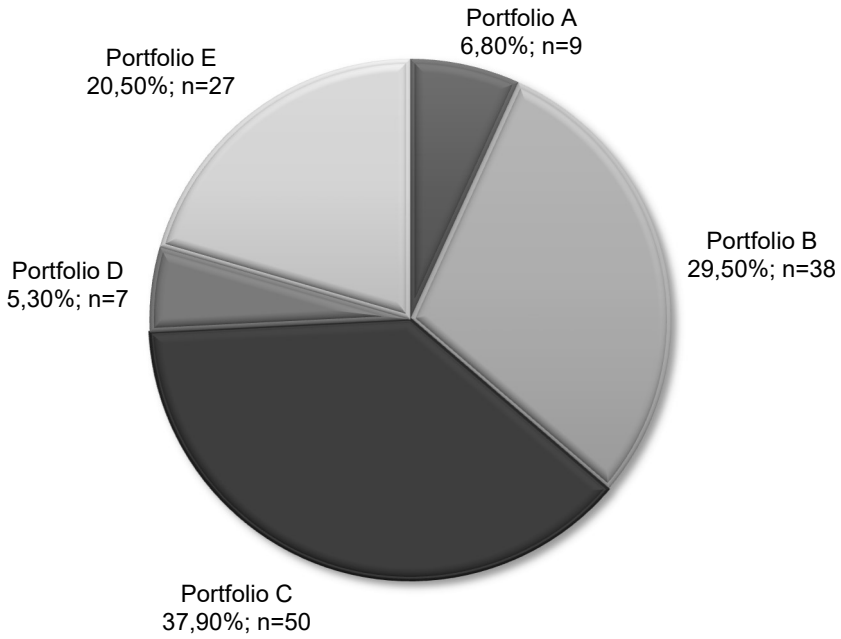


Graphic 3 - Distribution of a question retrieved from the questionnaire, example of certainty effect.

This question refers to the certainty effect from Prospect Theory, which will be further explained in chapter 4.1. From Graphic 3 analysis, one can observe that the investment "100% A - 0% B" was chosen by 12,10% (n=16) of the sample, option "80% A - 20% B" by 61,40% (n=81); option "50% A - 50% B" by 21,20% (n=28); option "20% A - 80% B" by 5,30% (n=7). The option "0% A - 100% B" has not been chosen by no one of the repondents (n=0).

Graphic 4 shows the distribution for a question retrieved from the investor's profile questionnaire (Appendix I - Questionnaire), participants were asked to choose between five options of portfolios. Each portfolio has different characteristics and it is more suitable for each profile.

This question refers to the reflection effect and the overconfidence effect from Prospect Theory, which will be further explained in chapter 4.1. As it is possible to see, portfolio A represents 6,80% (n=9); portfolio B 29,50% (n=38); portfolio C 37,90% (n=50); portfolio D 5,30% (n=7); and, finally, portfolio E 20,50% (n=27).

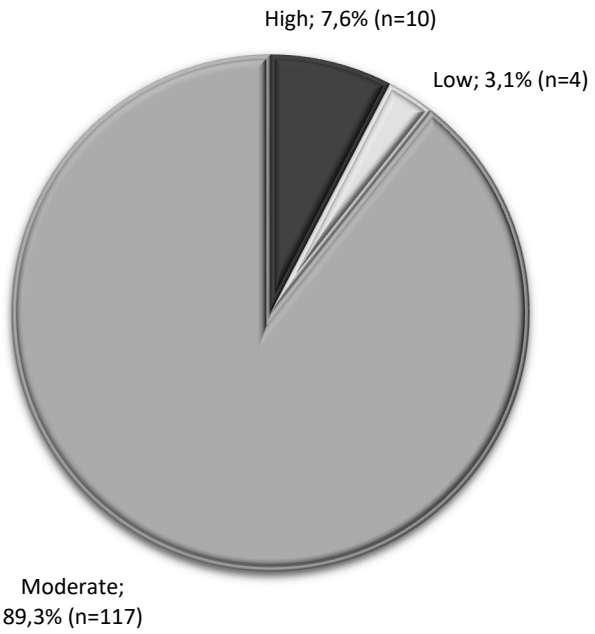


Graphic 4 - Distribution of a question retrieved from the questionnaire, an example of reflect and overconfidence effect.

3.1. Emotional Competence

According to Veiga-Branco (2005), it was possible to identify the Emotional Competences (EC) of the participants through the “Emotional Competence Veiga Scale” (ECVS). As shown in Graphic 5, the most common level of EC between the sample was “Moderate”, 89,3% (n=117), followed by “High”, 7,6% (n=10), and “Low” with 3,1% (n=4).

Table 12 presents the levels of EC for each dimension and its frequencies. It is worth mentioning that no one in the sample has presented a high level of emotion management competence. The result is 0% (n=0). The majority of respondents, 84,73% (n=111), reach a moderate level of EC, whereas 15,27% (n=20) demonstrate a low level of emotion management. Furthermore, the level “Moderate” can be identified as the most common level for all five dimensions.



Graphic 5 - Distribution of absolute (n) and relative (%) frequencies for the Emotional Competence Level defined through the questionnaire.

The competencies “Self-Motivation” and “Empathy” have the highest number of people showing a High level, sequentially, 29,01% (n=38), and 26,72% (n=35). They are followed by Self-Awareness, 20,61% (n=27) and Social Emotions Management, 19,08% (n=25). Nevertheless, Empathy shows the lowest percentual of low level, 3,05% (n=4).

Through the five dimensions of EC, assumed in this work as independent variables, the values of the EC Total were obtained. The descriptive analysis of EC’s dimensions and EC Total is shown in Table 13. As explained in subchapter 2.3, the EVCS uses the Likert Scale in a temporal frequency of 1 – “Never” to 7 – “Always”.

Thus, the sample mean is around 4 and 5, namely, 4 – “as a rule” and 5 – “Frequently”, this is why the participants are frequently self-aware (x=4,740; s=0,800), they manage the emotions per rule (x=4,000; s=0,540), they are frequently self-motivated (x=4,850; s=0,920), they demonstrate empathy frequently (x=5,010; s=0,780), and they are also frequently managing social emotions (x=4,580; s=0,920).

Table 13 also shows the maximum and minimum values for each competence. Self-Awareness shows a max=6,542 and min=2,125; Emotion Management a max=5.425 and min= 2,625; Self-Motivation a max=6,789 and min=2,656; Empathy a max=6,750 and min=2,722; Social Emotion Management a max=6,813 and min=1,625. The EC Total shows a max=6,155 and min=2,534.

Table 12 - Distribution of absolute (n) and relative (%) frequencies for the variables “Level of Emotional Competence” and “Emotional Competence Dimensions”

EC Dimensions	Level of Emotional Competence						Total	
	High		Moderate		Low			
	n	%	n	%	n	%	n	%
Self-awareness	27	20,61%	96	73,28%	8	6,11%	**131**	**100,00%**
Emotion management	0	0,00%	111	84,73%	20	15,27%	**131**	**100,00%**
Self-motivation	38	29,01%	84	64,12%	9	6,87%	**131**	**100,00%**
Empathy	35	26,72%	92	70,23%	4	3,05%	**131**	**100,00%**
Social Emotions Management	25	19,08%	96	73,28%	10	7,63%	**131**	**100,00%**
EC Total	**10**	**8,00%**	**117**	**89,00%**	**4**	**3,00%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

The Cronbach alpha for the EC Total is high (α=0,950), among all five dimensions it is possible to see that only for Emotion Management the coefficient is acceptable (α=0,680). For the remaining four dimensions the coefficient is good, namely: “Self-awareness (α=0,860) ”, “Self-motivation (α=0,860)”, “Empathy (α=0,820)”, and “Social Emotions Management (α=0,88)”.

Table 13 - Descriptive statistics of the Emotional Competencies Dimensions and Emotional Competence Total

EC Dimensions	max	min	x	s	α
Self-awareness	6,542	2,125	4,740	0,800	0,860
Emotion management	5,425	2,625	4,000	0,540	0,680
Self-motivation	6,789	2,656	4,850	0,920	0,860
Empathy	6,750	2,722	5,010	0,780	0,820
Social Emotions Management	6,813	1,625	4,580	0,920	0,880
EC Total	**6,155**	**2,534**	**4,640**	**0,630**	**0,950**

Legend: max- maximum; min- minimum; x- arithmetic mean; s - standard deviation; α - Cronbach alpha

In order to understand to which extent knowledge about EC may help to reach a higher level of emotional intelligence, it was crossed with the information from the variables “Level of Emotional

Competence", shown in Table 14. From all the people that have answered "no", 77,86% (n=102) have a moderate level of EC; 7,63% (n=10) have a high level of EC, and 3,05% (n=4) have a low level of EC. Meanwhile, 100% (%:11,45%; n=15) of the people who have answered "yes" have a moderate level of EC.

Table 14 - Distribution of absolute (n) and relative (%) frequencies for the variables "Level of Emotional Competence" and "Knowledge in Emotional Competence"

Knowledge in Emotional Competence	**Level of Emotional Competence**						**Total**	
	High		Moderate		Low			
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
No, and do not know about	2	1,53%	50	38,17%	1	0,76%	53	39,69%
No, but I would like to have training about	1	0,76%	24	18,32%	3	2,29%	28	21,37%
No, but I have read about it	7	5,34%	28	21,37%	0	0,00%	35	26,72%
Sub total of "NO"	**10**	**7,63%**	**102**	**77,86%**	**4**	**3,05%**	**116**	**87,79%**
Yes, and I know something about	0	0,00%	10	7,63%	0	0,00%	10	7,63%
Yes, but I would like to have more training	0	0,00%	3	2,29%	0	0,00%	3	2,29%
Yes, but I do not know much about it	0	0,00%	2	1,53%	0	0,00%	2	1,53%
Sub total of "YES"	**0**	**0,00%**	**15**	**11,45%**	**0**	**0,00%**	**15**	**11,45%**
Total	10	7,63%	117	89,31%	4	3,05%	131	100,00%

Legend: n- absolute frequency; % - relative frequency

Garson (2007) states that *"correlation is a measure of bivariate association (strength) of the relationship's degree between two variables"* (Garson, 2007, p. 60). For Moore (2007)*, "a correlation measures the direction and degree of the linear relationship between two quantitative variables".* In one sentence: Pearson's correlation coefficient (r) is a measure of the linear association between variables (Moore, 2007, p. 112).

With the Pearson Correlation Coefficient (ρ) it was possible to determine the correlation between the five EC dimensions and the EC total (see Table 15). Noting that all dimensions of the EC contribute positively to the EC Total, due to the fact that all correlations are statistically significant ($\rho < 0.05$).

It is also possible to observe to observe the intensity between the dimensions: Self-awareness (ρ=0,840; p<0,0001); Self-motivation (ρ=0,822; p<0,0001); Empathy (ρ=0,793; p<0,0001); Emotion Management (ρ=0,782; p<0,0001); Social Emotions Management (ρ=0,738; p<0,0001).

Table 15 - Presentation of the correlational analysis between the Emotional Competencies five dimensions and the Emotional Competence Total: Pearson correlation coefficient (r) and significance level (p)

EC Dimensions	**EC Dimensions**				
	Self-awareness	Emotion management	Self-motivation	Empathy	Social emotions management
	ρ (p-value)	**ρ (p-value)**	**ρ (p-value)**	**ρ (p-value)**	**ρ (p-value)**
Self-awareness	1				
Emotion management	0,610 (<0,0001)	1			
Self-motivation	0,820 (<0,0001)	0,611 (<0,0001)	1		
Empathy	0,516 (<0,0001)	0,470 (<0,0001)	0,495 (<0,0001)	1	
Social Emotions management	0,386 (<0,0001)	0,548 (<0,0001)	0,320 (<0,0001)	0,648 (<0,0001)	1
EC Total	**0,840** (<0,0001)	**0,782** (<0,0001)	**0,822** (<0,0001)	**0,793** (<0,0001)	**0,738** (<0,0001)

Legend: ρ – Pearson correlation coefficient

3.2. Investor's Profile and Emotional Competence level's – Correlations

The model of Investor's profile is based on five categories: "Aggressive", "Moderately Aggressive", "Moderate", "Moderately Conservative", and "Conservative". Along with the Emotional Competence (EC), it is divided into three levels: "Low", "Moderate", and "High". In Table 16 we can observe how these two variables correlate.

In this sample, the two most common profiles are: “Moderate” and “Moderately Conservative” and their level of EC is also moderate, sequentially 44 and 43. It is also possible to see that 1,5% (n=2) of people with an aggressive profile – that only represent 2,3% (n=3) of the total - have a high level of EC. 7,6% (n=10) of participants in total reach a high level of EC. Among those, 3,1% (n=4) result Moderately Conservative and 3,1% (n=4) Conservative (see Table 16).

Table 16 - Distribution of absolute (n) and relative (%) frequencies for the variables "Investor's Profile" and “Level of Emotional Competence”

Investor's Profile	**Level of Emotional Competence**						**Total**	
	High		Moderate		Low			
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Aggressive	2	1,50%	1	0,80%	0	0,00%	**3**	**2,30%**
Moderately Aggressive	0	0,00%	6	4,60%	0	0,00%	**6**	**4,60%**
Moderate	0	0,00%	44	33,60%	1	0,80%	**45**	**34,40%**
Moderately Conservative	4	3,10%	43	32,80%	2	1,50%	**49**	**37,40%**
Conservative	4	3,10%	23	17,60%	1	0,80%	**28**	**21,40%**
Total	**10**	**7,60%**	**117**	**89,30%**	**4**	**3,10%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

Table 17 presents the investor’s profile with self-awareness levels. It is possible to see that from all the participants 20,61% (n=27) present a high level of self-awareness. Those who mostly have a moderate and moderately conservative investor's profile, equally, 6,1% (n=8) an aggressive investor’s profile was encountered in 2,3% (n=3) of the sample. From the ones that have a moderate level of self-awareness the result was 73,28% (n=96), from those who present a moderately conservative investor profile 29,0% (n=38) there were no participants found with an aggressive investor profile (n=0). Among the respondents with a low level of self-awareness, 6,11% (n=8), which 2,3% (n=2,3) present a moderately conservative investor’s profile.

Table 17 - Distribution of absolute (n) and relative (%) frequencies for the variables "Investor's Profile" and “Level of self-awareness”

Investor's Profile	Level of Self-awareness						Total	
	High		Moderate		Low			
	n	%	n	%	n	%	n	%
Aggressive	3	2,30%	0	0,00%	0	0,00%	**3**	**2,30%**
Moderately Aggressive	2	1,50%	3	2,30%	1	0,80%	**6**	**4,60%**
Moderate	8	6,10%	35	26,70%	2	1,50%	**45**	**34,40%**
Moderately Conservative	8	6,10%	38	29,00%	3	2,30%	**49**	**37,40%**
Conservative	6	4,60%	20	15,30%	2	1,50%	**28**	**21,40%**
Total	**27**	**20,61%**	**96**	**73,28%**	**8**	**6,11%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

Crossing the inves profile with the level of emotion management (Table 18), it possible to see that there was no one (n=0) from the sample presenting a high level of emotion management. 84,73% (n=111) demonstrated a moderate level instead. Respondents with a moderately conservative investor’s profile result at 31,3% (n=41). 15,27% (n=20) present a low level of emotion management, and the investor profile with the highest number of people is moderately conservative, 6,1% (n=8).

Table 18 - Distribution of absolute (n) and relative (%) frequencies for the variables "Investor's Profile" and “Level of Emotion management"

Investor's Profile	Level of Emotion management						Total	
	High		Moderate		Low			
	n	%	n	%	n	%	n	%
Aggressive	0	0,00%	3	2,30%	0	0,00%	**3**	**2,30%**
Moderately Aggressive	0	0,00%	5	3,80%	1	0,80%	**6**	**4,60%**
Moderate	0	0,00%	39	29,80%	6	4,60%	**45**	**34,40%**
Moderately Conservative	0	0,00%	41	31,30%	8	6,10%	**49**	**37,40%**
Conservative	0	0,00%	23	17,60%	5	3,80%	**28**	**21,40%**
Total	**0**	**0,00%**	**111**	**84,73%**	**20**	**15,27%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

After crossing the variables “Investor’s Profile” with “level of Self-Motivation” (Table 19), it was found that 29,01% (n=38) of the sample presents a high level of Self-Motivation. 2,3% (n=3) have an Aggressive investor’s profile, and most of them present a Moderately Conservative investor’s profile, 11,5% (n=15). Among the group of respondents with a Moderate level of Self-Motivation that make a total of 64,12% (n=84), 24,4% (n=32) present a Moderately investor’s profile. From the group with a low level of Self-Motivation, 15,27% (n=20) in this study, 6,1% (n=8) make part of the group with a Moderate investor’s profile.

Table 19 - Distribution of absolute (n) and relative (%) frequencies for the variables "Investor's Profile" and “Level of Self-motivation"

Investor's Profile	**Level of Self-motivation**						**Total**	
	High		Moderate		Low			
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Aggressive	3	2,30%	0	0,00%	0	0,00%	**3**	**2,30%**
Moderately Aggressive	4	3,10%	2	1,50%	0	0,00%	**6**	**4,60%**
Moderate	10	7,60%	30	22,90%	5	3,80%	**45**	**34,40%**
Moderately Conservative	15	11,50%	32	24,40%	2	1,50%	**49**	**37,40%**
Conservative	6	4,60%	20	15,30%	2	1,50%	**28**	**21,40%**
Total	**38**	**29,01%**	**84**	**64,12%**	**9**	**6,87%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

Table 20 exhibits the information regarding the variables “Investor’s Profile” with “level of Empathy”. It was noted that 26,72% (n=35) of the sample presents a high level of Empathy. Crossing this result with the Invertor’s Profile, they are mostly allocated in the profile moderate 9,2% (n=12), and 1,5% (n=2) have an Aggressive Investor’s Profile. With Among the participants with a moderate level of Empathy, who represents 70.23% (n=92) of the total, 26,7% (n=35) show a Moderately Conservative investor’s profile. Finally, the 3,05% (n=4) of the people with a low level of Empathy 2,3% (n=3) have a moderately conservative and 0,8% (n=1) a Conservative investor’s profile..

Table 20 - Distribution of absolute (n) and relative (%) frequencies for the variables "Investor's Profile" and “Level of Empathy"

Investor's Profile	Level of Empathy						Total	
	High		Moderate		Low			
	n	%	n	%	n	%	n	%
Aggressive	2	1,50%	1	0,80%	0	0,00%	**3**	**2,30%**
Moderately Aggressive	2	1,50%	4	3,10%	0	0,00%	**6**	**4,60%**
Moderate	12	9,20%	33	25,20%	0	0,00%	**45**	**34,40%**
Moderately Conservative	11	8,40%	35	26,70%	3	2,30%	**49**	**37,40%**
Conservative	8	6,10%	19	14,50%	1	0,80%	**28**	**21,40%**
Total	**35**	**26,72%**	**92**	**70,23%**	**4**	**3,05%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

By crossing the variables “investor’s profile” with “social emotions management”, shown in Table 21, it is possible to retrieve the information that 19,08% (n=25) of people with a high level of Social Emotions Management, the most relevant investor’s profile is moderate, 6,1% (n=8). 73,28% (n=96) of respondents display a moderate level of social emotions management. Among those 28,2% (n=37) have a Moderately Conservative and 1,5% (n=2) an Aggressive investor’s profile. Out of the 7,63% (n=10) of respondents with a low level of Social Emotions Management, 3,8% (n=5) make part of the group with a moderately conservative investor’s profile..

Table 21 - Distribution of absolute (n) and relative (%) frequencies for the variables "Investor's Profile" and “Social emotions management"

Investor's Profile	Level of Social Emotions Management						Total	
	High		Moderate		Low			
	n	%	n	%	n	%	n	%
Aggressive	1	0,80%	2	1,50%	0	0,00%	**3**	**2,30%**
Moderately Aggressive	2	1,50%	4	3,10%	0	0,00%	**6**	**4,60%**
Moderate	8	6,10%	34	26,00%	3	2,30%	**45**	**34,40%**
Moderately Conservative	7	5,30%	37	28,20%	5	3,80%	**49**	**37,40%**
Conservative	7	5,30%	19	14,50%	2	1,50%	**28**	**21,40%**
Total	**25**	**19,08%**	**96**	**73,28%**	**10**	**7,63%**	**131**	**100,00%**

Legend: n- absolute frequency; % - relative frequency

As shown in Figure 7, according to the correspondence analysis graphic, it is possible to see that there is a correlation between the Investor Profiles “1 – Conservative”, “2 – Moderately Conservative”, “3 – Moderate2, and “4 – Moderately Aggressive” with the level of Emotional Competence “2 – Moderate”. The level of EC “1 – Low” presents no correlation with the investor’s profiles of the sample. And the profile “5 – Aggressive” appears distant from the other profiles; however, it shows proximity with the EC level “3 - High”.

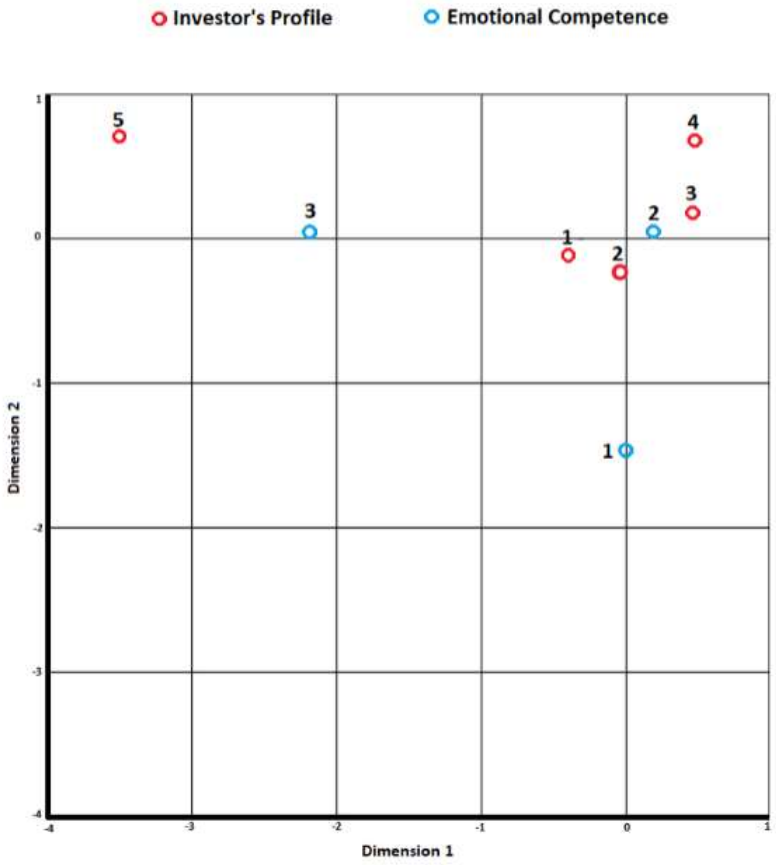


Figure 7 - Correspondence analysis graphic.

Table 22 shows the results of Fisher’s Exact Test, which crosses the variable “Investors’ Profiles” with the “EC Total” and the five dimensions separately. In order to establish the correlation of the variables, the p-value must be ≤ 0,05. The Fisher Exact Test as shown that there is an association between the variable Investor’s Profile with the variable EC Total ($\chi^2_{(8)}$=16,061; *p*=0,017). However, the test has shown that there is no association for the five dimensions separately.

Taking into consideration a p-value ≤ 0,10, it possible to assume that there is an association between the variable self-awareness and the investor’s profile ($\chi^2_{(8)}$=12,348; p=0,089), and also an association between self-motivation and the investor’s profiles ($\chi^2_{(8)}$=6,932; p= 0,086).

Table 22 - Distribution of Fisher's Exact Test crossing variables "Investor's Profile" with "Emotional Competence Total" and the five dimensions

EC Dimensions	χ^2 (df)	*p-value*
Self-awareness	12,348 (8)	0,089
Emotion management	0,809 (8)	0,964
Self-motivation	12,515 (4)	0,086
Empathy	6,932 (8)	0,553
Social Emotions management	3,991 (8)	0,852
EC Total	**16,061** (8)	**0,017**

Legend: χ^2 = qui-quadrado; $_{df}$ = degree of freedom; *p* – Pearson correlation coefficient

4. Discussion of Research Results

After the presentation of the research results, the discussion and critical analysis of the data is conducted. The discussion section has the fundamental function of answering the research questions posed in the introduction, explaining how the results contributed to that answer, and to what extent those answers contribute to the knowledge already existing on the topic under study (American Psychological Association, 2010).

The discussion will take into consideration the theoretical framework from this research and cross that information with the collected data presented in chapter 3. The discussion will be organized accordingly to the research questions presented in subchapter 2.1.

4.1. Socio-demographic characteristics of the sample

The sample is mostly based on the answers of females and males with an age range from 26-35, the male gender is also mostly between the age range of 26-35. Generally, the sample is mostly formed by people under the age of 45, shown in Table 5. Regarding the nationality of the sample, it is mostly composed of Brazilian people, followed by Portuguese. The Regarding the level of education, most repsondents have a college or a master degree, as shown in Table 6. This information makes clear that most people have a high or good level of education Concerning the marital status, single and married people represent the biggest plot of the sample, as shown in Table 8.

In order to have a better understanding of the knowledge of the sample about the subject “Emotional Competence (EC)”, they were asked if have ever heard about EC and if they want to know about it, as shown in Table 7. The biggest plot of the sample does not know EC and has never heard about it. From those who know about EC, the majority has college completed as a level of education. Hence we may assume that, according to this sample, EC should become a more important topic in people’s education.

4.2. Investor’s Profiles of the sample

Several questions to the participants aimed to explain a certain investor’s profile. Through those questions, it is possible to categorize five different types of investors, as shown in Graphic 1. The profiles are mainly divided into three: Conservative, Moderate and Aggressive. In addition, there are the two intermediate levels Modarately Aggressive and Modarately Conservative.

The sample is mostly composed of the moderate profile, inclined to the conservative, shown in Graphic 1. As explained in subchapter 1.3, the moderate type of investors is willing to take some risk but their main goal is steady growth without net losses.

Relatively to the investor’s profile and their level of education, which is shown in Table 9, most participants of this sample have a college completed or are attending a master's degree, and they have inclination to a conservative profile. Regarding the age-range crossed with the investor's profile, people in the sample with a profile more inclined to aggressive are more concentrated between 18 to 45. Meanwhile, people in the sample over 55 did not show an inclination to an aggressive profile (Table 10).

Crossing gender with the investor’s profile in the sample (Table 11), all the aggressive profiles come from male respondents. Nevertheless, with more relevance, the male gender shows a moderate profile. Among the female participants, a considerable number has a Conservative or Moderately Conservative profile. This sample shows that the female gender tends to be more conservative.

The prospect theory and the hypothetical value function presented by Kahneman and Tversky (1979), were explained in chapter 1.2. They analyze the risk aversion to gains and the prone to risk of losses. Graphic 2 shows an example of loss aversion. Participants were asked how much loss they would be willing to accept. This questions includes a possibility of loss. Kahneman (2011) had found an important bias: When you show people only possibilities to win, they are inclined to risks more. In contrast to this, they become more risk-averse if you show them in the same way also the risk of losing their investments.

The fourth question of the invertor’s profile questionnaire has the highest number of people with a conservative profile. Thus, when asked how much they are accepting to lose, they become risk-averse and are not inclined to bet when the possibilities of losses are exposed, without knowing what the

winnings are. In addition, it is important to understand that an investor's profile influences the decision-making process. As shown in chapter 1.2, Damasio (1996) explained that the Somatic Marker acts as an alarm for negative situations. It could be triggered by a question like this one which only refers to losses and negative options.

Taking into consideration that the sample is mostly formed by people without any education in finance and investments, Barberis and Thaler have explained that the irrational investor cannot perfectly comprehend all the necessary financial information to make a great investment decision.

Graphic 3 shows another example of Prospect Theory. In this question, respondents have five portfolios as options, but instead of focusing on the loss, it mentions possible gains. Figure 8 shows the graphic used in the question, the portfolios A, B, C, D, and E. Below you can see the gains, the highest and lowest. This is a very important detail. By just showing options of possible gains, people will exclusively concentrate on those – instead of considering also possible risks or losses.

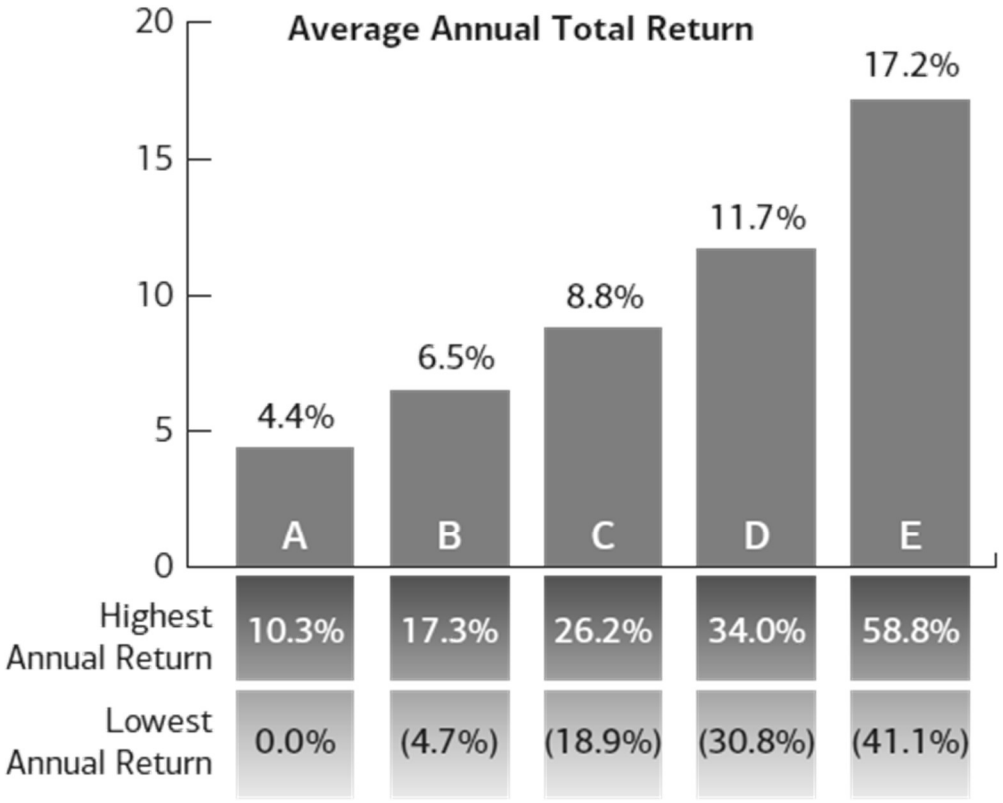


Figure 8 – Portfolios options from Investor's Profile questionnaire.

[Retrieved from Merrill Lynch & Co., (2013, p. 2)]

From a reflection effect point of view, portfolio C was the most selected one. When compared to others, it has a relatively low risk and a great gain when compared. Cohen, Jaffray, and Said (1987)

have explained that people risk averse to loss are also careful with possible gains. However, when the scenario changes and loss and risks are relatively low, they may become risk-seeking. This questions has revealed also the highest score of people with an aggressive profile. As Thaler (2008) quoted, people with a overconfidence cognitive bias are inclined to behavior and take normally more risk in order to pursue more gains.

Graphic 4 shows another example of the Prospect Theory, namely, the Certainty Effect. Kahneman and Tversky (1979) have explained that this effect influences the agent when he or she pays more attention to a predictable, result compared to an uncertain outcome. The participants were asked to choose how much they would invest in the following two investment options, as shown in Figure 9.

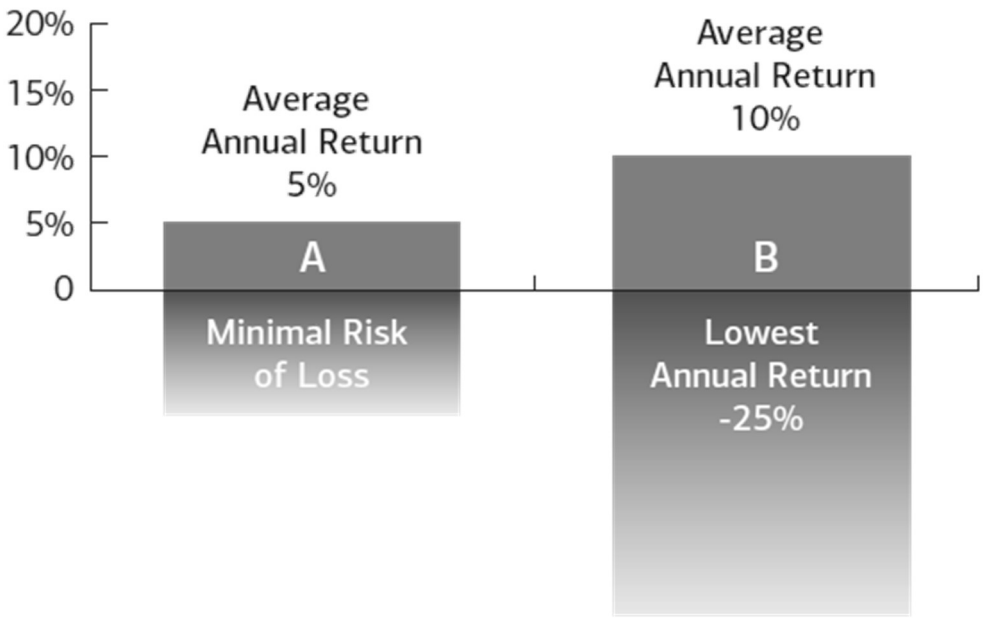


Figure 9 – Investment options from Investor's Profile questionnaire.

[Retrieved from Merrill Lynch & Co., (2013, p. 2)]

Investment B has a higher annual return (gains), but at the same time offers a potential loss of 25% or more. Investment A, conversely, offers a lower return, but a minimal risk of loss guaranteed. Looking from a Certainty Effect point of view, the participants tended to invest more in option A that guarenteed more certainty on possible gains and losses. In contrast to option B, where a high level of uncertainty led to more risk aversion..

This is why a majority of 80% of the respondents chose to invest in option A and only a minority of 20% in option B. By the way, no one of the participants ran into the trap of the overconfidence effect and chose to invest 100% in option B.

4.3. Emotional Competence in this sample

Emotional Competence (EC), as explained by Veiga-Branco, is an ability that can be accurate and determines the level of emotion's realizations. She describes five dimensions of EC, as explained in chapter 1.4: Self-Awareness; Emotions Management; Self-Motivation; Empathy, and Social Emotions Management.

After a statistical descriptive analysis, it was also determined the Cronbach Alpha (α) in order to know the consistency degree of the sample as well as the Pearson's Correlation (r) to know the correlation's degree between EC total and its dimensions.

From the analysis in Graphic 5, one can see that most of the sample shows moderate level of EC Total, which indicates that some aspects in emotional education might be improved. Emotional education was defined by Veiga-Branco (2015) as a traversal formation for all human beings (check chapter 1.4).

After checking the level of EC for each dimensions, it is easier now to understand strengths and weaknesses of our sample group and to reflect which emotional competences might require more improvement or training. Emotion Management results as the weakest compentence. No one of the participants reached high level. Since the highest scores are still on a low level, the sample group needs to be trained more in Emotion Management. Cross-checking this information, the consistency degree for emotion management is the lowest one, α=0,68 (measured with Cronbach Alpha), and the correlation with EC total is one of the lowest, r=0,782 (measured with Pearson's Correlation).

This all makes clear that Social Emotions Management should be trained and improved. Regardless of the consistency degree being the highest (α= 0,88), the correlation with EC total is the lowest (r=0,738).

In contrast to this low scores, Self-awareness, Self-Motivation and Empathy resulted to be the stronger competencies of the sample group, with a higher number of people with a high level of EC, a good consistency degree, and a strong correlation degree with EC total, sequentially (α=0,860; r=0,840), (α=0,860; r=0,822), (α=0,820; r=0,793).

Analyzing the means from the five dimensions shown in Table 13 separately, it is possible to see that Empathy is the dimension with the highest value (x: 5,010; s: 0,780). This information correlates with another 10 studies with ECVS, shown in Table 1. Namely: Veiga-Branco (2005), Vilela (2006), Vilela (2006), Alves (2012), Alves (2012), Costa (2014), Francisco (2017), Rodrigues (2017), PSI-WELL (2018) – Parents, PSI-WELL (2018) – Children with Special Needs (CSN).

In his studies, Goleman (1998) called Empathy a very important skill that enables people to read emotions and social behavior and helps them to cope positively with these emotions. As it was explained

before (chapter 17), Self-Awareness is a very important key to feel and show Empathy. Although the levels of Self-Awareness in this study are lower than the levels of Empathy, Self-awareness has a higher consistency degree (α=0,860), and also the highest correlation degree with EC total (r=0,840). This demonstrates a good level of intrapersonal competence.

The second dimension with the highest values was Self-Motivation (x: 4,850; s: 0,920). It correlates with Rodrigues' (2017) studies with health professionals that show the same values for Empathy and Self-motivation, sequentially (x: 5,1; s: 0,74); (x: 5,1; s: 0,67). According to Veiga-Branco (2004) Self-Motivation is an is an important competence to understand how negative and positive feelings are strongly influenced by motivation. The results show a good level of interpersonal competence.

Another question was if the knowledge of participants in EC correlates with the highest levels of emotional competencies in this study. When analyzing the results of people who had answered that they know about EC, it become clear that no one of them had neither a particularly high level nor a low level. That shows little correlation between theoretical knowledge and ability. However, in general only a small percentage of respondents knew about EC.

4.4. Correlation between the Investor's Profile and their Emotional Competence

After crossing the information relative to the Investor's Profile and the Emotional Competence (EC) Total levels in this sample, it was possible to correlate the Moderate level of both. From an investor's perspective, most participants have a Moderate or Conservative profile, and this seems to correspond to their moderate level of EC Total, as shown in Table 16.

When looking for a better clarification, the information of the investor's profile was crossed with each dimension of EC. Regarding Self-Awareness, it was shown that people in the sample with an aggressive investor's profile shows a high level of self-awareness. This is considered as the ability to think first and take no action lead by emotions, whereas Aggressive investors are normally risk-seeking. Taking into consideration a higher value of this correlation, it is possible to assume a link between emotion management and investors' profiles in this sample group (Table 22). As already Dhiman and Raheja (2018) have shown in their studies, Self-Awareness is one of the EI's competences with high impact on risk tolerance and has a direct relation to an investor's decision. This insights correlate with Cronbach's alpha high level and also with the analysis of the investor's profiles.

Emotion management appears with no high levels of EC. It is very accurate in the low level of EC, mostly shown in Moderately inclined to Conservative Investor's Profiles. This dimension refers to

the knowledge about emotions. Moderate and conservative investors are normally more careful in order to avoid losses. Emotion Management explains the knowledge of people's own feelings. However, this sample has shown no corelation between emotion management and an investor's profile.

Self-motivation is the ability to remain motivated regardless of positive or negative feelings. In this sample, this EC has the highest number of people on this high level, which means that most participants in this sample show a good ability to remain positively motivated, independendly of mood fluctuations. These high levels of Self-Motivation, and Cronbach's alpha as well, show that this sample does not correlate with the competences studied by Mayer and Solvey who had excluded motivational aspects. The results also point to a good level of correlation between Self-Motivation and the Investor´s Profile and and are in sintony with the studies of Dhiman and Raheja (2018) who also stressed the relation between motivation and the riks tolerance of an investor.

Empathy has shown a mean above the average, with the highest frequency of the sample. Goleman (1998) has pointed out that Empathy is a very important skill. And, collaborating with Boies (2020) the sample presents the cognitive dimension of Empathy, the ability to understand the feelings of others, as well as the affective dimension, the ability to share the same feelings. It is worth mentioning that for the other two dimensions of Empathy the questionnaire did not have an evaluation method. One may assume that people with a high level of Empathy show often a moderate level in their Investor's Profile because the are aware of the feelings of others and tend as investors to accept only reasonable risks. However, the sample has shown no association between Empathy and the Investor Profile, according to fisher's exact test.

In this sample, social emotions management has a high level of consistency. This competency is the ability to recognize emotions in a group and to synchronize with them. However, in this sample group there is no direct correlation between this ability and an investor's profile. As Dhiman and Raheja have pointed out the dimension of "handling emotions" is related to the risk tolerance of investors, and this correlates with a consistently high level in this sample (α=0,880).

With the correspondence analysis, it was possible to see that there is a close correlation between the moderate level of EC and the following investor's profiles: Conservative, Moderately Conservative, Moderate, and Moderately Aggressive. The low level of EC has shown no close relation to the investor's profiles, whereas the higher level of EC seems to have a closer relation to an aggressive investor's profile.

Conclusions, Further Research Suggestions, and Limitations

Over the years, in the financial field several studies started to question some standard theories that were all based on the premise of unlimited rationality. Some authors, like Kahneman, Tversky, Shefrin, Thaler, and others started development studies that took into consideration the limits of rationality.. Nevertheless, these studies on limited rationality are based on the premises of psychological studies, that took into consideration emotions, sentiments, impulsiveness of an investor in a decision-making process.

The studies of behavioral finance introduced the topic of Emotional Intelligence. They demonstrated how it can interfere and be helpful in decision-making or when talking about a financial investment. Through the EI studies, they have started their research about Emotional Competence (EC). They defined five core competences and assumed that all of us can develop them through training in order to become a better human being. Building on these theories, this descriptive exploratory research has the aim to find a relation between an investor's profile and his or her EC and tries to find answers to these investigative questions: How the socio-demographic variables characterize the sample? What are the Investors Profiles from the participants? What are the ECs profiles of the sample? What correlation can be identified between the Investor's Profile and the EC?.

The results were obtained through a questionnaire, split into three parts: the socio-demographic characteristics; the investor's profile; the emotional competence. The conclusions will be explained in relation to the objectives of this research. Namely: (i) To know the sociodemographic characteristics of the sample; (ii) Identify the profile of the individual investor: conservative, moderate, or aggressive; (iii) Identify the level of Emotional Competence of the individual investors (iv) Identify the most relevant Emotional Competence among the sample; and finally (v) Analyze the relationships between the dimensions of Emotional Competence and the types of Investor's Profile.

The first objective was to know about the sociodemographic characteristics of the sample. It was observed that the majority of the sample group has an age between 26 and 35, is female and is Brazilian. Also formed mostly by females and also Brazilians. The results have also shown that the majority of the participants has a good level of education, despite the fact that most of them have never heard about the topic EC. However, the people have shown interest in knowing more about EC.

The second objective was to understand the profile of the individual investor: conservative, moderate, or aggressive. The majority of respondents show a moderate profile. Most of them have a considered risk tolerance, in order to have their income growing with time. When analyzing questions

and answers, it was possible to note some behavior that matches the prospect theory and contributes to Kahneman's and Tversky's theories.

The third and fourth objectives was to identify the level of emotional competencies of these individual investors and which are the most relevant emotional competencies among the sample. It was noted that Empathy is a very important skill to them. In sintony with Boies (2020), the sample presented two dimensions of empathy: the cognitive and affective, which demonstrate that they do understand the emotions of others and are aware when these feelings become visible. Another Competence of great importance among the sample was Self-Motivation, That demonstrates the necessity to include motivation into further research. Also against the theory of Mayer and Salovey (1990) who had excluded the importance of the motivational variable in order to accomplish a better Emotional Education. Self-Motivation and Self-Awareness have important significance for this sample group. This is in sintony with the studies of Dhiman and Raheja (2018) who indicate that these two competences are relevant from the perspective of risk tolerance.

There is one more essential conclusion. On the one hand, this set of results does not correlate to the original concept of Emotional Intelligence because the authors excluded the dimension Self-Motivatio. on On the other hand, it relates to the progressive results found by Veiga-Branco: in the vast majority of studies that have been developed in Portugal with this Data Collection Instrument (ECVS, 2005), (Table1), a substantial correlation has been verified between the Self-Motivation values and the level of global Emotional Competence.

Finally, it was our last objective to relate emotional competencies to an investor's profile. The results have shown that there is some association between the EC and the investor's profiles, but, as the sample is small, there are some results that can be considered coincidence. The results have shown a link between a high level of EC and an Investor's Profile. However, taken into account the very low number of Aggressive investors in this sample, this can also be an example of coincidence. Or, of course, an invitation to do further research on this question in future.

Notwithstanding, this research has shown statistical significance. The values of the Cronbach alpha coefficients confirm the analysis of the internal consistency of the domains of this instrument of measurement. All the results indicate that this research needs to be further investigated, with a bigger sample and also with more specific groups, such as professional investors, managers, and company owners.

"The main purpose of research is to inform action, to prove a theory, and contribute to developing knowledge in a field or study" (Zarah, 2020, p. 1). This investigative research has opened several new questions that have not been studied yet, such as: Could the development of emotional competence help investors to find the right, desirable risk tolerance? Are most aggressive investors highly emotional competent people? How can EC be trained to form better investors and managers? How and where exactly could EC be used more than now in the financial market?

Until this moment, there are no studies about EC in the field of finance with a systematic application of the Emotional Competence Veiga Scale (ECVS). The results of this investigation have shown huge potential for a deeper investigation. In sintony with Vilela (2006) can be underlined that the ECVS can be used with confidence in future studies and that its sub-scales reflect good psychometric characteristics.

With regards to the limitations of this research, COVID-19 had a negative impact for sure. During the first wave in spring 2020, access to research was limited. In addition, the timeframe to collect data was shorter than planned. With a bigger sample, the results could have more statistical value. The questionnaire was extensive, which lead to several “not concluded” responses.

Finally, despite the relatively small number of participants in the sample, this research matters not only for the results that were achieved. It is in the same way important for the essential questions that were raised and for its relevance in this field of knowledge. For all these reasons, this investigation may be considered as a relevant starting point for future scientific research in the area of behavioral finance.

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Appendix I - Questionnaire

Relação entre o Perfil de Investidor e seu Nível de Competência Emocional.

Este estudo tem como objetivo reconhecer a relação entre o Perfil de Investidor e o seu Nível de Competência Emocional. Para dar consecução a este objetivo, solicita-se a sua colaboração para o preenchimento do questionário constituído por três partes: Caracterização do Participante; Perfil de Investidor (Merrill Lynch & Co., 2013); Escala Veiga de Competência Emocional (EVCE; Veiga Branco, 2005).
A confidencialidade das respostas está assegurada, pois a identidade dos respondentes nunca é solicitada.

Relação entre o Perfil de Investidor e seu Nível de Competência Emocional.

*Obrigatório

Caracterização do participante

Idade *

Sua resposta

Nacionalidade *

Escolher

Género *

- Feminino
- Masculino
- prefiro não dizer
- Outro

Estado civil *

- ◯ solteiro/a
- ◯ casado/a
- ◯ divorciado/a
- ◯ viúvo/a
- ◯ união de facto
- ◯ outra

Nível de formação/ educação *

- ◯ Doutorado
- ◯ Doutoramento incompleto
- ◯ Mestre
- ◯ Mestrado incompleto
- ◯ Graduado/licenciado
- ◯ Graduado/licenciatura incompleta
- ◯ Ensino médio/secundário completo ens. Secundário completo
- ◯ Ensino médio/secundário incompleto ens. Secundário completo
- ◯ Ensino básico (9º ano)
- ◯ Ensino básico (6º ano)
- ◯ Ensino básico (4º ano ou 4ª Classe)
- ◯ Outro

Formação em Competência Emocional (CE) *

- ◯ Não, e não conheço nada a respeito
- ◯ Não, mas já li a respeito
- ◯ Não, mas gostaria de ter formação a respeito
- ◯ Sim, mas não sei muito a respeito
- ◯ Sim, e sei alguma coisa a respeito
- ◯ Sim, mas gostaria de ter mais formação a respeito

Se "sim" na pergunta anterior indique: instituição e número de horas

Sua resposta

Considera a relação interpessoal com os outros importante para o seu sucesso *

	1	2	3	4	5	
sem importância	◯	◯	◯	◯	◯	muito importante

Considera a sua estabilidade emocional importante na relação interpessoal com os outros (colegas, amigos, professores, etc.) *

	1	2	3	4	5	
sem importância	◯	◯	◯	◯	◯	muito importante

Considera importante a relação que estabelece com as pessoas (a nível familiar ou social) para a sua estabilidade emocional? *

	1	2	3	4	5	
sem importância	○	○	○	○	○	muito importante

Ao longo da sua experiência qual o nível de sucesso relativamente ao desenvolvimento pessoal *

	1	2	3	4	5	
muito baixo	○	○	○	○	○	muito elevado

Na atualidade, sente que ser o que é, na sua área de estudo/trabalho, irá ser *

	1	2	3	4	5	
nada gratificante	○	○	○	○	○	muito gratificante

Perfil do Investidor (Merrill Lynch & Co., 2013).

A Merrill Edge® identificou perfis de investidores que geralmente coincidem com as formas como os investidores se caracterizam, os seus objetivos, e os seus sentimentos sobre o risco. As perguntas à seguir exemplificam cenários de investimentos onde deve-se escolher a que melhor se encaixa ao seu perfil.

Ao investir dinheiro, qual é o seu principal objetivo? *

- ◯ Preservar o meu dinheiro, minimizando o risco da perda.
- ◯ Garantir renda disponível. Os meus investimentos devem estar relativamente salvos.
- ◯ Garantir renda disponível e que o meu investimento cresça gradualmente. Estou disposto a correr um pequeno nível de risco.
- ◯ Fazer o meu investimento crescer e ter alguma renda disponível. Estou disposto a correr um nível de risco considerável.
- ◯ Fazer o meu investimento crescer substancialmente. Não preciso de renda disponível e estou disposto a correr um nível considerado de riscos.

A intensidade e frequência com que o valor de um investimento aumenta ou diminui, chama-se Volatilidade (medida de risco). Investimentos mais voláteis, geralmente oferecem maior crescimento potencial a longo prazo do que investimentos menos voláteis, apesar de produzirem perdas maiores. Qual o grau de volatilidade com o qual se sente confortável? *

- ◯ O menor possível. Prefiro ter um renda disponível e estabilidade, mesmo que signifique um menor retorno.
- ◯ Baixo. Estou disposto a ter alguma perda, desde que o meu investimento cresça com o tempo.
- ◯ Moderado. Estou disposto a correr um certo risco, desde que o meu investimento tenha um maior potencial de crescimento
- ◯ Alto. Estou disposto a correr maior risco, para obter um retorno mais elevado.

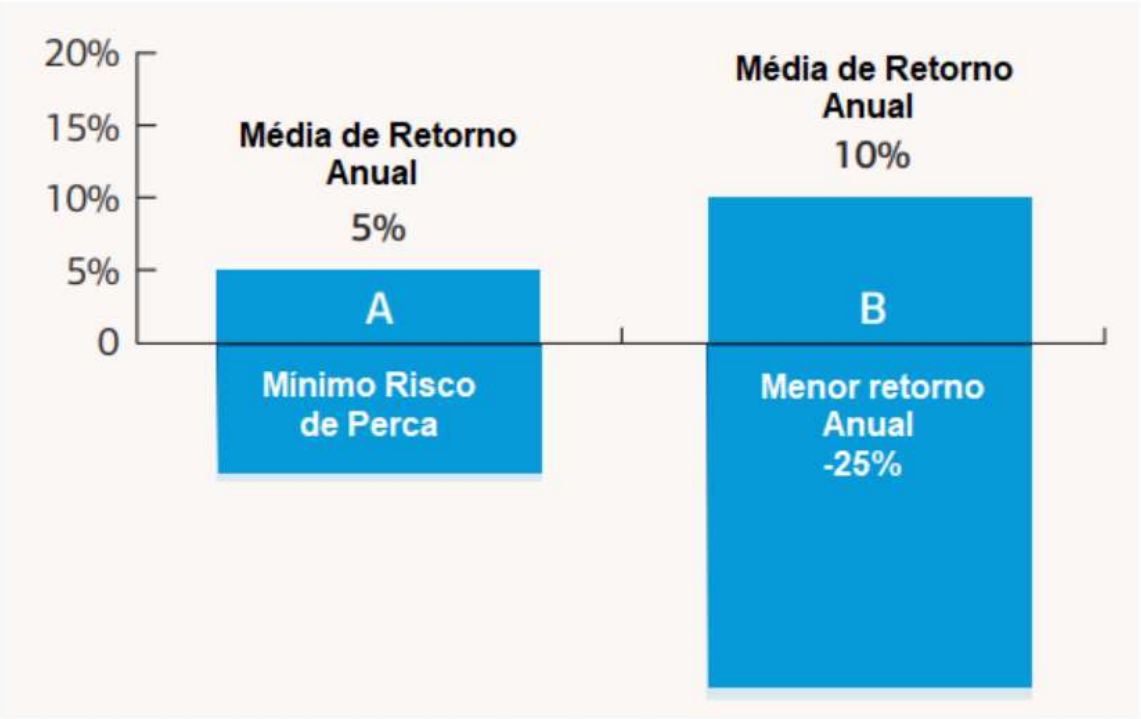
Investimentos muito conservadores, apresentam tendencialmente menos retorno do que a taxa de inflação, o que pode resultar na perda de poder de compra. Relativamente à sua iniciativa de investimento, qual das seguintes hipóteses melhor os descreve?

- ○ O meu investimento deve estar salvo, mesmo que signifique um retorno menor que a inflação.
- ○ Estou disposto a correr um pequeno nível de risco, para que o meu investimento cresça aproximadamente o equivalente à taxa de inflação.
- ○ Estou disposto a correr algum nível de risco, para que o meu investimento cresça pouco mais do que as taxa de inflação.
- ○ Estou disposto a correr um considerável nível de risco, para que meu investimento cresça muito mais que a taxa de inflação.

A flutuação do valor dos investimentos, depende do tempo e nível de risco assumido. No período de um ano, qual seria a perda aproximada que estaria disposto a aceitar, antes de decidir mudar seu investimento?

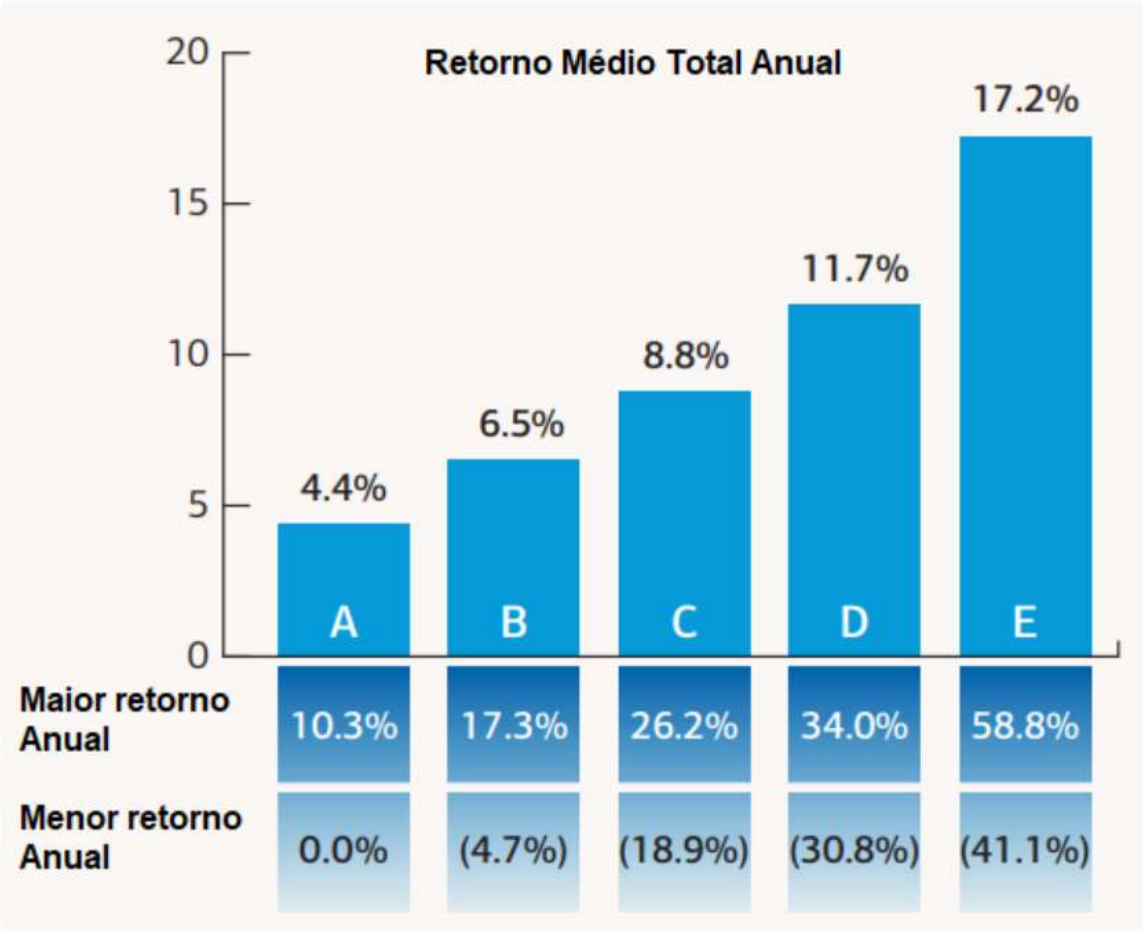
- ○ Menos de 5%
- ○ Entre 5% e 10%
- ○ Entre 10% e 15%
- ○ Entre 15% e 25%
- ○ Mais de 25%

Considere dois investimentos diferentes: Investimento A (retorno de 5% com risco mínimo); Investimento B (retorno anual de 10% e uma perda potencial de 25% ou mais). Como decidiria dividir o seu investimento?



- ○ 100% Investido em A e 0% Investido em B
- ○ 80% Investido em A e 20% Investido em B
- ○ 50% Investido em A e 50% Investido em B
- ○ 20% Investido em A e 80% Investido em B
- ○ 0% Investido em A e 100% Investido em B

Se pudesse selecionar apenas uma das cinco carteiras hipotéticas caracterizadas abaixo, qual seria a que selecionaria?



- ◯ Carteira A
- ◯ Carteira B
- ◯ Carteira C
- ◯ Carteira D
- ◯ Carteira E

Quanto tempo calcula precisar para recuperar -todo ou uma parte - do seu investimento?

- ◯ Curto prazo: 0 - 2 anos
- ◯ Médio prazo: 2 - 5 anos
- ◯ Longo prazo: mais de 5 anos

O seus ativos totais de investimento (bens/valores/patrimônio) são menores que 30 mil euros/ reais? *

- ◯ Sim
- ◯ Não

Se a sua resposta à pergunta anterior for "Não", o montante que está a investir é menos que 10% de seus ativos de investimento totais?

- ◯ Sim
- ◯ Não

Escala Veiga de Competência Emocional (EVCE, Veiga Branco, 2005)

Para a validade e utilidade das respostas, o preenchimento do questionário deverá ser o mais próximo possível do «que é/sente» e não do «que deveria ser/sentir», pelo que deve responder a todas as questões.

Em cada situação, leia as afirmações e escolha a frequência temporal (conforme legenda) que corresponde ao seu caso pessoal. As respostas a este questionário refletem a frequência em que cada situação ocorre, variando entre «Nunca» e «Sempre».

Legenda:

1 Nunca	2 Raramente	3 Pouco frequente	4 Por norma	5 Frequente	6 Muito frequente	7 Sempre

1. Perante uma situação/relação negativa na minha vida, sinto que ao ficar envolvido(a) por sentimentos desagradáveis (tristeza, culpa, vergonha, angústia, raiva...):

a) Logo no momento tomo consciência do meu estado de espírito, à medida que esses sentimentos me invadem. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Caio num estado de espírito negativo, e rumino, rumino, pensando no(s) pormenor(es) que me fizeram sentir mal. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Sinto que me deixo absorver por essas emoções, sinto-me incapaz de lhes escapar, e acabam por condicionar o meu comportamento. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Sinto que tenho a noção exata do tipo de sentimentos que me invadem; por ex.: se é raiva, medo, ódio, desprezo... frustração... consigo defini-los. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Independentemente dos sentimentos que me invadam, sinto que sou, relativamente ao meu comportamento, seguro dos meus próprios limites. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Sinto que uma vez invadido por sentimentos negativos, não consigo controlá-los.

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

g) Tenho consciência clara do que sinto, mas faço tudo ao meu alcance para afastar e mudar os meus sentimentos negativos.

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

h) Consigo identificar o que o meu corpo está a sentir, e consigo verbalizá-lo, por ex.: suor, rubor, dificuldade em respirar, pressão no peito... etc.

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

2. Em situações/relações negativas, reconheço que ao ser envolvido por sentimentos desagradáveis:

a) Altera-se a minha capacidade de atenção. Fico distraído, menos atento... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Diminui o meu nível de raciocínio. Não consigo me concentrar facilmente... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Altera-se o meu comportamento ao nível relacional/ fico em mutismo; eufórico(a), amuo, etc. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Fico mentalmente retido(a) nesses sentimentos durante muito tempo. Esse sentimento volta sempre... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

3. Reconheço que tenho tendência a atuar, como uma pessoa:

a) Instável, com várias mudanças de humor. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Observadora, consciente do que se passa à minha volta. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Racional, no que respeita aos meus sentimentos. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Positiva, encaro a vida pela positiva.

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Ruminativa, sempre a “matutar". *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Flexível, adapto-me facilmente a novas ideias. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

g) Azarada, não tenho sorte na vida. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

h) Autônoma, independente dos medos e outras opiniões. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

1. Imagine uma situação da sua vida (pessoal ou profissional) em que foi invadido por uma onda de fúria ou raiva. Ao tentar ficar mais sereno(a), tomou normalmente uma atitude:

a) Procurei "arrefecer", num ambiente onde não havia nenhuma provocação à minha fúria. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Travei o ciclo de pensamentos hostis, procurando uma distração. Arranjei algo que gosto de fazer... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Fiquei sozinho “a arrefecer” simplesmente. Fiquei quieto a tranquilizar-me... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Fiz exercício físico ativo (aeróbio). Gastei a energia em atividade... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Raciocinei, tentei perceber e identificar o que me conduziu à ira. Pensei melhor naquilo... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Olhei para a situação/facto, por outro prisma, reavaliei a causa da minha raiva. Pensei nos porquês... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

2. Quando, no quotidiano, sou invadido(a) por emoções e sentimentos negativos (fúria, cólera, irritação) normalmente:

a) Tenho tendência a usar objetos, pessoas ou situações como alvo da minha fúria, apesar de depois, me sentir pouco bem comigo mesmo(a). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Vivo em estado de preocupação crónica com o facto que originou a minha fúria e fico a pensar nas palavras/pessoas/atitudes que o causaram. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Fico alerta, tento logo identificar essa emoção negativa, até a escrevo num papel, examino-a, reavalio a situação, antes de me deixar invadir pela fúria. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Consigo "ver" esses sentimentos, sem me julgar, e tento partir para um raciocínio positivo. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

3. Quando o meu estado de espírito é negativo e foi originado pela ansiedade, sinto:

a) Pensamentos intrusivos, persistentes, que me perseguem dia e noite. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Preocupação, mas faço de tudo para desviar a atenção para outro assunto qualquer. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Percepção de perigos na minha vida, e o facto de pensar neles, é uma maneira de aprender a lidar com eles. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Angústia, mas tento "apanhar" os episódios de preocupação, tão perto do início quanto possível. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Que o meu corpo está a reagir e dificilmente consigo sair da linha de pensamento que me preocupa. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

4. Quando me sinto deprimido(a), verifico que:

Inconscientemente, acabo por usar, para me distrair, pensamentos/situações ainda mais deprimentes. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

Sinto alívio se praticar exercício físico ou desporto. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

Sinto alívio se comer ou beber. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

Acabo por isolar-me, não tenho paciência para nada. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

1. Reconheço-me como uma pessoa:

a) Com capacidade para controlar os meus impulsos e agir após pensar. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Que não se importa de esperar para agir, mesmo em situações de desafio. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Que quando estou de mau humor, só me assolam recordações negativas. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Pessimista (faça o que fizer, vai correr mal). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Derrotista (não tenho sorte na vida). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Capaz de deixar-me dominar pela ansiedade e pela frustração. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

g) Capaz de sair de qualquer sarilho. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

h) Capaz de ter/ "arranjar" energia e habilidade para enfrentar os problemas. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

i) Suficientemente flexível para mudar os meus objetivos (pessoais e profissionais), se estes se revelarem impossíveis. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

2. Imagine uma atividade de quotidiano. Durante a atividade, normalmente sinto que:

a) Fico absolutamente absorto no que estou a fazer, indiferente ao que me rodeia. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Perco a noção do tempo, do espaço e dos que me rodeiam. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Vou fazendo o que devo, com o estado de espírito preocupado com outras coisas. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Sou assaltado por pensamentos (será que as pessoas vão gostar? Será que vou ser criticado? Será que o colega/ professor/ amigo aprova?). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Experimento sensações de prazer (gozo pessoal). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Vou fazendo, e ruminando outros pensamentos que me ocorrem. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

g) Quanto mais criativo é o trabalho, mais me absorve. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

3. Quando vivo uma situação de rejeição pessoal (a nível íntimo, social, etc), sinto que:

a) Penso no fato e rumino a humilhação. Aquilo fica dentro de mim... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Penso no fato e tento encontrar uma atitude contemporizadora. Enfim, passo à frente... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Invade-me a autopiedade. Acabo por me sentir “down”, como alguém sem grande interesse... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Invade-me o desprezo, o rancor. Corto com quem me rejeita... sinto rancor por essa(s) pessoa(s)... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Correu mal em consequência de um defeito pessoal, eu sou assim. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

1. Nas relações (pessoais, familiares, sociais) com os outros, ao longo da minha vida, fica-me a sensação de que sou capaz de:

a) “Registrar”/perceber os sentimentos dos outros. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Sintonizar-me com o que os outros estão a sentir, sem ligar às suas palavras. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) "Ler" os canais não-verbais (tom de voz, gestos com as mãos, expressão facial, direção do olhar, atitude comportamental, posição, etc.). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Sintonizar-me com o que os outros estão a sentir, se usarem palavras esclarecedoras. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

2. Reconheço que nas minhas relações, tenho tendência a valorizar mais:

a) A expressão verbal do outro (a forma como pronuncia as palavras, as palavras que escolhe). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) A consonância entre as palavras e a atitude corporal da pessoa. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) O tom de voz. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) A direção do olhar (frontal; baixo; a olhar para cima; a buscar outras direções). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Os gestos (mãos, corpo). *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

3. No quotidiano, e em uma situação de conflito (desentendimento ou discussão pessoal...) dou-me conta que:

a) Uso de calma (mas conscientemente) para ouvir. Percebo que me sinto bem a ouvir as pessoas... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	◉	Sempre

b) Tendo a ficar receptivo à instabilidade do outro e desencadeio uma atitude instável. Fico irritado... *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	◉	Sempre

c) Fico receptivo à instabilidade do outro e desencadeio uma atitude serena, atenta. Mantenho-me tranquilo *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

1. No que respeita ao meu relacionamento com as outras pessoas (relações pessoais, sociais, profissionais), os procedimentos que normalmente me identificam:

a) Consigo perceber como é que as pessoas se estão a sentir. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Ajusto-me emocionalmente com os sentimentos que detecto (leio) num grupo, sem ser pela necessidade de gostarem de mim. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Consigo dar expressão verbal aos sentimentos coletivos. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Reconheço os sentimentos dos outros e consigo agir de maneira a influenciar esses sentimentos. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) As minhas relações pessoais são estáveis e mantenho-as ao longo do tempo. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Tenho habilidade para controlar a expressão das minhas próprias emoções. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

g) Nas minhas relações com os outros, digo claramente o que penso, independentemente da opinião que manifestam. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

h) Tenho domínio sobre os meus próprios sentimentos. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

2. Relativamente à comunicação com grupos (pessoas e/ou colegas), reconheço que me acontece:

a) Captar os sentimentos deles e parece que começo a absorvê-los. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

b) Ter sensibilidade inata para reconhecer o que os outros estão a sentir. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

c) Entrar em "sincronismo de estado de espírito". *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

d) Dar comigo a fazer os mesmos gestos, ou gestos concordantes com a outra pessoa. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

e) Preferir colocar-me frente a frente. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

f) Sentir-me fisicamente sincronizado com os que me rodeiam. *

	1	2	3	4	5	6	7	
Nunca	○	○	○	○	○	○	○	Sempre

Appendix II – MatLab Code

```
%% Lixo de Memoria

clear all; close all; clc;

%% Coleta de Dados e Variaveis

dados = xlsread('InvestorsNew.xlsx','Financeiro');
output = [dados(1:end,1:10) zeros(length(dados),1)];

% Contadores de Tipos de Investidores

conservador = 0; mod_conservador = 0;
mod = 0; mod_agressivo = 0; agressivo = 0;


%% Processamento

total = dados(1:end,10);

for investidor = 1:length(total)
   %=================================================================
   % Tabela 1 - Total >= 6 e Total <= 15
   %=================================================================
   if total(investidor) >= 6 && total(investidor) <= 15
      switch dados(investidor,7)
         case {1,2} % Short e Medium
            output(investidor,11) = 1; % Conservador
         case 3 % Long
            if dados(investidor,3) == 1
               output(investidor,11) = 1; % Conservador
            elseif dados(investidor,3) >= 3 && dados(investidor,3) <= 9
               output(investidor,11) = 2; % Mod. Conservador
            end
      end
   %=================================================================
   % Tabela 2 - Total >= 16 e Total <= 25
   %=================================================================
   elseif total(investidor) >= 16 && total(investidor) <= 25
      switch dados(investidor,7)
```

```
      case {1,2} % Short e Medium
         if dados(investidor,1) == 1
            output(investidor,11) = 1; % Conservador
         elseif dados(investidor,1) >= 3 && dados(investidor,1) <= 9
            output(investidor,11) = 2; % Mod. Conservador
         end
      case 3 % Long
         if dados(investidor,1) >= 1 && dados(investidor,1) <= 7
            output(investidor,11) = 2; % Mod. Conservador
         elseif dados(investidor,1) == 9
            output(investidor,11) = 3; % Moderado
         end
   end
%=================================================================
% Tabela 3 - Total >= 26 e Total <= 34
%=================================================================
elseif total(investidor) >= 26 && total(investidor) <= 34
   switch dados(investidor,7)
      case 1 % Short
         if dados(investidor,1) >= 1 && dados(investidor,1) <= 5
            output(investidor,11) = 2; % Mod. Conservador
         elseif dados(investidor,1) == 7 || dados(investidor,1) == 9
            output(investidor,11) = 3; % Moderado
         end
      case 2 % Medium
         if dados(investidor,1) == 1 || dados(investidor,1) == 3
            output(investidor,11) = 2; % Mod. Conservador
         elseif dados(investidor,1) >= 5 && dados(investidor,1) <= 9
            output(investidor,11) = 3; % Moderado
         end
      case 3 % Long
         if dados(investidor,1) >= 1 && dados(investidor,1) <= 5
            output(investidor,11) = 3; % Moderado
         elseif dados(investidor,1) == 7 || dados(investidor,1) == 9
            output(investidor,11) = 4; % Mod. Agressivo
         end
   end
%=================================================================
% Tabela 4 - Total >= 35 e Total <= 44
%=================================================================
elseif total(investidor) >= 35 && total(investidor) <= 44
   if dados(investidor,8) == 1 % Questao 8 - Sim
      switch dados(investidor,7)
         case {1,2} % Short e Medium
            output(investidor,11) = 3; % Moderado
         case 3 % Long
            output(investidor,11) = 4; % Mod. Agressivo
      end
```

```
      else % Questao 8 - Nao
        switch dados(investidor,7)
          case 1 % Short
            output(investidor,11) = 3; % Moderado
          case 2 % Medium
            if dados(investidor,9) == 1
              output(investidor,11) = 4; % Mod. Agressivo
            else
              output(investidor,11) = 3; % Moderado
            end
          case 3 % Long
            if dados(investidor,9) == 1
              output(investidor,11) = 5; % Agressivo
            else
              output(investidor,11) = 4; % Mod. Agressivo
            end
        end
      end
    %=================================================================
      % Tabela 5 - Total >= 45 e Total <= 54
    %=================================================================
    elseif total(investidor) >= 45 && total(investidor) <= 54
      switch dados(investidor,7)
        case 1
          output(investidor,11) = 3; % Moderado
        case {2,3}
          output(investidor,11) = 5; % Agressivo
      end
    %=================================================================
    end
end

%% Outputs

% Perfil p/ cada Investidor

for i = 1:length(total)
    switch output(i,11)
      case 1
        fprintf("Investidor %d - Conservador\n",i);
        conservador = conservador + 1;
      case 2
        fprintf("Investidor %d - Mod. Conservador\n",i);
        mod_conservador = mod_conservador + 1;
      case 3
        fprintf("Investidor %d - Moderado\n",i);
        mod = mod + 1;
      case 4
```

```
        fprintf("Investidor %d - Mod. Agressivo\n",i);
        mod_agressivo = mod_agressivo + 1;
      case 5
        fprintf("Investidor %d - Agressivo\n",i);
        agressivo = agressivo + 1;
  end
end

% Totais

total = conservador + mod_conservador + mod + mod_agressivo + agressivo;

fprintf("\nConservador: %d\nMod. Conservador: %d\nModerado: %d\nMod. Agressivo: %d\nAgressivo:
%d\nTotal: %d\n", ...
  conservador,mod_conservador,mod,mod_agressivo,agressivo,total);

%% Tabela

writematrix(output,'PerfilInvestidorNew.xlsx','Sheet',1)
```