LISBON
SCHOOL OF
ECONOMICS &
MANAGEMENT
UNIVERSIDADE DE LISBOA

MASTER

FINANCE

MASTER'S FINAL WORK

DISSERTATION

THE IMPACT OF TOP MANAGER'S MOOD ON FIRM PERFORMANCE

RICARDO MIGUEL MARQUES VIDIGAL DA SILVA

OCTOBER - 2017

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SUPERVISION:

PROFESSOR MARIA JOÃO COELHO GUEDES

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Abstract

During the daily routine, top managers experience different types of feelings and emotions, which can reflect on their individual behaviour. Optimism is a personality trait, that has influence on the individual's behaviour and it is associated with the expectancy of future positive outcomes. But can optimism be associated with company performance? Since top managers deal every day with a different number of task and responsibilities, it is important to understand the effect of optimistic top managers on the company performance.

Using data from a questionnaire targeting top managers in Portuguese companies, and using a self-reported and an objective measure of performance, the results suggest that optimistic top managers over evaluate their company performance. However, it was not found evidence that the presence of optimism on top managers would negatively impact the real company performance. The results support the theory that optimistic top managers tend to overestimate their company performance and an objective measure of performance would be always more accurate.

This study is relevant, for all stakeholders as it shows that top managers self-assessment of performance can be different from the objective performance. Furthermore, it contributes to the investigation about top managers and the pivotal role that individual characteristics, such as optimist, can play in a measurable outcome of the company, such as objective performance.

Keywords: Optimism, self-reported performance, objective performance, ROA

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Life is made up of challenges, and this journey at ISEG was the biggest I've ever had in my life, culminating with the conclusion of this dissertation. These years have not only been challenging, but also, they were not always easy, and what remains in the end is that I believe that made me a better person and future professional. For some years I doubted that I would ever be able to write a dissertation, so this moment is not just a closing cycle, but also a personal overcoming that makes me very proud. But none of this would be possible alone.

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Finally, I would like to thank to my father, to my mother, to my brother and to my girlfriend. Without their support and belief, I wouldn’t definitely accomplish this great challenge. This dissertation is also theirs.

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Abbreviations

CEO – Chief Executive Officer

JSS – Job Stress Scale

LOT – Life Orientation Test

LOT-R – Life Orientation Test- Revised

NA – Negative Affect

NPV – Net Present Value

PA – Positive Affect

PANAS – Positive Affect and Negative Affect Schedule

ROA – Return on Assets

ROS – Return on Sales

SME – Small and Medium Enterprises

STAI – State Trait Anxiety Inventory

SWLS – Satisfaction With Life Scale

1. Introduction

Top managers have a great number of responsibilities, tasks and problems to deal every day and their personality traits will influence their leadership style, the problem solving or decision-making, and interpreting the cognitive content (Carpenter et al., 2004; McColl-Kennedy & Anderson, 2002; Papenhausen, 2006). The study of performance, motivation and engagement is most of times related with the leadership of the top managers or Chief Executive Officers (CEOs) (Arakawa & Greenberg, 2007), because leaders' characteristics are important to provide better knowledge about effects and impacts in the companies.

Optimism has been pointed as a positive trait with benefits to the individual, as better health, job engagement, increased motivation, persistent and greater career success (Carver et al., 2010). Also, there are benefits for the companies that are managed by optimistic top managers, such as better performance (Davis, 2006; McColl-Kennedy & Anderson, 2002), better problem recognition and solving (Papenhausen, 2006) and higher levels of efficient investment (Chen & Lin, 2009). Optimistic managers are also confident about their abilities and, consequently, about their company (Chen & Lin, 2009). Notwithstanding, financial and management behaviour literature suggest differences on the definition of what top managers' optimism could represent, which can be interpreted in a different point of view of the what the regular definition of optimism represents, evidencing possible negative relationships between optimism and its effect on company performance.

This study proposes to investigate this relation between top managers' optimism and company performance, in extent if the optimistic top managers' perception of performance is consistent with the reality. For shareholders and possible investors, the

present study is relevant, giving insights, that Portuguese companies can have top managers perceived performances different from the reality, and contribute to the investigation about top managers and leaders' characteristics and their effect on the company.

The dissertation is divided in five parts: Firstly, it is the Introduction; it is followed by chapter 2 with the Literature Review, where some concepts about the topic are presented, as well as the proposed hypothesis; On the chapter 3, the data and the methodology are described; Chapter 4 presents the results; and finally, on the chapter 5 are the final considerations, limitations and suggestions for future topics of research.

2. Literature Review

2.1. Affect, Moods and Emotions

Affect, mood and emotions never were easy to define (Ashforth & Humphrey, 1995). Even for an individual, it is difficult to explain what his currently feelings are. Thus, explain the difference between affects, feelings, moods and emotions were never consensual, and conceptual problems still remains (Forgas, 1995). Even though, there is some literature that attempt to explain some differences, especially between mood and emotions.

Firstly, for some researchers, affect can be considered as a general term of the feeling, which refers to a range of states like emotions and moods (Kida et al., 2001). So, if we keep in track with this idea, when we are speaking about positive or negative affects basically we are speaking about positive or negative feelings.

Although moods and emotions can express feelings to the individual, the difference of both can be on the length, intensity and, essentially, on the cause of the feeling (Gaudine & Thorne, 2001). Even though, mood can be referred as an emotional

or affective state, it is not a momentary feeling, can last for some time and feel in different places and situations, since they have less response to the environment. (Gaudine & Thorne, 2001; Pelled, 1999).

Secondly, emotions are deeper in terms of intensity, but with shorter life and have a well-defined cause with a clear cognitive content to the individual (Forgas, 1995). For this reason, emotions are more easy to the individual understand them, and they can be reduced to few basic and universal emotion as fear, anger and joy (Ashforth & Humphrey, 1995). We can say that emotions are comprised in two dimensions, which are the level of arousal (or the intensity), and the appraisal of the situation that caused the arousal (Gaudine & Thorne, 2001).

For the purpose of this study, I will consider the mood as a general concept of feelings including the two type of affects and emotions (Forgas, 1995). In fact, it is important to speak about these two types of affects, and what it can change the individual perspective about judgement and decision making.

The Positive Affect (PA) and the Negative Affect (NA)

Watson et al. (1988), developed a two-factor model, consensual to the research community, which consists of two independent dimensions: the positive affect (PA) and the negative affect (NA), and can be explanatory of mood behaviour (Watson, 1988; Watson & Tellegen, 1985).

PA represents emotions as joy and optimism and NA includes emotions as depression, fear and frustration (Gaudine & Thorne, 2001), although their difference is not just happy vs sad, since someone can have low PA and high NA, so each is a distinctive dimension with two poles (Watson et al., 1988; Watson & Tellegen, 1985).

Figure 1 shows the circular representation of the mood structure developed by Watson et al. (1988). We can see that both poles of PA and NA are between two other dimensions which are the Pleasantness vs Unpleasantness and the degree of activation/arousal. The first one represents the valence of the feeling, as positive or negative feeling (for example: content, happy, satisfyed vs sad, lonely, sorry) (Watson et al., 1988). The second one represents the intensity of the feeling (for example: shocked, excited vs sluggish, relaxed) (Watson et al., 1988). This way, high positive affect consists of terms as active, alert and determined and low positive affect reflects depressed and tired feelings. On the other hand high negative affect reflects aversive mood states, such as anger, guilty, nervous, and low NA reflects pleasant low active state, as calmness and serenity (Watson et al., 1988; Watson & Tellegen, 1985). With this information we can conclude that just high scores of PA and NA reflect an effective and active emotional experience, since low scores of both dimensions represents relative absence of emotional environment (Watson, 1988).

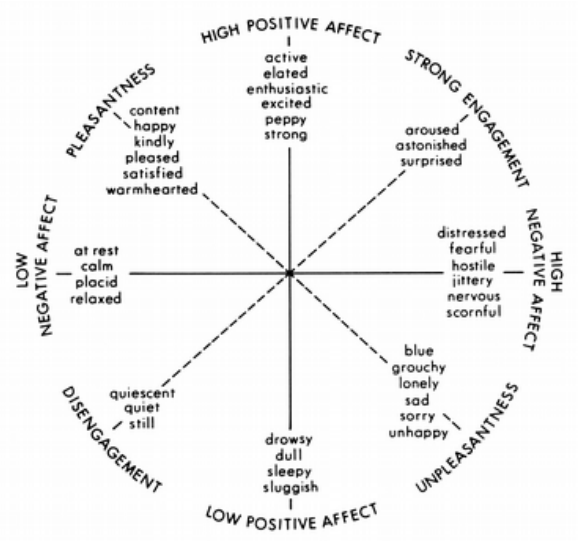

Figure I – Circular Mood Structure, developed by Watson and Tellegen

2.2. The Optimism

Optimism is defined as the expectations of positive outcomes on the future, and the major difference between optimism and pessimism are related with that same expectations of the future, in extent that optimists expect more good things to happen to them, than the pessimists (Carver et al., 2010; Scheier & Carver, 1985; Segerstrom, 2006). This is the basics of dispositional optimism, and it is the main difference between these two types of individuals. Optimists tend to have a different behaviour towards life, as they tend to live in a more positive way than pessimists, not only in specific domains but also in general (Davis, 2006; Kivimäki et al., 2005; Pelled, 1999; Scheier & Carver, 1985). This will influence the daily life of the individual, since optimists tend to confront adverse life events in a more persistent and confident way, increasing their effort and focus on their goals and not being doubtful of the possible outcome of a life situation (Carver et al., 2010; Segerstrom, 2006).

In case of failure, or bad events, they tend to end up attributing the cause to external, unstable and specific factors (Davis, 2006). Pessimists, on their side, are doubtful, and tend to expect bad outcomes, as if they can't do anything to fix it, because this bad events are internal, stable and global (Carver et al., 2010; Scheier & Carver, 1985; Schulman et al, 1993; Seligman & Schulman, 1986). This is called explanatory style, which reflects how different individuals can explain good or bad events (Peterson & Seligman, 1984; Schulman et al., 1993; Seligman & Schulman, 1986).

Optimism is considered a trait, stable during time, even though not consistent at the same level over time, it should be consider as an highly stable personality trait (Carver et al., 2010). As most of personality traits, it is stable because of its origin. For both dispositional optimism and explanatory style, there are evidences that the origin of

optimism, as for most of types of personality traits, is from genetics components (Bates, 2015; Schulman et al., 1993).

There are several studies in the literature proving that optimism can have a better influence, or be beneficial, in a particular outcome rather than pessimism, who are more willing to give up in stressful situations (Brissette et al., 2002), and also they tend to interpret the environmental surroundings in a more positive way (McColl-Kennedy & Anderson, 2002). For instance, according to Kivimäki et al. (2005), which examined changes in health after a major life event, optimistic persons need less time to recover, and to return to levels pre-event, from illness after that life event, compared with individuals with less optimism. Additionally, dispositional optimism can be an important predictor of a faster recovering from a coronary artery bypass surgery (Scheier et al., 1989).

Since dispositional optimism is based on the expectancy of the future and explanatory style reflect the way people explain such events, for the purpose of this study, dispositional optimism will be considered as the main concept of optimism, because its definition is focus on the expectancy of a certain outcome based on a certain decision-making strategy. For instance, an highly optimistic individual will expect a positive outcome, even in an unfavourable situation, and will expect that some external factors can help him to achieve the expectable outcomes (Hmieleski & Baron, 2008).

2.3. Top Manager's feelings and their role on the company

Every company strive to greatness, to have the better performance possible. Top managers have a large number of responsibilities to conduct the company to the path that they believe it's the right one. Some of these responsibilities are related with investment

decisions (Chen & Lin, 2009; Glaser et al., 2008), mergers and acquisitions (Malmendier & Tate, 2008), and on general problem recognition and solving (Papenhausen, 2006).

Not only in terms of management of the company for itself, but also leadership has an important role in the business, since it has a positive effects on the employees' engagement, optimism and performance, which benefits the whole company (Arakawa & Greenberg, 2007; McColl-Kennedy & Anderson, 2002). They are faced often with challenging decision-making situation, information selection, and competitive goals and objectives, and the psychological/personality characteristics will play an important role on filtering and interpreting the cognitive content (Carpenter et al., 2004). The cognitive process has a major importance for the purpose of getting a better performance, in the extent that is connected with task performance and the motivation that is behind such task (Isen et al., 1985).

Top manager's feelings can be crucial for the judgment process, effective problem solving, effective decision making and for the overall behaviour in the company (Forgas & George, 2001; Isen et al., 1985; Isen et al., 1987). Moods have impact, not only on how someone can handle some task, but also on the content of the thinking process, on how someone interpret some information to solve some task (Forgas & George, 2001). Isen et al. (1987), studied the relation between positive mood and task performance and conclude that PA can improve creativity on responding to task, which basically means that improve creative problem solving. Also, affect is related with decision making process. Kida et al. (2001), demonstrate that managers should consider not only financial data, but also their affective reactions, during the decision making process. Gaudine & Thorne (2001), suggested that individuals with more PA judge ethical dilemmas in a more sophisticated cognitive moral structure. PA also, have a favourable effect on the

workplace outcomes, since workers with more PA tend to have better evaluations from the supervisors, which suggests job enrichment (Staw et al., 1994).

2.4. Optimism as a predictor of being better

Optimism and performance have been already researched in different areas, such as to distinguish between high a low performers. Seligman et al. (1990), conclude that optimism predicts the performance of college swimmers and Peterson & Barrett (1987) studied optimism as a predictor of college grades. Seligman & Schulman (1986) found evidence that optimism can predict and, through leadership style, mediate job performance as the studies of McColl-Kennedy & Anderson (2002) also shows.

According to the literature about the benefits of the optimists, it includes increased motivation, more confidence, more persistent, see adversity as a challenge, seeking for more opportunities, better mood and better physical health (Schulman, 1999; Seligman & Schulman, 1986). So basically, optimists tend to confront life events in a more challenging way, seeking for opportunities and attributing failures, as we saw earlier, to temporary, external and specific causes, which suggest that top managers' optimism will positively influence company performance.

2.5. Top Managers' Optimism and Company Performance

Company performance can explain its success over some period of time, and to evaluate the effectiveness of the management (Al-Matari et al., 2014). All companies have as main goal to achieve a better performance and, consequently, to be profitable, although performance should not only be measured by its profitability. According to Hansen & Wernerfelt (1989), it is important to give attention to three major determinants of performance which are: the characteristics of the market where the company competes; its position relative to its competitors; and the quality and quantity of its assets.

Accounting based measures are considered the most effective way to measure the mentioned performance, since the ratios measure the company's profitability on the short-term (Al-Matari et al., 2014).

Was mentioned before the benefits of optimism to the individual, such as better success and engagement, for example. To the company, an optimistic top manager can be also beneficial, as optimistic individuals tend to be more committed, which is valid especially for top managers, not only because they expect better outcomes, but also, "because their wealth, professional reputation and employability depend on their performance" (Heaton, 2002).

Although, managerial optimism can be interpreted with a different definition from the dispositional optimism. Previously, optimism was referred as the expectations of favourable outcomes in the future (Carver et al., 2010). Managerial optimism, on the other hand, tend be defined as when a manager systematically overestimates the probability of good company performance and underestimate the probability of bad company performance (Chen & Lin, 2009; Heaton, 2002). Managerial optimism is referred, as well, as similar to overconfidence, when a manager overestimates his own ability and give too much value to his intuition (Chen & Lin, 2009). Besides optimistic top managers being overconfidence and overestimate good performance, they also tend to believe that outsiders underestimate their company performance (Malmendier & Tate, 2008). Based on this assumption of optimistic top managers have overconfidence and a tendency to assign better performance to their companies, the first hypothesis is proposed:

H1: Optimistic top managers will self-report good company performance.

Another characteristic present in optimistic top managers is that they tend to invest more and, since they believe that the capital markets under valuate their companies' risky securities, they prefer to finance its company projects internally rather than externally

(Glaser et al., 2008; Heaton, 2002). Investment decisions can be affected by this behaviour, since it will interfere with the top managers' perception. For instance, good investment opportunities can be lost, if the top manager perceive them as negative (Heaton, 2002). As well, in a merge or acquisition situation, an highly optimistic top manager can set aside some merger if it must be necessary external capital to complete it (Malmendier & Tate, 2008). This situations reflect a biased evaluation which can be defined as a relative insensitivity to risk (Camerer & Lovallo, 1999).

Economic theory suggests that people should make rational decisions and behaviours, stating people choose the most advantageous option available. It also state a difference between ignorance and irrationality, where ignorance reflects lack of information, which is economically accepted, whereas irrationality means that giving all relevant information is provided, the individual, for certain reasons (as expectations or personal preferences), chooses an option that is not the most advantageous (Vriend, 1996).

This way, we can have here two sides of possible outcomes based on the effect of the personality trait being study. Whether top managers' optimism can be beneficial, since optimistic managers are, among many others characteristics, more confident, more opportunity seekers, persistent, and, as well, more willing to invest and take risk, they also can be overconfident about their abilities and company performance, neglect good investments opportunities in prejudice of bad investments, and insensitivity towards risk.

Papenhausen (2006) studied the effects of top managers' optimism on both decision-making strategies and performance, and concluded that top managers' optimism positively influences company problem recognition and problem actions, but negatively influences the company performance, which demonstrate that optimism can be important

for decision process, but the top manager's overconfident behavior can results in negative performance. Also, Martin (2008), studied this relation with similar conclusions.

In accordance with the literature, it is also proposed the following hypothesis:

H2: Highly optimistic top managers will deliver lower company performance.

3. Data Description and Methodology

3.1. Data Description

The data was obtained via a questionnaire, sent by email, using the *Qualtrics* online software. The advantages of the online surveys are the convenience and flexibility to the respondent, it's easy to apply and follow up, fast to obtain and with low cost (Evans & Mathur, 2005). The disadvantages are the perception as junk mail for the respondent, being an impersonal method and privacy issues, can lead to low response rates (Evans & Mathur, 2005).

Before the final version was sent, the questionnaire was pre-tested, in order to find errors and inconsistencies and be approved to be sent to the companies. The contacts were requested to *Informa D&B,* and 153,875 emails were provided. After the first submission of emails, and in order to increase the number of responses, the questionnaire was sent again two more times, with intervals of 2 and 4 weeks, these times just for the contacts that did not answer the questionnaire. On total 6414 incomplete responses were obtained during the months of April, May and the begin of June of 2017. After detecting some incorrections and invalid questions, the final sample is comprised of 3401 completed responses which correspond to a response rate of 2.21%.

On the Annex 1 is a table with the complete description of the data. Overall, 75,1% of the total respondents are married, the average age is 45 years old, which is in the most representative age group, the interval between 40 and 50 years old, with 35%, 75% do

not smoke and 59,5% exercise regularly. Top managers represent 71,4% of the total respondents, 59,7% are self-employed, 55,1% are undergraduate and 32,9% have an annual income between 0€ and 14.999,00€. About 90% of the respondents work on a private company, 40% work on a mature company (with more than 20 years of life), 30,7% have less than 5 years of experience in the actual company, but 20,6% have between 16 and 20 years of total experience. 62,9% of the companies have 10 or less employees and 71,4% of the respondents have to direct or indirectly manage 10 or less persons. Even though 25,9% work between 35 and 40 hours per week, a high number of respondents (24,7%) work between 46 and 50 hours. 38,5%, sleep on average between 6,1 and 7 hours per day and 32,1% have between 16 and 22 annual vacation days.

3.2. Measure and Scales

The main objective of this dissertation is to study the relation between optimism, as a mediator of top managers' behaviour, and company performance. To achieve this goal was necessary to measure optimism, mood, social well-being, anxiety, levels of job stress and company performance. Additionally, other variables were introduced as years of experience, annual income, level of education, weekly working hours, daily sleeping hours and number of vacation days.

Company Performance

The company performance was measured using a subjective and an objective evaluation of the company performance. Using the subjective, or self-reported, measure of performance, the data was collected via questionnaire and using a scale developed by Wiklund & Shepherd (2003). The scale is consisted on ten items and the respondent's answer should be based on the comparison between his company performance and the main competitors. These ten items are sales growth, revenue growth, number of

employees' growth, net profit margin, product/service innovation, process innovation, adaption of new technology, product or service quality, product or service quality and customer satisfaction. For each of these items, the respondent should answer using a scale from 1 ("much lower") to 5 ("much higher") and taking into consideration the performance of the last three years. The overall performance is measured by the sum of all the items, being the final score the self-reported performance, where 10 is the minimum score and 50 is the higher score. The Cronbach alpha of this scale is 0.89, representing a very good reliability (DeVellis, 1991).

Financial data of the year of 2015 of the respondents' companies was provided by *Informa D&B*, in order to make the objective evaluation of the company performance. It was computed two accounting measure ratios: the return on assets ratio (ROA), which is the return of net income to asset, and the return on sales (ROS), which is the return of net income to sale (Guedes, 2017).

Optimism

Optimism was measured using the revised version of the Life Orientation Test (LOT-R) developed and approved by Scheier et al. (1994). This scale is a revaluation of the original Life Orientation Test (LOT), developed by Scheier & Carver (1985), made after the authors realize that this last one didn't meet the original theoretical assumptions. The LOT-R scale is constituted of 10 items, which 4 of them are fillers and 6 are optimism measure items, and has the advantage of being easy and fast for the respondent to answer. For each item, the respondent should choose one of 5 options: strongly disagree, disagree, neutral, agree and strongly disagree. For 3 of 6 optimism measure items are reverse coded, since are worded negatively as pessimism items. To obtain the overall score, all the 6 optimism measure items should be scored, ignoring the filler items. There is no

benchmark for being optimistic or pessimistic, so the higher the score, more optimistic will the respondent be. The Cronbach alpha is 0,63, which is in the border of the minimally acceptable (DeVellis, 1991),

PANAS

The Positive Affect and Negative Affect Schedule (PANAS) was developed by Watson, Clark, & Tellegen (1988), and is a mood measure scale consisting of 10 positive affect measure items and 10 negative affect measure items.

The ten positive affect (PA) items are interested, alert, excited, inspired, strong, determined, attentive, enthusiastic, active and proud, and, in the other hand, the other ten negative affect (NA) items are irritable, distressed, ashamed, upset, nervous, guilty, scared, hostile, jittery and afraid. To each of these items the respondent should answer based on a Likert scale from 1 (not at all) to 5 (very much), and to get the score, we should sum all the positive affect answers, giving the PA score, and sum all the negative affect to get the NA score. The Cronbach alpha for the PA is 0,84, for the NA is 0,85, and for the all scale is 0,81, which represents good reliability (DeVellis, 1991).

Job Stress Scale

The Job Stress Scale (JSS) is used essentially to measure the stress levels of an individual. Developed by (Theorell et al., 1988), is consisted by 17 items, which 5 of them are related to psychological demand, 6 of them are control items, and the last 6 items are support measured with a Likert scale from 1 to 4. The scores can be classified as high scores and low scores for each category and they are got by the sum of the respective items. High levels of psychological demand are considered with scores equal or higher of 16, and low level of the same category are considered with scores equal or bellow of 15; In terms of control levels, the scores equal or higher of 18 are considered high level, and reduced level if they are equal or bellow to 17; Finally, the support levels are considered

high with scores equal or higher than 19, and reduced level if they are equal or bellow than 18 (Urbanetto et al., 2011). In terms of internal reliability, the Cronbach alpha for the demand category is 0,33, for control is 0,54 and support is 0,86. For whole scale the coefficient is 0,56, which is not the best in terms of reliability (DeVellis, 1991).

Satisfaction with Life Scale

The Satisfaction with Life Scale (SWLS) was developed by Pavot & Diener (1993) and is used to measure the overall satisfaction of an individual. It is constituted by 5 items and measured by a Likert scale (1-7). The authors defend that there are 6 outputs or classes of results, based on the sum of all the answers to each item. The higher the score, higher the person satisfaction. People who gets very high scores, with a range from 30 to 35, are very satisfied; with a score range from 25 to 29 are considering having high scores and satisfied with their life, but considering that is not perfect; the third class is average scores, with a range from 20 to 24, where a person has an average life satisfaction; scores below or equal to 19 and higher than 15, are defined as slightly below the average in life satisfaction, where people in this class have some small but significant problems in their life; People scoring between 10 and 14, are dissatisfied, with several domains that are not going well in their life; and finally people in the last class (scoring between 5-9), are extremely dissatisfied with their life. The Cronbach alpha coefficient for the scale is 0,85, meaning that has a good reliability (DeVellis, 1991).

State-Trait Anxiety Inventory

The State-trait anxiety inventory (STAI) is a scale developed by Spielberger et al. (1983) to measure anxiety. Using a 40 item of self-reporting evaluation of the anxiety level, uses 20 items to measure trait anxiety, consisting on asking how the individual generally feels and uses other 20 items to measure state anxiety, consisting on asking to

the respondents how the feel on the particular moment when they are answer to the questionnaire. Since both scales measure anxiety levels, it will only be used the trait measure of anxiety, as optimism is also a trait and for this study's purpose, it is more accurate to consider trait anxiety rather than state anxiety, because it is a general stable anxiety that could be carried into different kinds of places and state is a momentary anxiety. The possible answers vary from 1 (almost never) to 4 (almost always). The score is calculated based on the sum of all the 20 items' answers. The higher the score, the higher trait anxiety the respondent has. The Cronbach alpha is 0,90, which represents a very good reliability (DeVellis, 1991).

3.3. Variables

Table I contains de definition of the remaining variables.

Table I – List of Variables

	Variable	Description
Dependent Variable	Self-reported Performance (PERF)	The self-reported, or subjective, performance is the respondent's perception about the overall performance of their company. Its perception is based on 10 measuring items, as for example, sales growth, revenue growth, innovation and costumers' satisfaction, comparing with the main competitors over the last 3 years. On the table II is described the 10 items, as well as, the descriptive statistics.
	Objective Performance (PERF)	Real performance, measured using two accounting based ratios, the ROA and the ROS.
Independent Variables	**Individual Related Variables**	
	Optimism	Level of optimism measured by the LOT-R.

Professional Experience (EXP)	Number of years of professional experience.
Hierarchical Position (HPOS)	1 if top-level manager, 2 if first-level manager, 3 if middle-level manager and 4 if no managerial position.
Level of Education (EDU)	1 if undergraduate, 2 if master's degree, 3 if post-graduation, 4 if PhD and 5 if until High School.
Income (INC)	1 if 0€ - 14.999,00€, 2 if 15.000,00€ - 29.999,00€, 3 if 30.000,00€ - 44.999,00€, 4 if 45.000,00€ - 59.999,00€, 5 if 60.000,00€ - 74.999,00€, 6 if 75.000,00€ - 89.999,00€, 7 if 90.000,00€ - 104.999,00€ and 8 if more than 105.000,00€.
Weekly Working Hours (WWH)	Number of hours that the respondent works per week.
Daily Sleeping Hours (SLEEP)	Number of hours that the respondent sleeps per day.
Vacation Days (VAC)	Number of vacation days that the respondent has per year.
Exercise (EXE)	0 if the respondent doesn't exercise and 1 if the respondent exercises.
Smoker (SMO)	0 if the respondent doesn't smoke and 1 if the respondent smoke.
AGE (AGE)	Age of the respondents in years.
Company Related Variables	
Company Age (CAGE)	Number of years since the company was founded.
Number of Employees (NEMP)	Number of employees working in the company.
Sector (Sect)	1 if is in the Private Sector, 2 if is in the Public Sector and 3 if is in the non-profit sector.
Number of people managed (NPM)	Number of employees that the respondent, directly or indirectly, manage.

Company Experience (CEXP)	Number of years that the respondent has been working on the current company.

3.4. Regression models

A multiple regression analysis was used using the *STATA Statistics* software, with the version 14.0. For all the models, Performance (PERF), subjective and objective, is the dependent variable and optimism, measured by the scale LOT-R, is the main independent variable. In Equation 1, it is regressed just optimism as the independent variable, which represents just a simple linear regression between Optimism and PERF. Equation 2 adds control variables related to the individual (hierarchical position, years of experience, level of education, level of income, weekly working hours, hours of sleep per day, vacation days per year, smoker and exercise). Equation 3, on the other side, adds control variables related to the company (company age, number of employees, sector, the years of experience in the actual company and the number of manageable persons). The last model combines all the control variables, whether individual or company related.

(1) $PERF = \alpha + \beta_1 LOT\_R + \varepsilon$

(2) $PERF = \alpha + \beta_1 LOT\_R + \beta_2 HPOS + \beta_3 EXP + \beta_4 EDU + \beta_5 INC + \beta_6 WWH +$

$\beta_7 SLEEP + \beta_8 VAC + \beta_9 AGE + \beta_{10} SMO + \beta_{11} EXE + \beta_{12} + \beta_{13} PA + \beta_{14} NA +$

$\beta_{15} SWLS + \beta_{16} STAI_{Trait} + \varepsilon$

(3) $PERF = \alpha + \beta_1 LOT\_R + \beta_2 CAGE + \beta_3 NEMPL + \beta_4 NMP + \beta_5 SECT +$

$\beta_6 CEXP + \beta_7 JSS_{demand} + \beta_8 JSS_{control} + \beta_9 JSS_{support} + \varepsilon$

(4) $$PERF = \alpha + \beta_1 LOT\_R + \beta_2 HPOS + \beta_3 EXP + \beta_4 EDU + \beta_5 INC + \beta_6 WWH + \beta_7 SLEEP + \beta_8 VAC + \beta_9 AGE + \beta_{10} SMO + \beta_{11} EXE + \beta_{12} MS + \beta_{13} PA + \beta_{14} NA + \beta_{15} SWLS + \beta_{16} STAI_{Trait} + \beta_{17} CAGE + \beta_{18} NEMPL + \beta_{19} NMP + \beta_{20} SECT + \beta_{21} CEXP + \beta_{22} JSS_{demand} + \beta_{23} JSS_{control} + \beta_{24} JSS_{support} + \varepsilon$$

4. Results

4.1. Descriptive Statistics

Table II shows the descriptive statistics for the self-reported performance and for the optimism. On the components of the self-reported performance, we observe that almost all of them have a mean of or above 3, which means that, on average, respondents have a positive view of his business comparing with their competitors, over the last three years of activity. The exception is only the field of employees' growth with a mean of 2,98, which is the item with the lowest performance score. Customer Satisfaction is the field with higher performance score (3,84), representing an idea that managers believe its customers are more satisfied with their company than with the competitor's companies. Summing all the 10 answers, the overall performance is, on average, 34,67 and confirms the idea that managers have an optimistic view of their business, since this value is above the mean (Wiklund & Shepherd, 2003). It is important, as well, to be conscient that the more optimistic the top managers are, the higher overvaluation they will perceive of their companies.

The descriptive statistics of the optimism scale components are represented bellow the self-reported descriptive statistics on the table II. To analyse them it is important to remember that only 6 items are considered for the measure of optimism. Are they: the

items 1, 3, 4, 7, 9 and 10. The rest of them are filler items and should not be interpreted. The item with lower score is first one with 2,45, which states "In uncertain times, I usually expect the best" and with higher score is the last one, stating "Overall, I expected more good thing to happen to me, than bad", with a mean of 3,03. The mean of the optimism score is 16,43. The Pearson correlation between optimism scores and self-reported performance is 0,261, for a significance level of 1%, demonstrating a positive a significant relation between both variables.

Table II – Self-Reported Performance and Optimism Descriptive Statistics

	Min	**Max**	**Mean**	**SD**	**α**
Overall Performance	10	50	34,67	5,928	0.89
1 - Sales Growth	1	5	3,4	0,906	
2 - Revenue Growth	1	5	3,36	0,909	
3 - Employees Growth	1	5	2,98	0,927	
4 - Net Profit Margin	1	5	3,26	0,842	
5 - Product/Service Innovation	1	5	3,51	0,823	
6 - Process Innovation	1	5	3,51	0,809	
7 - Adoption of new technology	1	5	3,47	0,846	
8 - Product/Service Quality	1	5	3,76	0,757	
9 - Product/Service Satisfaction	1	5	3,59	0,778	
10 - Customer Satisfaction	1	5	3,84	0,747	
LOT-R Scores	0	24,00	16,43	3,33	0,63
1 - In uncertain times, I usually expect the best.	0	4,00	2,45	0,97	
2 - It's easy for me to relax.	0	4,00	1,84	1,04	
3 - If something can go wrong for me, it will. (R)	0	4,00	2,62	0,98	
4 - I'm always optimistic about my future.	0	4,00	2,65	0,91	
5 - I enjoy my friends a lot	0	4,00	3,55	0,58	
6 - It's important for me to keep busy.	0	4,00	3,39	0,71	

7 - I hardly ever expect things to go my way. (R)	0	4,00	2,70	1,02
8 - I don't get upset too easily.	0	4,00	2,32	1,01
9 - I rarely count on good things happening to me. (R)	0	4,00	2,97	0,95
10 - Overall, I expect more good things to happen to me than bad.	0	4,00	3,03	0,88

Table III shows the remaining statistics descriptive of the independent variables used in this study, as well as, the statistics descriptive of the ratios used to measure the objective company performance. As it can be observed, both, ROA and ROS, have negative means, which, at a first sight, can lead to an interpretation that most of the companies have bad performance. Additionally, the Annex II shows the complete statistics description of the scales used as variables in the study.

Table III – Independent Variables and Objective Performance Descriptive Statistics

Independent Variables	Min	Max	Mean	S.D.
Company Experience	0	110	12,60	9,86
Total Experience	0	60	22,35	10,86
Hierarchical Position	1	4	1,50	0,91
Education	0	4	1,28	0,96
Income	1	8	2,54	1,80
Sector	1	3	1,16	0,52
Number of Employees	0	100000	150,02	2455,12
Number of people managed	0	3500	21,61	120,65
Company age	1	4	3,18	0,79
Weekly Working Hours	0	200	48,34	13,68
Sleep	1	35	6,81	1,11
Vacation days	0	365	17,30	11,63
Exercise	1	2	1,41	0,49
Marital Status	1	4	2,07	0,74
Smoker	1	2	1,75	0,43
Age	0	84	45,76	10,74
Control Variables	**Min**	**Max**	**Mean**	**S.D.**
PA	10	50	37,20	5,79
NA	10	50	19,22	6,28
SWLS	5	35	24,04	5,65
STAI Trait	20	78	34,34	9,40

JSS Demand	5	20	16,25	1,90
JSS Control	6	24	20,47	2,42
JSS Support	6	24	9,47	3,22
Dependent Variables	**Min**	**Max**	**Mean**	**S.D.**
ROA	-52,76	4,61	-0,13	1,60
ROS	-6905613,00	60,88	-2749,36	137782,00

Note: N = 3401; Min is minimum, max is the maximum and S.D. is the standard deviation.

4.2. T-Tests

In order to understand if there were significant differences in the level of optimism on the group of variables, t-tests were performed, using *IBM SPSS Statistics*, version 24. Table IV shows the recoded variables used to create two groups, in order to compare the LOT-R means. The null hypothesis is the equality of means between the two groups of variables.

Table IV – Recoded Variables

Variable	Description
Hierarchical Position (HPOS)	0 if non-top-level manager; 1 if top-level manager.
Experience (EXP)	0 if 20 or less years; 1 if 21 or more years.
Education (EDU)	0 if until undergraduate degree; 1 if more than the undergraduate degree.
Income (INC)	0 if 29.999€ or less per year; 1 if 30.000€ or more per year.
Weekly Working Hours (WWH)	0 if less or equal to 40 hours; 1 if 41 or more hours.
Hours of sleep per day (SLEEP)	0 if less or equal to 8 hours; 1 if more than 8 hours.
Vacation days (VAC)	0 if less or equal to 22 days; 1 if 23 or more days.
Number of employees (NEMPL)	0 if SME (Equal to 249 or less employees); 1 if Large company (if 250 or more employees).
Number of people managed (NPM)	0 if 5 or less persons; 1 if 6 or more persons.
Company Experience (CEXP)	0 if 10 or less years; 1 if 11 or more years.

Table V – T-tests

Hierarchical Position	**Top-Level Managers**	**Non Top-Level Managers**	**t-value**
LOT-R	16,67	15,83	-6,752***
Experience	**Above 20 years**	**Bellow 20 years**	
LOT-R	16,21	16,66	3,884***
Education	**Above undergraduate degree**	**Until undergraduate degree**	

LOT-R	16,66	16,34	-2,464**
Income	**Above 30000€ per year**	**Until 30000€ per year**	
LOT-R	16,76	16,25	-4,246***
Weekly Working Hours	**More than 40 hours**	**Until 40 hours**	
LOT-R	16,54	16,24	-2,503**
Sleep per day	**More than 8 hours**	**Until 8 hours**	
LOT-R	17,18	16,42	-1,846*
Age	**More than 40 years**	**Untill 40 years**	
LOT-R	16,28	16,74	3,818***
Marital Status	**Married**	**Not Married**	
LOT-R	16,43	16,45	0,156
Vacation Days	**More than 22 days per year**	**Up to 22 days per year**	
LOT-R	16,91	16,32	-4,007***
Company age	**Startup**	**Young**	
LOT-R	16,71	16,67	0,083
	Startup	**Adult**	
LOT-R	16,71	16,57	0,293
	Startup	**Mature**	
LOT-R	16,71	16,17	1,189
	Young	**Adult**	
LOT-R	16,67	16,57	0,612
	Young	**Mature**	
LOT-R	16,67	16,17	3,198***
	Adult	**Mature**	
LOT-R	16,57	16,17	3,154***
Sector	**Private**	**Public**	
LOT-R	16,4305	16,4508	-0,066
	Private	**Non Profit**	
LOT-R	16,4305	16,45	-0,073
	Public	**Non Profit**	
LOT-R	16,4508	16,45	0,01
Number of Employees	**Large**	**SME**	
LOT-R	16,27	16,44	0,627
Number of people managed	**More than 5 persons**	**Untill 5 persons**	
LOT-R	16,64	16,25	-3,38***
Experience in the actual Company	**More than 10 years**	**Untill 10 years**	
LOT-R	16,20	16,63	3,794***
Smoker	**Yes**	**No**	
LOT-R	16,51	16,41	-0,779
Exercise	**Yes**	**No**	
LOT-R	16,68	16,06	-5,346***
Company Performance	**Higher**	**Lower**	
LOT-R	17,05	15,76	-11,523***

Note: Significance levels: *** for p<0.01, ** for p<0.05 and * for p<0.1

Table V shows the results of the t-tests. The null hypothesis is rejected for the variables hierarchical position, experience, education, income, weekly working hours, sleep, age, vacation days, number of people managed, company experience, exercise and

Company Performance, stating significant differences in the optimism level. Also, we reject the null for mature companies.

These results suggest that top-level managers are more optimistic, as well as, respondents with less experience, with higher education, with higher annual income, that work more than 40h per week, sleep more than 8h per day and have more than twenty-two vacation days. Optimists are, also, younger, do exercise frequently, manage more than 5 persons, have low experience in the actual company and tend to self-report higher company performance.

Additionally, t-test were computed to the scales used as variables, described on the Annex III. For all the variables (PANAS, SWLS, STAI and JSS), the null hypothesis is rejected and the difference in means is statistically significant, reflecting that optimists have better mood, better social well-being, less anxiety and have psychological and knowledge demanding jobs, which reflects that top managers will be more optimists the more individual and social well-being, as well as, responsibilities they have.

4.3 Linear Regression Model results

Table VI shows the results of the linear regression models, having as main dependent variable the subjective company performance.

Table VI – Linear Regression Models Results using self-reported performance

	(1)	(2)	(3)	(4)
VARIABLES	Optimism	Optimism + Individual Veriables	Optimism + Company Veriables	Optimism + Individual and Company Veriables
Optimism	0.464***	0.033	0.342***	0.024
	(14.805)	(0.949)	(10.836)	(0.686)
Hierarchical Position		-0.657***		-0.529***
		(-5.818)		(-4.541)
Total Experience		-0.008		0.006
		(-0.454)		(0.360)
Education		-0.154		-0.211**

		(-1.536)		(-2.085)
Income		0.297***		0.294***
		(5.192)		(5.059)
Weekly Working hours		0.032***		0.032***
		(4.356)		(4.376)
Sleep		0.108		0.110
		(1.389)		(1.399)
Vacation days		-0.009		-0.008
		(-1.237)		(-1.154)
Age		-0.066***		-0.066***
		(-3.856)		(-3.824)
Marital Status		-0.075		-0.095
		(-0.562)		(-0.713)
Smoker		0.079		0.125
		(0.369)		(0.583)
Exercise		0.023		0.033
		(0.122)		(0.175)
PA		0.278***		0.252***
		(12.299)		(10.920)
NA		-0.007		0.001
		(-0.341)		(0.045)
SWLS		0.089***		0.077***
		(3.766)		(3.254)
STAI Trait		-0.081***		-0.072***
		(-4.763)		(-4.252)
Company age			-0.387**	-0.217
			(-2.301)	(-1.341)
Number of Employees			0.000	0.000
			(0.041)	(0.158)
Number of people managed			0.002**	0.001
			(2.340)	(1.513)
Sector			0.127	0.341*
			(0.661)	(1.801)
Company Experience			-0.027**	-0.013
			(-2.156)	(-0.959)
JSS Demand			0.221***	0.050
			(3.917)	(0.938)
JSS Control			0.371***	0.220***
			(8.257)	(5.204)
JSS Support			-0.182***	-0.083**
			(-4.842)	(-2.446)
Constant	27.049***	26.018***	20.979***	22.359***
	(51.410)	(15.262)	(14.860)	(10.992)
Observations	3,401	3,323	3,399	3,321
R-squared	0.068	0.234	0.127	0.247

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Model 1 and model 3 show that the optimism score is positively and statistically significant. However, when we add individual variables (model 2 and model 4), it becomes non-statistically significant. About the company related variables, presented in the model 3, we can see that some variables are statistically significant when they are regressed just with optimism, as the case of stress demand and control, measured on the JSS, and also number of person managed, although with a small coefficient. The results suggest that the more psychological demand the manager be faced and the more possibilities the individual has to use his own abilities, the more performance it should represent to the firm. On the other hand, variables as company age, company experience and job stress support, are negatively and significant with the self-reported performance. Adding individual variables, as represented on model 4, significance is lost in some of these company related variables (company age, number of people managed, company experience and job demand). Accordingly, the results suggest that the individual variables have stronger impact on the relation between optimism and self-reported performance.

As optimism has a statistically significant and positive relation with self-reported performance, on the model 1 and 3, it suggests that the present of this personality trait in top managers has a significant impact on their perception of their company performance, so that the more optimists top managers are, the more company performance they will report. The results should be interpreted with some caution, as optimism is not statistically significant in all models. Besides not be a unanimous decision, the proposed Hypothesis 1 is accepted, supporting this decision the results from the t-tests and the descriptive statistics, which suggest that optimistic top managers tend to overestimate their company performance. Consisting with the literature (Heaton, 2002), we can say that top managers are confident about their ability and the course that their company is following, believing it has higher overall performance than the main competitors.

Table VII – Linear Regression Models Results using ROA as performance measure

VARIABLES	(1) Optimism	(2) Optimism + Individual Variables	(3) Optimism + Company Variables	(4) Optimism + Individual and Company Variables
Optimism	-0.006	-0.011	-0.005	-0.012
	(-0.778)	(-0.976)	(-0.628)	(-1.060)
Hierarchical Position		0.074**		0.047*
		(2.531)		(1.851)
Total Experience		0.006		0.004
		(1.304)		(0.840)
Education		-0.031		-0.026
		(-1.266)		(-1.089)
Income		0.040***		0.040***
		(2.703)		(2.722)
Weekly Working hours		0.000		0.000
		(0.102)		(0.160)
Sleep		0.003		-0.002
		(0.134)		(-0.063)
Vacation days		0.000		0.000
		(0.189)		(0.021)
Age		-0.002		-0.003
		(-0.360)		(-0.565)
Marital Status		-0.020		-0.018
		(-0.383)		(-0.345)
Smoker		0.010		0.006
		(0.121)		(0.075)
Exercise		-0.021		-0.015
		(-0.289)		(-0.210)
PA		-0.000		0.002
		(-0.114)		(0.442)
NA		-0.014		-0.014
		(-1.258)		(-1.248)
SWLS		0.008*		0.007*
		(1.894)		(1.793)
STAI Trait		0.006		0.007
		(1.411)		(1.585)
Company age			0.184***	0.172***
			(3.475)	(3.382)
Number of Employees			0.000	0.000
			(0.689)	(0.057)
Number of people managed			-0.000	-0.000
			(-0.598)	(-1.260)

Sector			-0.060	-0.087
			(-0.584)	(-0.831)
Company Experience			0.000	-0.001
			(0.358)	(-0.559)
JSS Demand			0.003	0.001
			(0.273)	(0.083)
JSS Control			-0.011	-0.012
			(-0.870)	(-0.843)
JSS Support			-0.014	-0.013
			(-1.408)	(-1.320)
Constant	-0.035	-0.335	-0.262	-0.322
	(-0.278)	(-0.850)	(-0.503)	(-0.500)
Observations	2,584	2,526	2,582	2,524
R-squared	0.000	0.008	0.009	0.014

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table VII presents the results for objective performance, using ROA as dependent variable and objective performance measure. According to the results, there is no relationship between optimism and objective performance, and there are only three variables statistically significant (hierarchical position, income and company age) and positively related with the objective performance. Thus, as a manager achieve higher positions on the company, the return on assets tend to increase as well. The same is valid with the variable income, the more money a manager receive, the more return on assets tend the company to have. This is consistent with the theory that optimistic top managers tend to be highly committed with the company, "because their wealth, reputation and employability depends on it" (Heaton, 2002).

Additionally, Annex VII shows the results of the regressions using this time the ROS as the dependent variable for objective performance measure. The results are similar to the results using the ROA, represented on Table VII. The optimism is non-statistically significant, which means that was not found evidence of relation between optimism and objective company performance. Also, in order to confirm the results, the models were

regressed again using the self-reported and the ROA as measures of performance, but this time representing the categorical variables, as the Annex V and VI show. There are no major differences in the results from using the variables by categories.

The results using these objective accounting measures of performance, state a difference between them and the self-reported measure, as it was not found any relation between optimism and objective company performance. Also, are not in line with mentioned literature, e.g. Papenhausen (2006) and Martin (2008), where the authors found evidence of a negative influence of optimism on the company performance, which lead to a rejection of the hypothesis 2.

With these results it is possible to conclude two main ideas: The first one goes according to what was hypothesized on the hypothesis 1, that optimistic managers tend to overestimate their company performance, which can reflect differences with the true performance. The second idea is that, even though optimistic top managers tend to over valuate their companies, it is not sure that their optimism level could really impact the performance.

5. Conclusions

5.1 Discussion and Final Conclusions

In a company environment, there are many determinants important and can have a significant impact on the performance. Personality traits, that influence the way the individual feels, have a significant weight on the organizational behaviour and on different daily activities crucial to the company success. Optimism is seen as a positive trait, which promote better environment, and benefits to the individual. Summarizing, some of benefits are better health, more engagement on goals, which represents more persistence and motivation, better mood and more confidence on their selves. Even

though, top managers' optimism can be positive to the company, on reality it can be dangerous, when the top manager decides irrationally, placing his/her intuition over the rational reason. Also, optimistic top managers tend to expect systematically better outcomes, and perhaps overestimate that same outcomes. Thus, this study seeks to investigate if this personality trait can lead the company to bad performance, and in extent if optimistic top managers overestimate their perception about the performance of their companies.

The results show that individuals that are top-level managers, have less working experience, higher education, more annual income, work more hours per day, sleep more hours per day, have more vacation days per year, younger and exercises frequently, have higher levels of optimism. Also, individuals that work on mature companies, manage more persons directly or indirectly and have less experience in the actual company tend to be more optimistic. Consistent with the literature, e.g. Heaton (2002), which pointed that optimistic top managers tend to be overconfident about their company, overestimating good performance and underestimating bad performance, statistically significant differences in the level of optimism between high self-reported performance and low self-reported performance was observed. The regression analysis, the t-tests' results and the descriptive statistics supports this idea of performance overestimation, even though, only in two of the four models regressed, optimism is statistically significant. Thus, it was possible to accept the hypothesis 1, and claim that optimistic top managers will have a good performance perception.

Also, the same four models, were regressed again, this time using objective accounting ratios for measure the performance. The results suggested no evidence of positive or negative relation between optimism and company performance. Although the literature defend that optimistic managers will deliver lower company performance, e.g.

Martin (2008) and Papenhausen (2006), in this study it was not found evidence to accept this hypothesis, thus the phrased hypothesis 2 was rejected. However, provide us support on the theory that optimistic top managers tend to overestimate their companies' outcomes, and their perception could not correspond to the reality. Even though it is possible to say that a negative mind will never give you a positive life, it is not so linear that a positive mind will always give you a positive outcome, because there is, as well, other determinants to consider. Shareholders and potential investors should not waive an objective accounting evaluation of the company, which is a relevant information provided by this study.

5.2 Limitations and Future Research

The current study has some limitations. Firstly, as an online questionnaire it has some advantages and disadvantages. Some of the disadvantages are the impersonal interaction and the possibility to be misunderstood as spam mail, which lead to two limitations: The low response rate and the lack of confirmation that some responses were not answered by the top manager of the firm, since it is not possible to ensure that. Also, there is a limitation on the content of the questionnaire, as it could be included other variables as gender and narcissism score, which could lead to alternative analysis, and a more complete study.

Also, limitations can be pointed on the objective performance level. Besides, it was used financial data from the most recent year, it would be more accurate to use financial data from the last three periods, and, also, for some companies were not provided any accounting data. A line of future research would be instead of using accounting data for the purpose of measuring the objective performance, using market measures, as dividend pay-out or stock market performance, as the work developed by Guedes (2017)

also suggests. Other line for future research could be analysing whether optimism or narcissism, as personality traits, could influence more the top managers' behaviour and the impact on the company performance or activities. For instance, it could be interesting to know their effect on investment decisions and which one would be more beneficial and prejudicial to the company.

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7. Annex

Annex I – Sample Description

		Frequency	Percentage
Marital Status	Single	479	14,0
	Married	2561	75,1
	Widow	34	1,0
	Divorced	338	9,9
	Total	3412	100,0
Age	20 years old or less	9	0,3
	21 - 30 years old	245	7,2
	31 - 40 years old	869	25,5
	41 - 50 years old	1194	35,0
	51 - 60 years old	780	22,9
	61 - 70 years old	276	8,1
	More than 70 years old	39	1,1
	Total	3412	100,0
Exercise	Yes	2029	59,5
	No	1383	40,5
	Total	3412	100,0
Smoker	Yes	852	25,0
	No	2560	75,0
	Total	3412	100,0
Income	0€ - 14.999,00€	1122	32,9
	15.000,00€ - 29.999,00€	1087	31,9
	30.000,00€ - 44.999,00€	496	14,5
	45.000,00€ - 59.999,00€	266	7,8
	60.000,00€ - 74.999,00€	148	4,3
	75.000,00€ - 89.999,00€	87	2,5
	75.000,00€ - 89.999,00€	60	1,8
	105.000,00€ or more	146	4,3
	Total	3412	100,0
Education level	Until High School	570	16,7
	Undergraduate degree	1881	55,1
	Post- graduation	474	13,9
	Master degree	400	11,7
	PhD	87	2,5
	Total	3412	100,0
Employment Status	Self-Employed	2037	59,7
	Dependent Employed	1363	39,9
	Unemployed	12	0,4
	Total	3412	100,0
	Top-level Management	2435	71,4

Hierarchical Position	Middle-level Management	496	14,5
	First-level Management	225	6,6
	With no management level	256	7,5
	Total	3412	100,0
Professional Experience	Until 5 years	192	5,6
	6 - 10 years	350	10,3
	11 - 15 years	442	13,0
	16 - 20 years	704	20,6
	21- 25 years	483	14,2
	26 - 30 years	572	16,8
	More than 30 years	669	19,6
	Total	3412	100,0
Experience in the actual company	Until 5 years	1046	30,7
	6 - 10 years	780	22,9
	11 - 15 years	481	14,1
	16 - 20 years	475	13,9
	21- 25 years	253	7,4
	26 - 30 years	225	6,6
	More than 30 years	152	4,5
	Total	3412	100,0
Weekly Working Hours	30h or less	166	4,9
	31h - 35h	173	5,1
	35h - 40h	884	25,9
	41h - 45h	400	11,7
	46h- 50h	844	24,7
	51h - 60h	644	18,9
	More than 60h	301	8,8
	Total	3412	100,0
Hours of Sleep per day	5h or less	284	8,3
	5,1h - 6h	971	28,5
	6,1h - 7h	1314	38,5
	7,1h - 8h	777	22,8
	8,1h - 9h	54	1,6
	More than 9h	12	0,4
	Total	3412	100,0
Annual Vacation days	5 or less days	408	12,0
	6 -10 days	510	14,9
	11 - 15 days	756	22,2
	16 - 22 days	1094	32,1
	22 - 30 days	542	15,9
	More than 30 days	102	3,0
	Total	3412	100,0
Company age	Startup	52	1,5
	Young Company	655	19,2

	Adult Company	1340	39,3
	Mature Company	1365	40,0
	Total	3412	100,0
Company Sector	Private	3071	90,0
	Public	122	3,6
	Non- Profit	219	6,4
	Total	3412	100,0
Number of Employees of the company	10 or less employees	2147	62,9
	11 - 50 employees	840	24,6
	51 - 100 employees	159	4,7
	101 - 250 employees	126	3,7
	251 - 500 employees	61	1,8
	More than 500 employees	79	2,3
	Total	3412	100,0
Number of people managed	10 or less persons	2469	72,4
	11 - 50 persons	737	21,6
	51 - 100 persons	120	3,5
	101 - 250 persons	52	1,5
	251 - 500 persons	19	0,6
	More than 500 persons	15	0,4
	Total	3412	100,0

Annex II – Additional Variables Statistics Descriptive

Variable	Statement	N	Mean	S.D.	Min	Max
PANAS	Interested	3401	3,95	0,77	1	5
	Irritable	3401	2,30	0,96	1	5
	Distressed	3401	2,57	1,04	1	5
	Alert	3401	3,48	0,95	1	5
	Enthusiastic	3401	3,66	0,87	1	5
	Ashamed	3401	1,48	0,81	1	5
	Upset	3401	2,02	0,92	1	5
	Inspired	3401	3,45	0,89	1	5
	Strong	3401	3,66	0,85	1	5
	Nervous	3401	2,26	1,01	1	5
	Guilty	3397	1,43	0,76	1	5
	Determined	3396	3,93	0,79	1	5
	Scared	3398	1,64	0,84	1	5
	Attentive	3392	3,86	0,72	1	5
	Hostile	3395	1,63	0,91	1	5

	Jittery	3395	2,17	0,96	1	5
	Active	3393	4,03	0,75	1	5
	Proud	3396	3,52	0,98	1	5
	Afraid	3395	1,73	0,88	1	5
	Excited	3389	3,67	0,83	1	5
	PA	3374	37,20	5,80	10	50
	NA	3388	19,22	6,29	10	50
SWLS	In most ways my life is close to my ideal.	3401	4,82	1,30	1	7
	The conditions of my life are excellent.	3401	4,84	1,36	1	7
	I am satisfied with my life.	3401	5,19	1,27	1	7
	So far, I have gotten the important things I want in life.	3401	4,54	1,54	1	7
	If I could live my life over, I would change almost nothing.	3401	4,66	1,65	1	7
	SWLS	3401	24,04	5,65	5	35
JSS	Do you have to work very fast?	3401	3,33	0,77	1	4
	Do you have to work very intensively?	3401	3,59	0,63	1	4
	Does your work demand too much effort?	3401	3,51	0,61	1	4
	Do you have enough time to do everything?	3401	2,99	0,83	1	4
	Does your work often involve conflicting demands?	3401	2,83	0,78	1	4
	JSS Demand	3401	16,25	1,90	5	20
	Do you have the possibility of learning new things through your work?	3401	3,55	0,64	1	4
	Does your work demand a high level of skill or expertise?	3401	3,55	0,67	1	4
	Does your job require you to take the initiative?	3401	3,76	0,48	1	4

	Do you have to do the same thing over and over again?	3401	3,20	0,83	1	4
	Do you have a choice in deciding how you do your work?	3401	3,35	0,79	1	4
	Do you have a choice in deciding what you do at work?	3401	3,06	0,88	1	4
	JSS Control	3401	20,47	2,42	6	24
	There is a calm and pleasant atmosphere where I work.	3401	1,67	0,75	1	4
	We get on well with each other where I work.	3401	1,57	0,69	1	4
	My co-workers support me.	3401	1,58	0,69	1	4
	The others understand if I have a bad day.	3401	1,80	0,76	1	4
	I get on well with my supervisors.	3401	1,46	0,68	1	4
	I enjoy working with my co-workers.	3401	1,38	0,64	1	4
	JSS Support	3401	9,46	3,22	6	24
STAI	I feel good.	3401	1,61	0,68	1	4
	I feel nervous and restless.	3401	1,80	0,83	1	4
	I feel satisfied with myself.	3401	1,66	0,72	1	4
	I would like to be as happy as others seem to be.	3401	1,90	1,07	1	4
	I feel that I am a failure.	3401	1,15	0,47	1	4
	I feel rested.	3401	2,39	0,92	1	4
	I feel calm and well with myself.	3401	1,77	0,79	1	4
	I feel that the difficulties are accumulating in such a way that I cannot overcome them.	3401	1,48	0,77	1	4

I worry too much about things that do not really matter.	3401	1,88	0,90	1	4
I am glad.	3401	1,57	0,66	1	4
I have thoughts that bother me.	3400	1,92	0,87	1	4
I have lack of confidence in myself.	3398	1,50	0,80	1	4
I feel safe and secure.	3396	2,02	0,93	1	4
I make decisions easily.	3395	1,72	0,74	1	4
I feel incapable.	3393	1,18	0,52	1	4
I feel happy.	3389	1,73	0,71	1	4
Come to my mind thoughts that are not important and bother me.	3389	1,75	0,83	1	4
I take the disappointments so seriously that I cannot stop thinking about them.	3390	1,72	0,89	1	4
I am a stable person.	3393	1,62	0,69	1	4
I get distressed or upset when I think about my most recent concerns.	3395	1,98	0,86	1	4
STAI Trait	3355	34,33	9,40	20	78

Annex III

On this annex are performed additional t-tests for the scales used as control variables. Two groups for each scale were made, using the median, diving the score in high and low. Statistically significant differences in the means are observed, lead to a rejection of the null hypothesis.

Annex III – Additional T-tests

PANAS	**High PA**	**Low PA**	**t-value**
LOT-R	17,54	15,29	-20,844***
PANAS	**High NA**	**Low NA**	
LOT-R	15,62	17,41	16,368***
SWLS	**High SWLS**	**Low SWLS**	
LOT-R	17,42	15,34	-19,225***
STAI-Trait	**High Trait**	**Low Trait**	
LOT-R	15,25	17,71	23,098***
JSS Demand	**High Demand**	**Low Demand**	
LOT-R	16,57	16,13	-3,579***
JSS Control	**High Control**	**Low Control**	
LOT-R	16,61	15,00	-8,864***
JSS Support	**High Support**	**Low Support**	
LOT-R	15,19	16,45	1,981*

Note: *** p<0,01, ** p<0,05, * p<0,1

Annex IV – Pearson Correlations

	All Sample					Low Optimism					High Optimism				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1. Self-reported Performance	1.000					1.000					1.000				
2. ROS	-0.004	1.000				0.045	1.000				0.032	1.000			
3. ROA	0.030	0.008	1.000			-0.012	0.022	1.000			-0.004	0.128***	1.000		
4. Optimism	0.261***	0.003	-0.012	1.000		0.143***	-0.003	-0.030	1.000		0.210***	0.027	0.003	1.000	
5. Age	-0.077***	-0.014	0.040**	-0.081***	1.000	-0.046*	-0.014	-0.016	0.009	1.000	-0.077***	0.074***	0.049*	-0.053**	1.000
6. Company Experience	-0.095***	0.020	0.058***	-0.066***	0.488***	-0.102***	0.046	0.029	0.012	0.495***	-0.063**	0.066**	0.072**	-0.048**	0.473***

NOTE: ***p<0,1; **p<0,05; *p<0,01

Annex V– Linear Multiple Regression Results using categorical variables (Self-Reported Performance)

VARIABLES	(1) Optimism	(2) Optimism + Individual Variables	(3) Optimism + Company Variables	(4) Optimism + Individual and Company Variables
Optimism	0.464***	0.033	0.341***	0.024
	(14.805)	(0.947)	(10.830)	(0.682)
Hierarchical Position				
1st Line Manager		-0.641**		-0.497*
		(-2.471)		(-1.880)
Intermediate line Manager		-1.260***		-0.976**
		(-3.184)		(-2.449)

Without management charge	-1.938***	-1.532***
	(-4.756)	(-3.753)
Total Experience	-0.011	0.004
	(-0.633)	(0.220)
Education		
Undergraduate	-0.129	-0.217
	(-0.463)	(-0.785)
Master degree	-0.630*	-0.827**
	(-1.766)	(-2.315)
Post-graduation	-0.535	-0.708*
	(-1.468)	(-1.939)
PhD	-0.134	-0.298
	(-0.201)	(-0.443)
Income		
15.000,00€ - 29.999,00€	0.618***	0.628***
	(2.597)	(2.643)
30.000,00€ - 44.999,00€	1.179***	1.186***
	(3.827)	(3.847)
45.000,00€ - 59.999,00€	1.338***	1.356***
	(3.385)	(3.410)
60.000,00€ - 74.999,00€	1.221**	1.128**
	(2.566)	(2.344)
75.000,00€ - 89.999,00€	1.866***	1.864***
	(3.525)	(3.560)
90.000,00€ - 104.999,00€	0.883	0.890
	(1.232)	(1.246)
105.000,00€ or more	2.305***	2.323***
	(4.702)	(4.667)
Weekly Working Hours	0.032***	0.032***
	(4.295)	(4.316)
Sleep	0.117	0.117
	(1.497)	(1.484)
Vacation Days	-0.009	-0.009
	(-1.273)	(-1.209)
Age	-0.068***	-0.068***
	(-3.922)	(-3.860)
Marital Status		
Married	0.053	0.014
	(0.176)	(0.048)
Widowed	-0.121	-0.136
	(-0.130)	(-0.146)
Divorced	-0.228	-0.305
	(-0.550)	(-0.736)
Smoker	0.092	0.141
	(0.428)	(0.655)
Exercise	0.008	0.011
	(0.042)	(0.060)
PA	0.279***	0.252***
	(12.355)	(10.918)
NA	-0.008	0.001
	(-0.384)	(0.037)

SWLS		0.084***		0.073***
		(3.502)		(3.025)
STAI Trait		-0.080***		-0.071***
		(-4.676)		(-4.154)
Company age				
Young Company			-0.279	-0.101
			(-0.263)	(-0.103)
Adult Company			-0.378	-0.233
			(-0.358)	(-0.238)
Mature Company			-1.028	-0.584
			(-0.954)	(-0.581)
Number of employees			0.000	0.000
			(0.085)	(0.078)
Number of people managed			0.002**	0.001
			(2.354)	(1.482)
Sector			0.132	0.347*
			(0.688)	(1.828)
Company Experience			-0.025**	-0.013
			(-2.012)	(-0.972)
JSS Demand			0.217***	0.041
			(3.838)	(0.762)
JSS Control			0.372***	0.220***
			(8.278)	(5.193)
JSS Support			-0.181***	-0.086**
			(-4.819)	(-2.509)
Constant	27.049***	25.488***	20.369***	21.747***
	(51.410)	(15.033)	(12.380)	(10.028)
Observations	3,401	3,323	3,399	3,321
R-squared	0.068	0.236	0.127	0.249

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Annex VI– Linear Multiple Regression Results using categorical variables (ROA)

VARIABLES	(1) Optimism	(2) Optimism + Individual Variables	(3) Optimism + Company Variables	(4) Optimism + Individual and Company Variables
Optimism	-0.006	-0.011	-0.006	-0.012
	(-0.778)	(-1.037)	(-0.688)	(-1.087)
Hierarchical Position				
1st Line Manager		0.035		0.018
		(0.349)		(0.163)
Intermediate line Manager		0.273***		0.233***
		(4.054)		(3.800)

Without management charge	0.237**	0.197**
	(2.396)	(2.192)
Total Experience	0.005	0.002
	(1.097)	(0.508)
Education		
Undergraduate	-0.102*	-0.097*
	(-1.951)	(-1.883)
Master degree	-0.389**	-0.359*
	(-1.971)	(-1.904)
Post-graduation	-0.059	-0.037
	(-1.048)	(-0.680)
PhD	-0.026	0.005
	(-0.351)	(0.068)
Income		
15.000,00€ - 29.999,00€	0.294***	0.295***
	(2.681)	(2.697)
30.000,00€ - 44.999,00€	0.296**	0.292**
	(2.465)	(2.488)
45.000,00€ - 59.999,00€	0.352***	0.342***
	(3.010)	(3.041)
60.000,00€ - 74.999,00€	0.383***	0.402***
	(2.688)	(2.705)
75.000,00€ - 89.999,00€	0.424***	0.416***
	(3.616)	(3.625)
90.000,00€ - 104.999,00€	0.335**	0.320**
	(2.161)	(2.162)
105.000,00€ or more	0.243**	0.261**
	(2.098)	(2.185)
Weekly Working Hours	0.000	0.000
	(0.009)	(0.063)
Sleep	0.011	0.003
	(0.468)	(0.143)
Vacation Days	0.000	-0.001
	(0.107)	(-0.262)
Age	-0.003	-0.003
	(-0.710)	(-0.697)
Marital Status		
Married	0.032	0.015
	(0.308)	(0.149)
Widowed	0.041	-0.030
	(0.358)	(-0.252)
Divorced	-0.076	-0.075
	(-0.472)	(-0.480)
Smoker	0.015	0.016
	(0.192)	(0.210)
Exercise	-0.033	-0.038
	(-0.477)	(-0.537)
PA	0.001	0.002
	(0.149)	(0.424)
NA	-0.015	-0.015
	(-1.328)	(-1.310)

SWLS		0.007		0.006
		(1.533)		(1.316)
STAI Trait		0.007		0.008*
		(1.492)		(1.650)
Company age				
Young Company			-0.231	-0.291
			(-1.284)	(-1.402)
Adult Company			0.197*	0.124
			(1.700)	(0.899)
Mature Company			0.201*	0.083
			(1.693)	(0.554)
Number of employees			0.000	-0.000
			(1.086)	(-0.294)
Number of people managed			-0.000	-0.000
			(-0.483)	(-0.830)
Sector			-0.052	-0.100
			(-0.507)	(-0.941)
Company Experience			0.001	-0.000
			(0.857)	(-0.164)
JSS Demand			0.001	-0.004
			(0.073)	(-0.336)
JSS Control			-0.010	-0.011
			(-0.779)	(-0.794)
JSS Support			-0.013	-0.014
			(-1.325)	(-1.453)
Constant	-0.035	-0.257	0.200	0.364
	(-0.278)	(-0.618)	(0.383)	(0.503)
Observations	2,584	2,526	2,582	2,524
R-squared	0.000	0.017	0.013	0.027

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Annex VII– Linear Multiple Regression Results using ROA as dependent variable

VARIABLES	(1) Optimism	(2) Optimism + Individual Variables	(3) Optimism + Company Variables	(4) Optimism + Individual and Company Variables
Optimism	112.450	-74.444	67.518	-70.243
	(0.988)	(-0.655)	(0.828)	(-0.548)
Hierarchical Position		454.744		-785.789
		(0.849)		(-0.921)
Total Experience		-42.433		-267.015
		(-0.707)		(-0.983)
Education		-1,213.106		-660.451
		(-0.980)		(-0.911)
Income		-3,031.559		-3,214.794

		(-0.999)		(-1.000)
Weekly Working hours		234.034		229.968
		(0.995)		(0.992)
Sleep		1,631.367		1,354.279
		(0.950)		(0.943)
Vacation days		261.564		265.446
		(0.930)		(0.929)
Age		166.381		108.264
		(0.968)		(0.896)
Marital Status		-9,943.836		-10,141.906
		(-1.001)		(-1.002)
Smoker		-3,363.423		-3,019.875
		(-0.991)		(-0.983)
Exercise		4,151.002		4,444.247
		(0.997)		(0.996)
PA		35.739		51.552
		(0.580)		(0.635)
NA		-244.577		-236.353
		(-0.982)		(-0.972)
SWLS		-195.911		-311.404
		(-0.971)		(-0.983)
STAI Trait		-200.682		-174.159
		(-0.983)		(-0.969)
Company age			5,402.658	5,649.156
			(0.999)	(1.000)
Number of Employees			-0.170	0.755
			(-0.712)	(0.903)
Number of people managed			-1.276	5.465
			(-0.911)	(0.910)
Sector			1,834.000	2,926.042
			(0.927)	(0.942)
Company Experience			17.055	266.211
			(0.786)	(0.990)
JSS Demand			1,284.356	1,600.973
			(0.998)	(0.999)
JSS Control			-1,142.161	-1,029.385
			(-0.999)	(-0.997)
JSS Support			-942.559	-945.703
			(-0.998)	(-0.996)
Constant	-4,600.268	9,091.769	-11,684.042	288.637
	(-0.998)	(0.834)	(-0.984)	(0.041)
Observations	2,512	2,455	2,510	2,453
R-squared	0.000	0.006	0.002	0.008

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1