



The Impact of Leadership on Information  
Overload and Stress:  
Exploring The Mediating Role of Sense of  
Power

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## **Abstract**

**Title:** The Impact of Leadership on Information Overload and Stress: Exploring the Mediation Role of Sense of Power

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This dissertation aims to explore the influence of different organisational positions on perceived information overload and stress. Could this relationship be explained by the sense of power?

The information overload phenomenon occurs when the capacity to process information is lower than the information being received, meaning that the high load of information becomes a limitation rather than a support to an ideal decision-making process.

Indeed, the constant disruptive technological advancements have been contributing to the growing availability of information. Consequently, there is an increasing necessity to address this phenomenon since it negatively affects productivity, decision-making and stress.

Furthermore, previous findings have indicated that an enhanced sense of power, closely tied to leadership positions, enables more effective information processing capacities. On that basis, the results in this study have demonstrated alignment with previous research since it concludes that the sense of power effectively explains how leaders perceive less information overload. Moreover, power acts as an essential mechanism between information overload perceptions and organisational positions, mitigating adverse organisational outcomes, such as stress.

In sum, this dissertation offers a novel perspective on how leadership and power influence cognitive organisational challenges. It refers to the perspective of power as a protective factor against information overload and stress perceptions, offering meaningful insights for both managerial practices and academic research.

**Keywords:** Information Overload, Leadership, Power, Stress.

## **Sumário**

**Título:** O Impacto da Liderança na Sobrecarga de Informação e no Stress: O Papel Mediador do Sentimento de Poder

**Autor:** Marta Henriques

A presente dissertação pretende explorar a influência das diferentes posições organizacionais na perceção da sobrecarga de informação e stress. Poderá esta relação ser explicada pelo sentimento de poder?

Ora, o fenómeno da sobrecarga de informação ocorre quando a capacidade de processar informação é inferior à quantidade de informação recebida, o que significa que a elevada carga de informação se torna uma limitação, ao invés de um apoio para a tomada de decisão.

De facto, os constantes avanços tecnológicos têm contribuído para a crescente disponibilidade de informação. Consequentemente, existe uma crescente necessidade de abordar este fenómeno, uma vez que afeta negativamente a produtividade, a tomada de decisões e o stress.

Além disso, estudos anteriores sobre estes temas indicaram que um maior sentimento de poder, altamente relacionado com posições de liderança, permite o melhor processamento de informação. Neste sentido, os resultados do presente estudo demonstram estar em consonância com as investigações anteriores, uma vez que se conclui que o sentimento de poder explica a forma como os líderes percecionam menos sobrecarga de informação e stress.

Em acréscimo, o poder funciona como um mecanismo essencial entre as perceções de sobrecarga de informação e as posições organizacionais, atenuando os resultados organizacionais adversos consequentes do fenómeno de sobrecarga de informação, como o stress.

Em suma, esta dissertação oferece uma nova perspetiva em como a liderança e o poder influenciam relevantes desafios organizacionais, oferecendo perspetivas significativas tanto numa vertente de gestão, como para a investigação académica.

**Palavras-chave:** Sobrecarga de informação, Liderança, Poder, Stress.

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**Table of Contents**

Abstract ..... I

Sumário ..... II

Acknowledgements ..... III

List of Abbreviations ..... IX

1. Introduction ..... 1

    1.1. Topic Presentation ..... 1

    1.2. Problem Statement and Research Objective ..... 2

    1.3. Relevance of the Topic ..... 2

    1.4. Structure of the Dissertation ..... 3

2. Literature Review ..... 4

    2.1. Information Overload ..... 4

        2.1.1. Information Overload Theories ..... 5

        2.1.2. Causes and Consequences of Information Overload ..... 6

    2.2. Stress ..... 7

        2.2.1. Stress Theories ..... 8

        2.2.2. Stress and Performance ..... 9

        2.2.3. Stress and Leadership ..... 9

    2.3. Leadership ..... 9

        2.3.1. Leadership and Stress ..... 10

        2.3.2. Leadership: Hierarchy and Power ..... 11

    2.4. Power ..... 11

        2.4.1. Sense of Power and Relevant Theories ..... 12

        2.4.2. Power and Stress ..... 12

        2.4.3. Power and Information Overload ..... 13

    2.5. Research Gap and Conceptual Model ..... 14

3. Methodology ..... 15

    3.1. Research Design ..... 16

3.2. Participants .....	16
3.3. Procedure.....	17
3.4. Variable Measurement .....	18
3.4.1. Leadership .....	18
3.4.2. Power.....	19
3.4.3. Information Overload .....	19
3.4.4. Stress .....	19
4. Results .....	20
4.1. Data Transformation .....	20
4.2. Reliability of the Scales.....	20
4.3. Descriptive Statistics .....	21
4.4. Correlations .....	22
4.5. Hypotheses Testing .....	22
5. Discussion .....	26
5.1. Research Findings .....	26
5.3. Theoretical Implications.....	28
5.4. Managerial Implications.....	29
5.5. Limitations .....	29
5.6. Future Research.....	31
6. Conclusion.....	32
References .....	33
Disclaimer .....	39
Appendix .....	40
Appendix 1: Survey.....	40
Appendix 2: Population Statistics .....	47
Appendix 3: Reliability Analysis .....	48
Appendix 3.1. Perceived Stress Scale .....	48
Appendix 3.2. Sense of Power Scale.....	49

Appendix 3.3. Perceived Information Overload .....	49
Appendix 4: Scales: Descriptive Statistics.....	49
Appendix 5: Correlations .....	50
Appendix 6: Independent Samples T-Test .....	50
Appendix 7: PROCESS Output.....	50
Appendix 7.1. Model 6.....	51
Appendix 7.2. Model 4.....	52

## List of Figures

Figure 1: Relation between Performance and Information Load.....	5
Figure 2: Framework of Key Elements Influencing Information Overload.....	6
Figure 3: Consequences of Information Overload .....	7
Figure 4: Conceptual Framework.....	15
Figure 5: Model 6 from PROCESS by Hayes (2012) .....	23
Figure 6: Model 4 from PROCESS by Hayes (2012) .....	24

## List of Tables

Table 1: Reliability Statistics .....	21
Table 2: Descriptive Statistics for the final constructs.....	21
Table 3: Correlations Matrix .....	22
Table 4: Independent Sample t-test.....	23

## List of Abbreviations

&	And
H	Hypothesis
n	Number of cases (generally in a subsample)
N	Total number of cases
A	Cronbach's alpha
p	p-value
M	Mean
SD	Standard Deviation
Min	Minimum
Max	Maximum
t	t-statistic
r	Estimate of Pearson correlation coefficient
$r_{pb}$	Point serial correlation
$R^2$	Multiple correlation squared/ Measure of strength of association
F	F-statistic
b	Regression coefficient
SE	Standard Error
CI	Confidence Interval

## PROCESS Model by Hayes

X	Independent Variable
M	Mediator
Y	Dependent Variable

## **1. Introduction**

*"A wealth of information creates a poverty of attention".*

Herbert A. Simon (1971)

### **1.1. Topic Presentation**

Nowadays, with the constant disruptive technological developments, individuals are more affected and shaped by information than ever before, according to IFLA (2017). Likewise, the increasing amount of relevant information available for decision-making is such that instead of being an advantage, it becomes a limitation (Bawden, Holtham & Courtney, 1999; Bawden and Robinson, 2009).

Effectively, as the information becomes more available and easier to access, the likelihood of the information overload phenomenon occurring is higher. According to Schroder et al. (1967) and Eppler and Mengis (2004), this phenomenon occurs when the capacity to process information is lower than the amount of information available, and its principal consequences are decreased productivity, flawed decision-making and cognitive difficulties, according to a recent scoping review by Shahrzadi et al. (2024). Additionally, one major information overload consequence exposed by the authors of this review regarding individuals' organisational well-being is stress, which is usually defined as a perceived detrimental factor in an individual's relationship with their surroundings (Lazarus & Folkman, 1984).

Furthermore, various factors influence the perceptions of information overload, such as cognitive limitations on information processing (Shahrzadi et al., 2024). In this study, the sense of power, defined as the belief that one can have an impact on other people (Anderson, John & Keltner, 2012), will be addressed as a crucial factor in explaining information overload perceptions since powerful individuals process information more effectively by filtering and focusing on key information (Smith & Trope, 2006; Guinote, 2007a).

Thus, the sense of power can ultimately reduce information overload perceptions and, consequently, reduce its inherent consequence, stress (Anderson & Galinsky, 2006; Phillips-Wren & Adya, 2020). However, the relationship between power, information overload and stress has not been explored.

In addition, organisational hierarchical positions, defined as a ranking between individuals according to specific socially significant elements (Anderson & Brown, 2010; Gruenfeld & Tiedens, 2010; Magee & Galinsky, 2008), can confer individuals a higher sense of power

(Magee & Galinsky, 2008). Hence, it is expected that individuals in leadership positions experience lower information overload perceptions and lower stress levels, because of an enhanced sense of power.

## **1.2. Problem Statement and Research Objective**

A critical research gap remains in understanding how leadership influences organisational stress through power perception and information overload.

Accordingly, previous research has demonstrated that the sense of power enables individuals with better information processing, filtering and prioritising capacities (Smith and Trope, 2006; Guinote, 2007a), which eventually could help them perceive lower information overload.

In addition, there is evidence that the concepts of an enhanced sense of power (Schmid & Schmid Mast, 2013; Carney et al., 2010; Bohns & Wiltermuth, 2012) and sense of control (Sherman et al., 2012; Guedes et al., 2017) may reduce stress, which is a prevalent consequence of the information overload phenomenon (Shahrzadi et al., 2024). Notwithstanding, this relationship has not yet been explored within the context of different organisational positions and associated sense of power.

As such, the objective of this dissertation is to address the following research questions:

1. Do individuals with different organisational positions perceive information overload differently?
2. Does the sense of power explain how individuals in different organisational positions perceive stress?
3. Does the sense of power and perceived information overload explain how individuals with different organisational positions experience stress?

To address these research questions, a questionnaire will be conducted to assess the organisational position, perceived organisational power, information overload perceptions, and organisational stress levels, using previously validated measures.

## **1.3. Relevance of the Topic**

There is a significant urgency in assessing the information overload phenomenon not only due to the constant rise in the availability of information for the decision-making process (Bawden & Robinson, 2020), but also because its most notable consequences, such as productivity decrease, erroneous decision-making and cognitive adversities, have repercussions

in both individuals and organisations, according to a recent scoping review by Shahrzadi et al. (2024).

Accordingly, the gap addressed by this study is highly pertinent, benefiting not only organisations but also academic research.

Firstly, from a managerial approach, organisations have a critical responsibility of managing information to prevent their employees from feeling overloaded due to the high amount of information that is made available for any given decision-making process (Shahrzadi et al., 2024). Accordingly, this study can contribute to the better management of information within organisations by offering a novel perspective within the scope of the sense of power.

From an academic perspective, this study promotes the needed research on information overload regarding the organisational structure, offering a novel perspective by examining the possible relation that the leadership position and the sense of power may have on this relevant phenomenon, as well as its meaningful consequence, stress.

Moreover, by addressing the sense of power in managing information overload within different organisational positions, this study aims to further progress the conducted prior research on the relationship between power and cognitive processes, which indicates that powerful individuals address cognitive challenges more effectively (Anderson & Galinsky, 2006; Phillips-Wren & Adya, 2020; Guinote, 2007a; Smith, Jostmann, Galinsky, & Van Dijk, 2008; Keltner et al., 2003).

#### **1.4. Structure of the Dissertation**

This dissertation is organised into five main sections. The first section, the introduction, provided an overview of the general topic, the problem statement, and the managerial and academic relevance. Section two will focus on the literature review, stating relevant definitions, theories, measurements and effects of the relevant concepts and the respective research gap, hypotheses and conceptual model. Following this, chapter three will explain the methodology used, meaning the research design, the procedure followed, precise measures for each variable in the model, and a description and careful analysis of the sample. In chapter four, the analysis of the results will be presented, along with the hypothesis testing. Chapter five will present the discussion, where the research findings will be provided, along with the relevant implications, inherent limitations and proposed future research. Lastly, a conclusion of this study will be provided in the final chapter, the sixth.

## **2. Literature Review**

This chapter will discuss the theoretical background of the key variables intended for this study. Initially, the phenomenon of information overload in the organisational decision-making context and its principal consequence, stress will be examined, followed by leadership and the sense of power.

### **2.1. Information Overload**

Information overload is a widely studied concept across many domains, however, there is yet to be a widely accepted definition (Bawden & Robinson, 2020; Belabbes et al., 2023). As a result, this concept is applied with various possible definitions, subject to the context in which it is placed (Bawden & Robinson, 2020).

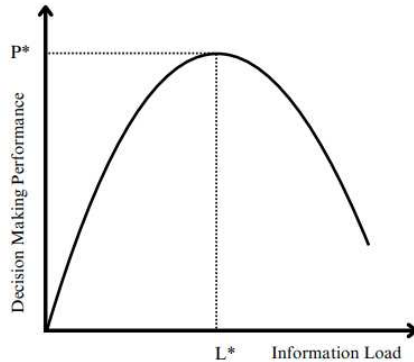
Nonetheless, one of the most common definitions posits that information overload arises when the level of information received exceeds the information processing capacity of decision-makers (Schroder et al., 1967; Eppler & Mengis, 2004). Additionally, information overload can also be defined as an excess of information being received, which an individual cannot process without being distracted, stressed, or making mistakes (Klapp, 1986). More recently, Roetzel (2019) proposed an innovative definition for information overload, stating that it occurs when the decision-maker is confronted with excessive amounts of information featuring quantity, complexity, and inconsistency.

Furthermore, a significant amount of research has been conducted on this topic within the management field, where the primary focus of analysis is on how the availability of information influences the effectiveness of an individual's decision (Roetzel, 2019). Indeed, according to Eppler and Mengis (2004), the individual's performance, including the quality of the decision and the reasoning improves as the amount of information received increases, but only until a specific limit. Exceeding this limit, the additional information leads to a prompt decline in performance (Chewning & Harrell, 1990).

Indeed, the relation between information load and decision-making performance, illustrated in Figure 1, is frequently described as an inverted U-curve (Schroder et al., 1967; Eppler & Mengis, 2004).

## Figure 1

### *Relation between Performance and Information Load*



*Note.* From “The Concept of Information Overload,” by Schroder *et al.*, 1967, *The Information Society*, 20(5), p. 326 (<https://doi.org/10.1080/01972240490507974>).

Moreover, further studies have demonstrated that when there is an increase in information complexity, the decision-maker's ability to process the information received may reach its limit even sooner than expected (Bawden & Robinson, 2009; Eppler & Mengis, 2004).

Regarding the turning point and its decline, there are at least two possible reasons for this phenomenon (Schroder *et al.*, 1967; Roetzel, 2019). The first reason may be due to the natural limits of the human being, which reaches a point where it is impossible to retain more information. The second reason may be due to external factors inherent to the task under consideration, such as time or budget limitations (Roetzel, 2019).

### **2.1.1. Information Overload Theories**

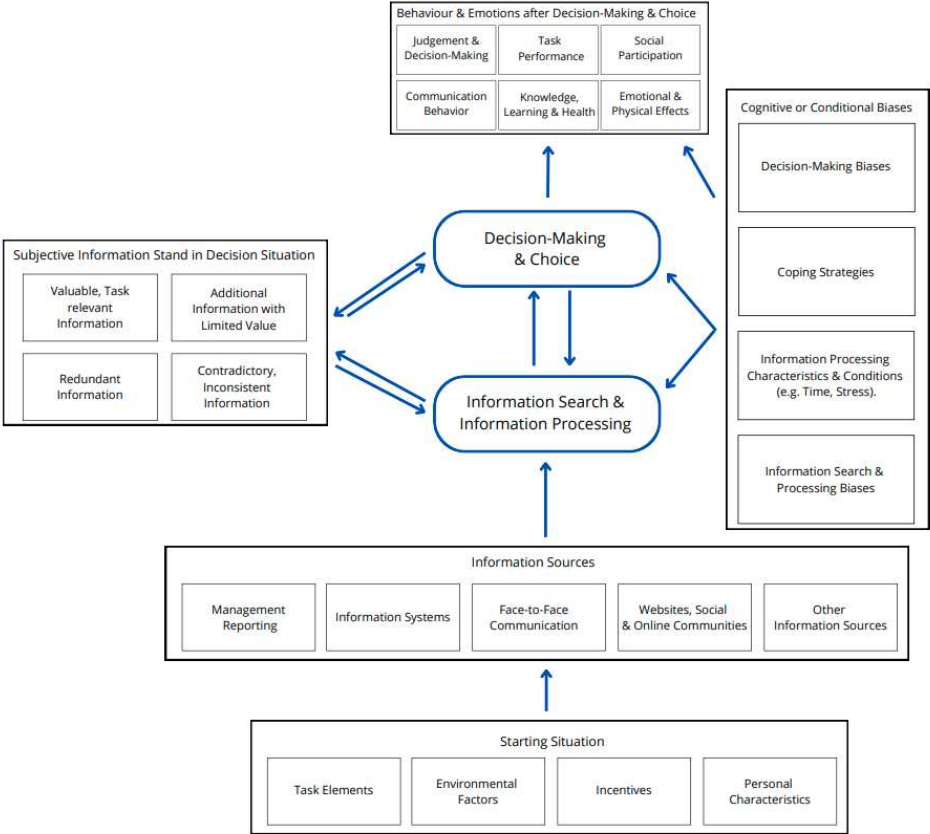
The recent literature review by Roetzel (2019), which analyzed articles on information overload from 2004 to 2017, indicates that the most referred information overload theory is the information processing approach by Miller (1956), which states that the human capacity for information processing is limited to around seven information units in short-term memory. However, 35.45% of the papers analysed by Roetzel (2019) did not employ a theory but instead presented logical arguments.

Moreover, Roetzel (2019) points out the gap in linking all the stages relevant to information overload research. Therefore, the author of this review developed a framework to establish the

connections between the main elements of information overload and decision-making, as seen in Figure 2.

**Figure 2**

*Framework of Key Elements Influencing Information Overload*



*Note.* From “Information overload in the information age,” by Roetzel, 2019, *Business Research*, 12(2), p. 492.

**2.1.2. Causes and Consequences of Information Overload**

To identify the causes and consequences of the information overload phenomenon, Shahrzadi et al. (2024) conducted a scoping review on this theme, analysing a total of 89 past studies.

This review identified five different categories of causes and contributing factors for the information overload phenomenon (Shahrzadi et al., 2024). The first dimension refers to personal factors, which include, for example, cognitive limitations on information processing, personal traits (such as experience or skills), or demographic characteristics. The second dimension refers to the characteristics of information, such as the increase in terms of quantity,

complexity, and irrelevant or wrong information. Moving on to the task and process, the third category focuses on factors such as time pressure or task complexity. The fourth category, organisational parameters, refers to the inefficiency of organisations in terms of information management. Lastly, the fifth category focuses on information technology, which mentions the abundant use of technology and a large volume of emails.

Regarding the consequences of this phenomenon, in this recent review, Shahrzadi et al. (2024) proposed four main categories along with their relevant components, illustrated in Figure 3.

**Figure 3**

*Consequences of Information Overload*

Limited information search and retrieval strategies	Ignoring or avoiding relevant information
Poor individual and organisational performance	Low work efficiency and productivity of individuals and organisations
Incorrect decision-making	Poor decision-making (Reduction of decision accuracy, quality and effectiveness)
Challenging personal situations	Stress, confusion, tension and cognitive strain; Mental illnesses (depression, anxiety)

*Note.* From “Causes, consequences, and strategies to deal with information overload,” by Shahrzadi et al., 2024, *International Journal of Information Management Data Insights*, 4(2), p. 5.

Considering the above, the most prominent consequences of the information overload phenomenon, according to Shahrzadi et al. (2024), are stress, cognitive overload, and the increased probability of mental illness. Thus, the stress concept will be further analysed in the next section.

**2.2. Stress**

Significant variations exist in how stress is defined and measured due to its extensive use across many contexts (Cooper, 2001).

However, one classical definition of psychological stress could be defined as a person's relationship with their surroundings that they see as overwhelming and harmful to the well-being (Lazarus & Folkman, 1984).

Indeed, Cooper (2001) exposes various ways to define stress, such as the response-based, stimulus-based, interactional and transactional models, and their limitations. The stimulus-based and response-based models, according to the review made by Cooper (2001), have some limitations, mainly being too simple, only focusing on one element of stress (or the stimulus or the response), and consequently, not considering individual factors. Regarding the interaction model, the author of the review states that this model only focuses on the interaction between stimulus and response, failing to explain the full complexity of stress.

As a result, the conceptualisations of the transactional model of stress (Lazarus & Folkman, 1984), as noted by Cooper (2001), are a more holistic measure, focusing on the aspects of the psychological processes, such as cognitive assessment and coping, that support a stressful situation. Accordingly, stress is an ongoing process in which people engage with their surroundings, evaluate circumstances, and deal with emerging difficulties (Cooper, 2001).

In sum, after this extensive analysis of stress conceptualisations, Cooper (2001) then defines stress resorting to the transactional approach, stating that stress is the transactional procedure involving stressors, strains and coping mechanisms.

Regarding workplace stress, Harms et al. (2017) identified two distinct types typically observed in such environments. The first one, job stress, relates to the characteristics of the tasks, namely complexity and difficulty, and the circumstances, such as time pressures and work environment. The second one refers to interpersonal stress from disagreements with colleagues and the need to follow expectations or requests (Fiedler, 1992; Harms et al., 2017).

### **2.2.1. Stress Theories**

Regarding stress theories, the majority are based on the interactional approach, which might not offer a thorough comprehension of the stress process (Cooper, 2001; Lazarus, 1990), although these theories have been useful in highlighting distinct crucial concepts to comprehend stress (Cooper, 2001).

One example of an interactional theory is Karasek's (1979) Job Demand-Resources theory, which is based on the idea that stress is influenced by the interrelation between job demands and job control. This means that when job demands increase and decision latitude is low (a lack of control over job tasks and procedures), stress arises.

According to Cooper (2001), the transactional model of stress by Lazarus & Folkman (1984) is the most complete theory. This theory states that individuals constantly evaluate their surroundings, and when the situations are perceived as dangerous, demanding, or damaging, the resulting distress drives coping methods to manage emotions or address the stressor (Lazarus & Folkman, 1984). The key factors of this theory are cognitive evaluation and coping (Biggs et al., 2017).

### **2.2.2. Stress and Performance**

The presence of moderate stress can benefit performance, but only until a certain point, according to Goleman (2021). Additionally, following this author, situations with reduced or extreme stress can have a negative impact on performance.

Thus, the relationship between performance and stress can be defined as an inverted U-curve (Yerkes & Dodson, 1908). This relation between performance and stress is similar to the relation between performance and information overload, as seen in Figure 1. Moreover, it can be stated that both extreme stress and extreme information overload significantly decrease decision-making performance. However, moderate levels of these constructs can be beneficial.

### **2.2.3. Stress and Leadership**

The authors Harms et al. (2017) conducted a meta-analytic review addressing the relationship between leadership and stress. The authors established, during their early premises on their paper, that these two concepts are undoubtedly related and have been thoroughly investigated. However, this review ends up demonstrating that this relationship can be controversial since it is not well defined the strongness of this association per se based upon empirical evidence (Harms et al., 2017).

As such, the following section will further explore the concept of leadership.

## **2.3. Leadership**

There is no consensus about the leadership definition. Accordingly, the number of leadership definitions has been increasing so drastically that, as cited in Silva (2016), in the year of 2012, Kellerman stated in an interview that there were approximately 1,400 distinct definitions of this concept.

However, some classical definitions are worth mentioning to understand the evolution of this concept. The first leadership definitions had a main focus on the personal qualities of the

individual, according to Silva (2016). Indeed, the first definition that presented a broader view of this concept was stated by Stogdill (1950), where the author defined leadership as the act of having an effect on the activities of an organized group as it works to set and reach its goals. After 1990, authors increasingly incorporated the idea of followers into their definitions of leadership (Silva, 2016).

A classical definition of this evolution is from Bass (1990), which states that leadership is a dynamic interaction within a group where individuals can shape the environment, expectations, and views of one another.

More recently, Northouse (2018) proposed the following definition of leadership: the act of persuading a group of people to achieve a common goal. Although direct and simple, it transmits the idea that leadership has four main components: it is a process, it requires influence capacity and the existence of common goals, and lastly, it takes place within a group context.

In the context of this study, leadership is assessed through the hierarchical position of individuals as a proxy. Hierarchy can be defined as a ranking between individuals according to some socially significant elements (Anderson & Brown, 2010; Gruenfeld & Tiedens, 2010; Magee & Galinsky, 2008), being considered one of the most relevant aspects of interpersonal relationships, according to Magee and Galinsky (2008).

Moreover, as the structure of organisations develops, the need for formal hierarchies arises, mainly in the form of organisational structures, job designations, and reporting systems (Magee & Galinsky, 2008).

### **2.3.1. Leadership and Stress**

As previously mentioned, even though some establish that leadership and stress are undoubtedly related concepts, empirical evidence does not demonstrate the strongness of this relationship (Harms et al., 2017).

In addition, Sherman et al. (2012) concluded that leadership positions are associated with less stress, but this relation is explained by a higher sense of control inherent to leaders. Furthermore, a recent study by Guedes et al. (2017) concluded that the hierarchical position of individuals is not sufficient to test the existence or lack of stress. Indeed, possessing a sense of control is essential for this relationship (Guedes et al., 2017; Sherman et al., 2012).

### **2.3.2. Leadership: Hierarchy and Power**

It is relevant to assess the relationship between organisational hierarchy and power since, according to Magee and Galinsky (2008), power is one of the most important principles of a hierarchy.

Accordingly, hierarchy is closely related to control, meaning that individuals in higher positions have a higher power over the group's decisions, procedures, and results (Anderson & Brown, 2010). In addition, formal hierarchies generate stability and order, and individuals in higher positions, compared to those in lower positions, have more opportunities to achieve control-related desires (Magee & Galinsky, 2008), such as power (McClelland, 1975; Winter, 1973).

Indeed, according to Greenberg (2011), power in organisations comes from job roles or titles, which allow individuals to influence others due to the formal power that comes with their titles (Lunenburg, 2012). Additionally, because of this formal authority and decision-making control, leaders have a higher power (French & Raven, 1959).

On the same note, leadership positions and power are two related concepts in organisational structures, meaning that organisational leadership positions are both a source of power and status (Magee & Galinsky, 2008).

As such, the following section will further explore the concept of power.

### **2.4. Power**

Power is a complex concept, with various definitions emphasising different aspects depending on the question being addressed and the unit of analysis considered (Keltner et al., 2003). Indeed, the definitions of power can be divided into three main categories: control over results, asymmetrical interdependence, and socio-functional dynamics within groups (Guinote, 2017).

A widely recognised definition of power states that it can be defined as the likelihood that one individual in an interpersonal relationship will be able to act on his own desire, regardless of opposition (Weber, 1947). Strum and Antonakis (2015), in consonance, define power as “having the discretion and the means to asymmetrically enforce one’s will over entities” (p. 139).

Additionally, it is important to distinguish between structural power and subjective power. Structural power refers to the formal authority and control through an individual’s hierarchical position within an organisation (French & Raven, 1959), such as a leadership role in

organisations, as presented in the previous section. In contrast, subjective power goes in line with social interactions and experiences “and is a psychological extension of the socio-structural landscape” (Anderson & Galinsky, 2006, p. 514). These forms of power are related to each other in the sense that hierarchy status and sense of power reinforce each other, meaning that one can lead to the other and vice versa, according to Magee and Galinsky (2008).

However, an individual can have power without the presence of social status and vice versa (Magee & Galinsky, 2008).

#### **2.4.1. Sense of Power and Relevant Theories**

Sense of power is the belief that one can influence another people (Anderson, John & Keltner, 2012).

Indeed, a relevant theory is the situated focus theory of power by Guinote (2007a), which states that power influences behaviour by prioritising important targets and ideas. The author also concludes that, in cognitive terms, power enables processing strategies to focus on relevant objectives while ignoring irrelevant information (Guinote, 2007a). Similarly, Smith and Trope (2006), stated that power enhances social distance, leading to more abstract thinking, which enables individuals to prioritise key information and grasp its essential meaning, retrieving the gist from information.

#### **2.4.2. Power and Stress**

Power has been shown to reduce physiological stress reactions (Schmid & Schmid Mast, 2013; Carney et al., 2010; Bohns & Wiltermuth, 2012). According to Carney et al. (2010), individuals who posed with high-power, meaning with expansive and open postures, as opposed to those with the condition of low-power poses, characterised by contracted and closed body postures, demonstrated a reduction of the stress hormone cortisol. Similarly, Bohns and Wiltermuth (2012) concluded that power posing was associated with greater pain resistance, which is a physical sign of stress.

In addition, Schmid and Schmid Mast (2013) studied the impact of power on reducing stress in social situations. The authors found that role-placed power manipulation lowered stress-related responses in social evaluations, including physiological arousal and nonverbal indicators of stress, such as tics, self-touch, and nervous gestures.

Even though these effects of power have been demonstrated in experimental settings resorting to power priming, posing and role assignment, similar mechanisms may apply to an

individual's sense of power. Accordingly, individuals may have lower stress levels if they experience an enhanced sense of power, which reflects a person's perceived control and influence in any social interaction (Anderson, John & Keltner, 2012).

Furthermore, Sherman et al. (2012) concluded that leadership positions are associated with less stress, with this relation being explained due to a higher sense of control. Accordingly, by measuring the psychological sense of control as a mediating variable, it was found that high leadership levels contribute to stress-reducing effects (Sherman et al., 2012).

Additionally, the authors found that holding a leadership role with a significant number of direct reports and considerable decision-making power are the most relevant leadership attributes that convey a higher sense of control and, consequently, mitigate stress. Thus, in this regard, the sense of control acts as the mechanism that explains why leadership reduces stress. Also, it is unsurprising that leadership roles increase the sense of control, as they often come with prestige, objective power, and influence (Sherman et al., 2012).

Concluding, the sense of control is a key factor connecting leadership position to stress, according to Sherman et al. (2012). Similarly, a recent study by Guedes et al. (2017) stated that the hierarchical position of individuals is not sufficient to test the existence or lack of stress. In this study, the sense of control was a key factor in explaining this relationship, meaning that the lack of it was necessary for elevated stress levels, and its existence explained lower stress levels.

In the same sense, Anderson and Brown (2010) stated that hierarchy position is closely related to the sense of control. In other words, individuals in higher organisational positions have a higher sense of power over the group's decisions, procedures and results (Anderson & Brown, 2010).

Regarding these previously presented findings and extending this reasoning, leadership positions can reduce stress levels because of the higher sense of power, which enhances feelings of control over circumstances (Inesi et al., 2011).

### **2.4.3. Power and Information Overload**

Smith and Trope (2006) stated that power promotes abstract thinking, which in turn helps to focus on the relevant information and better understand its core meaning. Similarly, in cognitive terms, power conveys individuals with the capacity to focus on important goals while also filtering irrelevant information, according to Guinote (2007a).

Taking into account these relevant findings and extending this reasoning, power can help individuals process high information load situations more effectively by filtering and

prioritising relevant information, reducing information overload situations, which happen when the amount of information received surpasses the individual's ability to process it (Eppler & Mengis, 2004).

## **2.5. Research Gap and Conceptual Model**

This section will explain the research gap and the conceptual framework, along with the corresponding hypotheses.

Moreover, Sherman et al. (2012) and Guedes et al. (2017) found that the relation between different levels of leadership and stress is not sufficient on its own, meaning that it is necessary to assess the sense of control to establish a relation between the two concepts.

Accordingly, since power is associated with a perceived sense of control (Anderson & Brown, 2010), efficient decision-making (Keltner et al., 2003), higher leadership positions (Magee & Galinsky, 2008; French & Raven, 1959), and it helps to reduce stress (Schmid & Schmid Mast, 2013; Carney et al., 2010; Bohns & Wiltermuth, 2012), it can be concluded that the sense of power can be a mechanism to explain how individuals in different leadership positions perceive stress. Since the sense of power has not yet been explored as a psychological mechanism to explain the relationship between leadership and stress in previous research, this is one of the gaps this study aims to fill.

Additionally, information overload impacts decision-making, performance (Eppler & Mengis, 2004), as well as stress (Shahrzadi et al., 2024), and it can be caused by cognitive processing limitations (Shahrzadi et al., 2024).

Furthermore, powerful individuals process information more effectively by filtering and prioritising relevant information (Smith & Trope, 2006; Guinote, 2007a). This capacity can ultimately reduce perceptions of information overload and its main consequence, stress.

Nonetheless, another gap this study aims to fill is the relationship between the sense of power and information overload.

In sum, the proposed framework posits that individuals in leadership positions tend to exhibit a heightened sense of power, which subsequently reduces their information overload perceptions, thereby leading to lower levels of associated stress.

Following this proposed framework, the hypotheses are now presented:

**H1:** Individuals in higher leadership positions feel more sense of power.

**H2:** Individuals with more sense of power feel less information overload.

**H3:** Individuals with a higher sense of power feel less organisational stress.

**H4:** Individuals with a higher information overload perception feel more organisational stress.

**H5:** Individuals in leadership positions feel less perceived stress because of a higher sense of power.

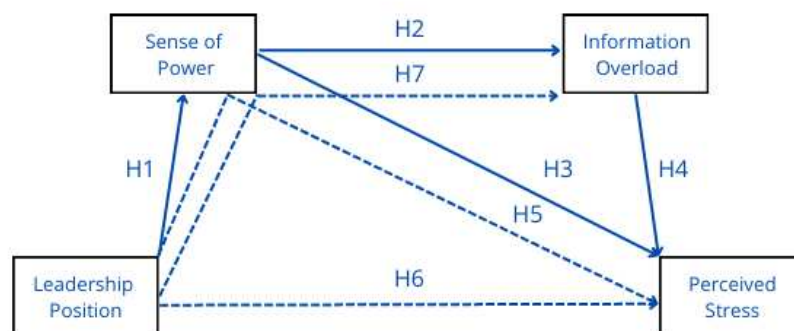
**H6:** The relationship between leadership and stress can be explained through power and information overload, meaning that leaders feel more power, which in turn reduces information overload perception and consequently, stress.

**H7:** Individuals in leadership positions feel less information overload because of a higher sense of power.

Based on the proposed hypotheses, the conceptual framework is presented in Figure 4.

**Figure 4**

*Conceptual Framework*



### 3. Methodology

This section will delve into the research design, the procedure followed, and precise measures for each variable in the conceptual framework, along with a description and analysis of the sample.

### **3.1. Research Design**

This study has three main objectives: (1) to examine how the leadership position influences stress levels, considering the mediating roles of power and perceived information overload, (2) to assess how the sense of power mediates the relationship between leadership positions and stress levels, and lastly, (3) to study how the sense of power mediates the relationship between leadership positions and information overload perceptions.

Moreover, a correlational approach is followed to test the presented theme and hypothesis. According to Queirós et al. (2017), the correlational approach is the most commonly used method in quantitative research.

Regarding the data collection method, an online structured questionnaire was created through the Qualtrics platform. According to Evans and Mathur (2005), online surveys have various favourable factors, mainly the low cost, the ease of data importation into data analysis programs, and the low implementation time. Moreover, selecting the appropriate sampling technique and size of the sample is imperative in survey design (Rahman et al., 2022), so this theme will be specified in the next section.

### **3.2. Participants**

To calculate the expected sample size for this study, a Monte Carlo simulation with a power of 0.8 and respective estimated effect sizes was conducted. The required minimum sample size retrieved from this analysis was 116 participants.

Therefore, the survey was distributed in Portuguese through my professional and personal network, utilising online methods such as email, WhatsApp and social media. It was available between December 5<sup>th</sup> and December 17<sup>th</sup> and by this final date, there were 225 responses.

The data was filtered and analysed to ensure the quality of the sample. Of the total number of responses, 23 were eliminated. From these 23 eliminated responses, 18 were excluded because the participants did not complete the survey. The remaining five responses were excluded because the participants indicated that they did not have professional experience, being automatically directed to the final section of the questionnaire, the briefing. Concluding, the final cleaned sample had a total of 202 responses.

Regarding the characterisation of this sample, 52% of the 202 participants were females, and 48% were males. The average age was 40.11 years old ( $SD = 15.58$ ), and the participants'

ages ranged between 19 and 66 years. Regarding their nationality, all the participants were Portuguese.

In addition, the most common response about the education level was the master's degree, with 39.1% having completed this level. Additionally, the average work experience among the participants was 17 years ( $SD = 14.81$ ; Min = 1; Max = 45). Also, the range of experience in leadership positions was between zero and 40 years, and the average was 9.03 years ( $SD = 11.27$ ).

Regarding the current position in the company, the most prevalent answer was “*Non-Supervisory Role*,” with 45.5%, followed by “*Top Management*,” with 28.2%, “*Middle Management*,” with 18.8%, and finally, “*Supervisory Role*” function, with 7.4% of the total responses. Consequently, this analysis sustains that 54.5% of participants are leaders and 45.5% have non-leadership positions.

Furthermore, the most frequent working sectors among the participants included consulting (18.8%), finance (17.3%), and technology (15.8%). Additionally, in relation to the dimension and business volume of the participants' companies, 55.9% employed more than 250 workers and 53% generated revenues exceeding 50 million euros.

Ultimately, nearly half of the participants in this sample were employed by large-scale organisations.

Please see Appendix 2 for further details and information about the participants.

### **3.3. Procedure**

As previously mentioned, the Qualtrics platform was used to develop the questionnaire. Moreover, the first page of the survey featured a welcome message and an informed consent section. More specifically, this first page included a brief description and purpose of the study, the approximate duration of the questionnaire (5 minutes), assurances regarding the anonymity and confidentiality of the data, instructions, my email contact for any enquiries, and finally, the consent statement, indicating that by proceeding, participants agreed to take part in this study. Additionally, the hypotheses behind the research were not disclosed to prevent biases in the responses.

In the following section, participants were asked demographic questions, namely about their age, gender, nationality, highest education level and professional experience, along with specific questions about their company, such as the sector, dimension and business volume. Additionally, to ensure a relevant sample of participants, a dichotomous yes/no question to

assess if participants had professional experience was made. If the answer was “no”, the questionnaire would automatically redirect the participant to the end, meaning the final briefing. In addition, participants were also asked about their function in the current company to later assess their organisational position (leader or non-leader).

The following sections of the survey, which will be analysed in detail in the next segment, assessed the organisational stress, sense of power and perceived information overload in the organisational decision-making context, all in a randomised selection to prevent order biases.

The final section consisted of a concise briefing, thanking the participants for taking the time to answer the questionnaire and disclaiming the objective of the study. For more detailed information about the questionnaire, please see Appendix 1.

### **3.4. Variable Measurement**

This section will present the precise measurements for each variable, along with the reasoning for the chosen material and any pertinent information.

For all the following variables, except for the current position in the company, a 7-point Likert scale is used, where higher numbers are associated with more agreement and lower ones with less agreement. The reason why this scale was chosen is that it offers more response options, improving accuracy and reflecting better the participants’ reasoning (Joshi et al., 2015). For more details about the scales, please see Appendix 1.

#### **3.4.1. Leadership**

The first variable to take into consideration is the position in the company, where the options were based on the study conducted by De Hoogh et al. (2005). The four options presented regarding the professional position of the participants were: “*Top Management*”, “*Middle Management*”, “*Supervisory Role*”, and “*Non-Supervisory Role*”. Participants were asked to answer the following question: “What is your current position in the company?”. This kind of measure was chosen to specifically assess the difference between leader and non-leader positions. Indeed, having into account the purpose of this study, this measure is later transformed into a dichotomous variable, where the option “*Leader*” refers to the first three positions and the “*Non-Leader*” option is related to the “*Non-Supervisory Role*”.

### **3.4.2. Power**

To measure the perceived sense of power in the organisational context, a scale created by Anderson, John and Keltner (2012), the Generalised Sense of Power Scale, was chosen because of its wide use to rate self-power in relationships. This scale is quite flexible, allowing to measure the sense of power an individual feels in a determined context, relationship, or group (Anderson & Galinsky, 2006). In this case, the objective of its use was to measure the sense of power in the organisational context, so participants were asked to rate the degree of agreement with the statements, considering their relationships with work colleagues. This scale has eight statements. One example of this scale is: *“I think I have a great deal of power”*. In addition, of these eight statements, four are reverse scored, specifically the second, fourth, sixth, and seventh. To assess the final construct, and based on the literature, the mean of all these statements will be made.

### **3.4.3. Information Overload**

To measure perceived information overload in the organisational decision-making context, three questions from the Information Overload Scale by Karr-Wisniewski and Lu (2010) were retrieved. One example is: *“I am often distracted by the excessive amount of information available to me for business decision-making”*. This measure was chosen because it directly focuses on the information overload perceptions within the organisational context. None of these statements are reverse scored, and to assess the final construct, the mean of all the individual constructs is made.

### **3.4.4. Stress**

Organisational stress is assessed through an adapted version of the global measure of perceived stress by Cohen et al. (1983) since it is one of the most well-known and recognised measures to assess general stress. One example of the fourteen adapted questions is the following: *“In the last month, how often have you felt nervous and “stressed” at work?”*. From all of these fourteen statements, half of them are reverse scored, namely, the fourth, fifth, sixth, seventh, ninth, tenth, and thirteenth. The sum of all the individual constructs will be made for the final construct.

## **4. Results**

In the present section, the results will be analysed using the IBM SPSS Statistics program.

### **4.1. Data Transformation**

The data retrieved from Qualtrics was downloaded directly to the IBM SPSS Statistics program. After the data cleaning, the total sample consisted of 202 responses.

The final constructs were created for the variables Perceived Stress Scale, Sense of Power Scale, and Information Overload, using the sum (Cohen et al., 1983) for the first measure and the mean for the last two, taking into account the specific reverse-scored items of each measure.

In addition, it is worth mentioning that the variable “leader” was coded as a dichotomous variable, emerging from the professional position of the participants, meaning that “Leader” (1) refers to the positions “Top Management”, “Middle Management” and “Supervision”, and the “Non-Leader” (0) option is related to the “No Supervision Position”.

### **4.2. Reliability of the Scales**

Even though this study's scales have demonstrated reliability and validity in the past (Cohen et al., 1983; Anderson, John & Keltner, 2012; Karr-Wisniewski & Lu, 2010), reliability tests were conducted to ensure its accuracy for this analysis, as is imperative to compute the Cronbach's alpha for the Likert type scales (Gliem & Gliem, 2003). Cronbach's Alpha is the the average value of the reliability coefficients that one would get for all possible sets of items (Gliem & Gliem, 2003). The internal consistency of the scale's items increases with a Cronbach's alpha coefficient that is closer to 1, so according to Gliem and Gliem (2003), an alpha of 0.8 is believed to be an adequate estimate.

Based on this principle, Cronbach's Alpha was calculated for all the constructs of the three Likert scale measures before the final constructs: Perceived Stress Scale (Cohen et al., 1983), Sense of Power Scale (Anderson, John & Keltner, 2012) and Perceived Information Overload (Karr-Wisniewski & Lu, 2010).

**Table 1***Reliability Statistics*

Subscale	N	Items	Cronbach's $\alpha$
Stress	202	14	0.898
Power	202	8	0.934
Information Overload	202	3	0.872

As a result, these three constructs demonstrated a strong ( $>0.8$ ) internal consistency, namely,  $\alpha = .898$  for the Perceived Stress Scale,  $\alpha = .934$  for the Sense of Power Scale, and  $\alpha = .872$  for the Perceived Information Overload Scale. Indeed, it can be concluded that these scales are sufficiently consistent to estimate the associated variables. For more detailed information about the reliability of the scales, please see Appendix 3.

**4.3. Descriptive Statistics**

A detailed overview of the descriptive statistics for each scale is now provided. Regarding the descriptive statistics of the final constructs, Table 2 demonstrates these analyses for the perceived stress scale, the sense of power scale, and the information overload scale.

**Table 2***Descriptive Statistics for the final constructs*

	N	Min	Max	M	SD
Stress	202	21	75	50.52	11.78
Power	202	1.38	6.75	4.53	1.38
Information overload	202	1	7	4.38	1.3

In addition, according to the leadership position question, 110 (54.5%) of the 202 total participants were classified as leaders (1), while 92 (45.5%) were classified as non-leaders (0). For more details about these values, please see Appendix 4.

#### 4.4. Correlations

To assess the correlations between the variables of perceived stress, sense of power, perceived information overload and leadership position, a correlation matrix was computed and is presented in Table 3.

From the Pearson correlation, it can be concluded that there was a significant negative correlation between the variables of power and stress,  $r(200) = -.71, p < .001$ . In addition, there was a significant positive correlation between information overload and stress,  $r(200) = .64, p < .001$ . Lastly, it can be stated that there was a significant negative correlation between power and information overload,  $r(200) = -.50, p < .001$ .

Additionally, the point-biserial correlation was assessed to evaluate the relationship between leadership position (0 = non-leader and 1 = leader) and perceived stress, sense of power and information overload perceptions. From this analysis, it can be concluded that the relationship between leader and stress was significant and negative,  $r_{pb}(200) = -.39, p < .001$ . In addition, there was a significant positive relationship between leader and power,  $r_{pb}(200) = .63, p < .001$ . Lastly, the relationship between leader and information overload was significant and negative,  $r_{pb}(200) = -.21, p < .001$ .

For more detailed information about the correlations, please see Appendix 5.

**Table 3**

##### *Correlations Matrix*

Variable	n	1	2	3	4
1.Stress	202	-			
2.Power	202	-.71**	-		
3.Information Overload	202	.64**	-.50**	-	
4.Leader <sup>a</sup>	202	-.39**	.63**	-.21**	-

<sup>a</sup> 0 = non-leader and 1 = leader.

\*\*  $p < .01$ .

#### 4.5. Hypotheses Testing

To test this study's hypotheses, an independent samples t-test (see Table 4), the serial mediation model 6 (see Figure 5) and a complementary simple mediation model 4 (see Figure

6) from PROCESS by Hayes (2012) were computed using a 5% significance threshold and 5,000 bootstrap samples.

To assess the differences between the groups of the leader construct, namely, leaders (1) and non-leaders (0), on the perceived stress scale, the sense of power scale and the perceived information overload scale, an independent samples t-test was conducted. For more detailed information please see Appendix 6.

**Table 4**

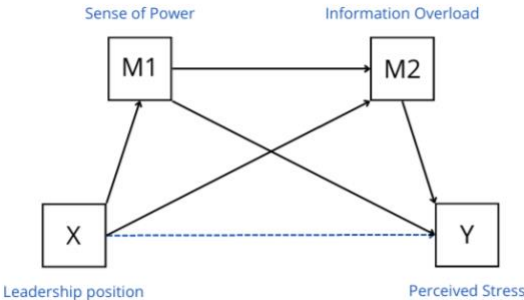
*Independent Sample t-test*

		n	M	SD	SE
Perceived Stress Scale	Non Leader	92	55.53	11.66	1.22
	Leader	110	46.33	10.18	0.97
Sense of Power Scale	Non Leader	92	3.58	1.29	0.13
	Leader	110	5.33	0.85	0.08
Information Overload	Non Leader	92	4.68	1.31	0.14
	Leader	110	4.13	1.24	0.12

Models 6 and 4 from PROCESS aimed to understand whether leadership influences organisational stress through the sense of power and perceived information overload, how the sense of power mediates the relationship between leaders and stress, and finally, how the sense of power mediates the relationship between leaders and information overload.

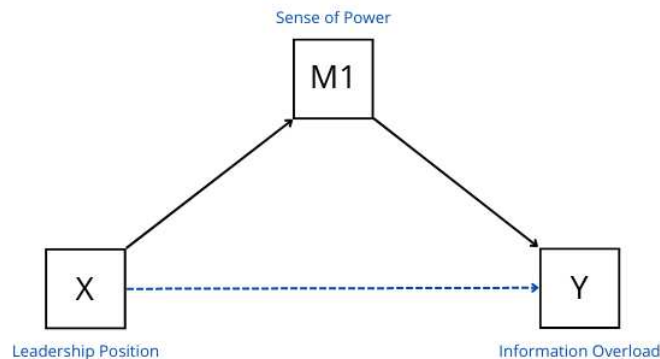
**Figure 5**

*Model 6 from PROCESS by Hayes (2012)*



## Figure 6

Model 4 from PROCESS by Hayes (2012)



To assess the first hypothesis, a t-test was conducted. These results demonstrated that non-leaders ( $M = 3.58$ ,  $SD = 1.29$ ) perceived a significantly lower sense of power,  $t(152.32) = -11.13$ ,  $p < .001$ , compared to leaders ( $M = 5.33$ ,  $SD = 0.85$ ), indicating that leaders perceived more power, supporting H1. Additionally, the first regression of model 6 tested whether leadership (X) predicts the sense of power (M1). This model was statistically significant ( $R^2 = .40$ ,  $F(1, 200) = 132.86$ ,  $p < .001$ ), and 40% of the variance in the sense of power was explained by leadership. Indeed, leadership had a positive and significant effect on the sense of power,  $b = 1.75$ ,  $SE = 0.15$ ,  $t(200) = 11.53$ ,  $p < .001$ , 95% CI [1.45, 2.05], further supporting the first hypothesis.

The following five hypotheses were tested through model 6.

The second regression in this model tested whether leadership (X) and the sense of power (M1) predict perceived information overload (M2). This model was statistically significant ( $R^2 = .27$ ,  $F(2, 199) = 36.45$ ,  $p < .001$ ), indicating that 27% of the variance in perceived information overload is explained by leadership and sense of power. Indeed, the sense of power had a significant negative effect on perceived information overload,  $b = -0.57$ ,  $SE = 0.07$ ,  $t(199) = 7.77$ ,  $p < .001$ , 95% CI [-0.72, -0.43], supporting H2.

The third regression assessed whether leadership (X), sense of power (M1), and perceived information overload (M2) predict stress (Y). The model is statistically significant ( $R^2 = .61$ ,  $F(3, 198) = 102.45$ ,  $p < .001$ ), indicating that 61% of the variance in perceived stress is explained by leadership, sense of power and perceived information overload. Moreover, the sense of power had a negative significant effect on stress,  $b = -4.58$ ,  $SE = 0.56$ ,  $t(198) = -8.20$ ,  $p < .001$ , 95% CI [-5.68, -3.48], supporting H3. Regarding information overload, it had a positive and significant effect on stress,  $b = 3.41$ ,  $SE = 0.47$ ,  $t(198) = 7.23$ ,  $p < .001$ , 95% CI

[2.48, 4.34], supporting H4. Moreover, in this model, the direct effect of leadership on stress was not significant,  $b = 0.71$ ,  $SE = 1.37$ ,  $t(198) = 0.52$ ,  $p = .604$ , 95%  $CI [-1.99, 3.41]$ .

However, to further assess the direct relationship between leadership and stress, a t-test was conducted. The results of this analysis showed that non-leaders ( $M = 55.53$ ,  $SD = 11.66$ ) reported significantly higher perceived stress levels,  $t(200) = 5.99$ ,  $p < .001$ , compared to leaders ( $M = 46.33$ ,  $SD = 10.18$ ), suggesting that leadership positions are associated with lower stress.

These results indicate that, although the relationship between leadership and stress was significant through the t-test analysis, when accounting for the sense of power and information overload perception in model 6, this relationship is no longer significant, suggesting the idea of a full mediation model through the proposed mediators.

Regarding the indirect effects of leadership on stress via the sense of power and information overload. The indirect effect of leadership on perceived stress via power was statistically significant,  $b = -8.02$ ,  $SE = 1.52$ , 95%  $CI [-11.19, -5.28]$ , meaning that higher leadership positions are associated with lower stress because of a higher sense of power, supporting H5.

Lastly, the serial mediation effect of leadership on perceived stress via both the sense of power and perceived information overload was significant,  $b = -3.41$ ,  $SE = 0.79$ , 95%  $CI [-5.09, -1.98]$ , supporting H6.

In sum, power and information overload fully mediate the relationship between leadership and stress. Essentially, leadership increases power, which in turn reduces the perceived information overload and ultimately decreases perceived stress. Also, the absence of a significant direct effect of leadership on perceived stress in this model ( $b = 0.71$ ,  $p = .604$ ) further supports the full mediation.

Additionally, to assess the last hypothesis and in the form of a complementary analysis to the previous model, a simple mediation analysis was conducted. This model involved testing for the indirect effect of X (leader) on Y (information overload) via the mediator M (power).

The direct effect of leadership (X) on information overload (Y) was significant and positive,  $b = 0.44$ ,  $SE = 0.20$ ,  $t(198) = 2.17$ ,  $p = .031$ , 95%  $CI [0.04, 0.84]$ . Since the direct effect is significant, it suggests a partial mediation.

The indirect effect of leadership (X) on information overload (Y) through the sense of power (M) was statistically significant,  $b = -0.10$ ,  $SE = 0.18$ , 95%  $CI [-1.38, -0.67]$ , meaning that leadership reduces information overload perceptions because of a higher sense of power, supporting H7.

In sum, this model explains that leadership increases power, which in turn reduces information overload. However, since leadership also has a direct effect on information overload, this model 4 is partially mediated.

For further information regarding the PROCESS outputs, please see Appendix 7.

## **5. Discussion**

In this following section, the results will be discussed in more detail, providing the research findings, the theoretical and managerial implications, the inherent limitations, the suggested future research, and finally, a brief conclusion of this study.

### **5.1. Research Findings**

To test this study's hypotheses, an independent samples t-test, model 6, and, as a complement, model 4 from PROCESS by Hayes (2012) were conducted. Model 6, a serial mediation, was conducted to assess how leadership position influences organisational stress through the sense of power and perceived information overload and how the sense of power mediates the relationship between leaders and stress. To assess if the relationship between the leadership position and information overload perceptions is explained by the sense of power, model 4 was conducted.

Firstly, the results from these analyses showed that different leadership positions have different power perceptions, more specifically, individuals in higher leadership positions have a higher sense of power, supporting hypothesis 1. This finding is supported by previous literature, which states that higher organisational hierarchical positions have a higher perceived control and power (Magee & Galinsky, 2008; Anderson & Brown, 2010; McClelland, 1975; Winter, 1973; Greenberg, 201; French & Raven, 1959).

The results also showed that individuals with a higher sense of power significantly perceive lower levels of organisational stress, supporting hypothesis 3. This finding is supported by past studies with experimental power measures such as power priming, posing and role assignment, which were found to reduce stress levels (Schmid & Schmid Mast, 2013; Carney et al., 2010; Bohns & Wiltermuth, 2012). Additionally, the Job Demand-Resources theory by Karasek (1979) states that when an individual is faced with a situation with a lack of control over job tasks and procedures, stress arises, which supports this finding since the sense of power, inherently associated with a sense of control (Anderson & Brown, 2010), helps reduce stress

levels. Furthermore, the transactional model of stress by Lazarus and Folkman (1984), which defends that an individual's psychological processes, such as cognitive or coping mechanisms, can reduce perceived stress levels, supports this finding because, in this study, the sense of power acts as a coping mechanism to reduce stress levels.

In addition, it was discovered that the sense of power explains the relationship between leadership position and stress, meaning that individuals in higher leadership positions perceived less organisational stress levels because of a higher sense of power, supporting hypothesis 5. Past research by Sherman et al. (2012) and Guedes et al. (2017) support this finding since, in their studies, it was found that the relationship between different levels of hierarchical organisational positions and stress is not sufficient on its own, meaning that the sense of control is a key mechanism to explain this relationship. Since the sense of control is inherently associated with a sense of power (Anderson & Brown, 2010), past research supports the results. Indeed, it was also shown that the direct effect between leadership and stress was not significant, reinforcing the idea that perceived power is a key factor explaining this relationship.

Furthermore, powerful individuals process information more effectively by focusing on the most relevant details, effectively filtering irrelevant information, and easily understanding its core meaning (Smith & Trope, 2006; Guinote, 2007a), which ultimately may alleviate perceptions of information overload. The results support these previous findings since it was shown that the effect of a perceived sense of power on perceived information overload is significant and negative, meaning that individuals with higher levels of power perception reported lower information overload perceptions, supporting hypothesis 2.

Moreover, as previously concluded from the already mentioned results and literature, higher leadership positions are linked to a greater sense of power (Magee & Galinsky, 2008), and powerful individuals process information more efficiently (Smith & Trope, 2006; Guinote, 2007a). Thus, it is expected that individuals in higher hierarchical positions perceive less information overload because of an enhanced sense of power, which capacitates them with information processing and filtering mechanisms that ultimately can reduce the feeling of information overload. This perspective is supported by the results of the significant indirect effect of the simple mediation model since it shows that individuals in higher leadership positions feel lower information overload perceptions because of a higher power perception, further supporting hypothesis 7. However, the results also disclosed that the direct relationship between leadership and perceived information overload is significant when accounting for the sense of power, meaning that there could be other factors that further contribute to explaining this relationship.

Moreover, the results provide a positive and significant relationship between information overload perceptions and organisational stress levels, meaning that higher perceived information overload leads to higher stress levels, supporting hypothesis 4. This finding goes in line with the recent scoping review by Shahrzadi et al. (2024), which states that stress is known to be a relevant consequence of the information overload phenomenon.

Furthermore, it can also be concluded from the results that the relationship between leadership and stress is fully mediated through the sense of power and information overload perceptions, meaning that individuals in higher organisational positions experience lower stress levels because of a higher sense of power, which in turn reduces information overload perceptions, supporting hypothesis 6. This finding is further supported by Sherman et al. (2012) and Guedes et al. (2017), which stated that the relationship between leadership and stress is not sufficient on its own to establish a relationship between the two concepts. These authors supported the idea that sense of control is a proven mediator between these two variables, however, since sense of control is an inherent characteristic of power (Guinote, 2017), the results prove that sense of power has the same effect as the sense of control, and together with information overload, fully explain the relationship between leadership and stress.

These previously presented findings contribute to the literature by emphasising the importance of power perception as a protective factor against stress and information overload in organisations. The following sections will explore this study's implications.

### **5.3. Theoretical Implications**

Due to the continuous rise of available information, the information overload phenomenon requires greater urgency than ever (Bawden & Robinson, 2020). This study's findings contribute to new advances in the literature and research on leadership, power, information overload and stress by focusing on the previously identified gap and incorporating all these constructs into a single framework.

The results and theoretical evidence suggest that leadership position and stress have no direct significance *per se* (Sherman et al., 2012; Guedes et al., 2017), rather, it seems that this relationship is fully mediated by the sense of power and information overload perceptions.

The findings suggest that power perception is a key mechanism to explain the general framework, meaning that a higher sense of power explains how leaders feel less information overload perceptions and consequently lower organisational stress levels compared to non-leaders. This finding that the sense of power as a psychological mechanism to manage stress

aligns with the transactional stress approach by Lazarus and Folkman (1984), which states that psychological processes can impact an individual's perceived stress and, in this case, the findings show that sense of power acts as a coping mechanism to reduce stress levels.

Furthermore, this study expands the information processing perspectives on overload (Roetzel, 2019) since it found that the sense of power associated with higher leadership positions capacitates individuals to feel lower perceptions of overload, explained by previous literature that states that individuals with higher power tend to focus on key information, effectively filter irrelevant data and easily understand its core meaning (Smith & Trope, 2006; Guinote, 2007a). In other words, it can be concluded that the sense of power enables leaders to effectively process the information, ultimately leading to lower perceptions of overload.

#### **5.4. Managerial Implications**

According to Shahrzadi et al. (2024), organisations have an essential role in information management to prevent their employees from feeling overloaded with information for the decision-making process. In this sense, the authors of this recent review identified relevant strategies organisations can employ to assess this increasing phenomenon, mainly through technology. Some interesting examples of these practices are information visualisation tools, personal information management systems, and recommendation systems (Shahrzadi et al., 2024).

Furthermore, the findings of this study have significant relevant implications for organisations by demonstrating the relevant role of power perception as a buffer against information overload and stress, which can benefit organisations. In this sense, and as a relevant suggestion, transmitting employees with higher control and independence instead of focusing solely on the leadership structure can ultimately increase performance by buffering the negative effects of a high information load. In other words, organisations could implement psychological empowerment along with traditional management skills in training programs, and it could be useful at all organisational levels to reduce stress and information overload perceptions by providing employees with a greater sense of control and autonomy.

#### **5.5. Limitations**

Following the previously presented implications, it is relevant to assess this study's inherent limitations.

Regarding the generalisation of the findings, the non-probability method was used to collect participants because of its practicality and ease of use in situations of time constraints (Vehovar et al., 2016). However, this method can result in an inadequate representation of the general population. In particular, most of this study's responses came from my personal and professional network, which resulted in all participants being exclusively Portuguese.

In addition, according to Hofstede (1984), leadership practices and perceptions of power can vary across cultures, and that was not considered.

Additionally, although the scales used in this study were pre-existing and widely recognised, namely, the Generalized Sense of Power Scale (Anderson, John & Keltner, 2012), the Information Overload Scale (Karr-Wisniewski & Lu, 2010), and the Perceived Stress Scale (Cohen et al., 1983), they can have some limitations in this study.

The Information Overload Scale (Karr-Wisniewski & Lu, 2010) used in this study only focused on three items regarding the actual information overload scale. However, the authors of this scale measured some other components of the overload phenomenon that were not assessed in this study, such as technology or communication overload. Additionally, this scale assesses perceived information overload rather than actual cognitive overload, which, on the one hand, is useful for understanding its impact on organisational workplace stress. However, on the other hand, it is somehow subjective because it does not measure actual cognitive overload.

The Perceived Stress Scale (Cohen et al., 1983) was originally designed to measure general stress. However, for the context of this study, an adapted version of the scale was developed to assess organisational stress, meaning that it may overlook some work-specific stressors or, more specifically, in the context of this study, information overload-specific or leadership-related stress conditions.

The measure used to assess leadership status was based on four self-report groups based on De Hoogh et al. (2005), which were later grouped into two categories (leader and non-leader). This measure has some limitations since there could be some relevant variability within the four categories that were not assessed because they were divided into two general groups.

Additionally, a general limitation regarding these self-report measures present in this study is that personality traits, coping mechanisms, and temporary emotions could have influenced the responses (Lazarus & Folkman, 1984).

Finally, it is relevant to assess the limitation regarding the absence of assessment of potentially relevant variables. The sense of control is one of them since it was identified by Sherman et al. (2012) and Guedes et al. (2017) as a key factor explaining the relationship

between leadership and stress. However, in this study, because the sense of control is an inherent characteristic of power (Guinote, 2017), it was not assessed. Additionally, the simple mediation model disclosed that the relationship between leadership and information overload is not fully explained through the sense of power since the direct relation between leadership and information overload, when accounting for the sense of power, was significant, meaning that there could be other relevant mechanisms to explain this relationship further.

## **5.6. Future Research**

Considering all the limitations referred to in the previous section, some future research suggestions will now be provided.

Regarding the validity of the results, it is advised that if individuals are interested in conducting this study in the future, should use a broader and more varied sample, specifically an international sample, to test for cross-cultural variations, and to differentiate participants among the four leadership status groups, instead of dividing them in only two. This would help determine whether any significant distinctions exist between groups regarding their sense of power, perceived information overload, and stress levels. Furthermore, it would be intriguing to evaluate whether individuals in different pressure industries perceive information overload or stress differently.

Concerning the measures used, a suggestion would be to assess these through an information overload experiment in an organisational decision-making context instead of a questionnaire approach. Since there is not yet a widely recognised experiment for this specific case, I would recommend the creation and validation of this kind of measure and, consequently, measuring the other variables objectively rather than relying solely on participants' subjective perceptions. Additionally, another relevant recommendation would be to assess the complete scale created by Karr-Wisniewski and Lu (2010) since the authors not only measured the perceived information overload but also the technology and communication overload and these additional constructs could be a good addition to better explain and study the information overload phenomenon.

Regarding the stress measure, instead of an adaptation of the Perceived Stress Scale (Cohen et al., 1983), it could be interesting to incorporate a specific job stress measure closely related to decision-making and information processing.

Finally, I would suggest future research to assess other relevant variables that could add value and complement these relations, such as the number of subordinates, direct reports and

sense of control (Sherman et al., 2012), information processing capabilities, objective workload data, physiological stress indicators (Schmid & Schmid Mast, 2013; Carney et al., 2010; Bohns & Wiltermuth, 2012), decision-making performance measurements (Schroder et al., 1967; Eppler & Mengis, 2004), leadership styles, or decision-making type (Bettis-Outland, 2012).

## **6. Conclusion**

The continuous rise in the availability of information for the decision-making process increases the urgency to address the information overload phenomenon (Bawden & Robinson, 2020).

Furthermore, this study's primary aim was to examine whether the sense of power and perceived information overload explain how individuals in different organisational positions experience stress. The findings revealed that individuals in leadership positions have a higher sense of power, leading to lower information overload perceptions and, consequently, reduced stress. Moreover, the sense of power has an important role in explaining this framework.

Considering these relevant findings and the critical responsibility of organisations to prevent their employees from feeling overloaded due to the outstanding amount of accessible information (Shahrzadi et al., 2024), this study found the importance of promoting a sense of control and power among employees to help them better handle the cognitive and emotional workplace challenges.

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## **Disclaimer**

During the development of this dissertation, Artificial Intelligence was utilised to enhance the clarity and coherence of the text. Specifically, Artificial Intelligence tools were only employed to summarise, rephrase or refine and were never a replacement for original thought and critical analysis.

## Appendix

### Appendix 1: Survey

---

#### Start of Block: Presentation and Consent

Welcome and thank you for considering participating in this questionnaire.

I, Marta Henriques, am conducting this questionnaire as part of my Master's Dissertation at Católica Lisbon School of Business and Economics, under the supervision of Professor Filipa de Almeida. This study involves answering a set of questions and should take approximately 5 minutes to complete. The objective is to gain a better understanding of the effects of information overload on decision-making.

Your participation will contribute to research on information overload, decision-making, stress, and power. We kindly ask you to answer as honestly as possible.

All responses will be kept strictly confidential and anonymous. This means that it will not be possible to link your answers to your identity. The data collected will be used exclusively for research purposes and may be presented in my dissertation or published in academic journals, always in an aggregated form, never with reference to individual responses.

We kindly ask you to complete the study in one sitting, without interruptions.

You may reconsider your participation at any time and withdraw from the study during its completion.

If you have any questions about this study, please send an email to:

s-mmchenriques@ucp.pt

By continuing you agree to participate.

Thank you!

#### End of Block: Presentation and Consent

---

#### Start of Block: Demographics

Gender:

What is your gender?

Female (1)

Male (2)

Other (3)

Age:

What is your age?

---

---

Nationality:

What is your nationality?

- Portuguese (1)
  - Other (Please specify) (2) \_\_\_\_\_
- 

Education:

What is your highest level of education?

- 4th Year (1)
  - 9th Year (2)
  - High School (3)
  - Bachelor's Degree (4)
  - Postgraduate Degree (5)
  - Master's Degree (6)
  - MBA (7)
  - PhD (8)
- 

Experience Y/N:

Do you have professional experience?

- Yes (1)
  - No (2)
- 

Experience:

How many years of professional experience do you have? (If you are unsure of the exact number, please provide an approximate value.)

\_\_\_\_\_

---

**Leadership Experience:**

How many years of experience do you have in leadership positions?

(If you are unsure of the exact number, please provide an approximate value. If you have no leadership experience, please enter "0.")

---

**End of Block: Demographics**

---

**Start of Block: Firm information**

In which sector does the organization you work for operate? (Please select the closest option.)

- Public Administration (1)
- Law (14)
- Commerce/Retail (2)
- Construction (3)
- Consulting (4)
- Education (5)
- Energy (6)
- Finance/Banking/Insurance (7)
- Industry/Manufacturing (8)
- Healthcare (9)
- Technology (10)
- Transport/Logistics (11)
- Tourism/Hospitality (12)
- Other (13) \_\_\_\_\_

---

**Position:**

What is your current position in the company?  
(Please select the option that best applies.)

- Top Management (1)
  - Middle Management (2)
  - Supervisory Role (3)
  - Non-Supervisory Role (4)
- 

**Company Size:**

How many employees does the company you work for have?

- Less than 10 (1)
  - Between 10 and 49 (2)
  - Between 50 and 249 (3)
  - More than 250 (4)
- 

**Business Volume:**

What is the company's annual revenue?

- Less than 2 million euros (1)
- Between 2 and 10 million euros (2)
- Between 10 and 50 million euros (3)
- More than 50 million euros (4)

**End of Block: Firm information**

---

**Start of Block: Stress**

The questions in this scale refer to your feelings and thoughts over the past month. Please use the following scale to rate the presented items, considering your professional context.

	Never (1)	Very Rarely (2)	Rarely (3)	Sometimes (4)	Often (5)	Very often (6)	Always (7)
In the last month, how often have you been upset because of something that happened unexpectedly at work? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt that you were unable to control important things at work? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt nervous and "stressed" at work? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you dealt successfully with irritating work hassles? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt that you were effectively coping with important work changes that were occurring? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt confident about your ability to handle your organisational problems? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt that things were going your way? (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you found that you could not cope with all the things that you had to do? (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you been able to control your work irritations? (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt that you were on top of things? (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you been angered because of things that happened that were outside of your control? (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you found yourself thinking about things that you have to accomplish? (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you been able to control the way you spend your time? (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: Stress**

**Start of Block: Power**

Please rate the degree of agreement with the following statements, considering your relationship with your colleagues.

*"In my relationship with my colleagues..."*

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Disagree (7)
I can get them to listen to what I say. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wishes do not carry much weight. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get them to do what I want. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if I voice them, my views have little sway. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I have a great deal of power. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ideas and opinions are often ignored. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I try, I am not able to get my way. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to, I get to make the decisions. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: Power**

**Start of Block: Information Overload**

Please use the following scale to rate your agreement with the presented items.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Disagree (7)
I am often distracted by the excessive amount of information available to me for business decision-making. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find that I am overwhelmed by the amount of information I have to process on a daily basis. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Usually, my problem is with too much information to synthesize instead of not having enough information to make decisions. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**End of Block: Information Overload**

**Start of Block: Debriefing**

Thank you for your participation in this study!

This study aims to investigate how the perception of information overload in organisations influences workplace stress while considering the sense of power.

**End of Block: Debriefing**

## Appendix 2: Population Statistics

**Statistics**

	Leader	Qual é o seu género?	Qual é a sua nacionalidade? - Selected Choice	Qual é o seu nível de escolaridade?	Em que setor opera a organização em que trabalha? (Selecione a opção mais próxima) - Selected Choice	Qual é a sua posição atual na empresa onde trabalha? (Selecione a opção que mais se adequa)	Quantos trabalhadores tem a empresa onde trabalha?	Qual é o volume anual de negócios da empresa onde trabalha?
N	Valid 202	202	202	202	202	202	202	202
	Missing 0	0	0	0	0	0	0	0
Mode	1	1	1	6	4	4	4	4
Minimum	0	1	1	3	1	1	1	1
Maximum	1	2	1	8	14	4	4	4

### Frequency Table

**Leader**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non Leader	92	45.5	45.5	45.5
	Leader	110	54.5	54.5	100.0
	Total	202	100.0	100.0	

**Qual é o seu género?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Feminino	105	52.0	52.0	52.0
	Masculino	97	48.0	48.0	100.0
	Total	202	100.0	100.0	

### Qual é a sua nacionalidade? - Selected Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Portuguesa	202	100.0	100.0	100.0

### Qual é o seu nível de escolaridade?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ensino Secundário	5	2.5	2.5	2.5
	Licenciatura	57	28.2	28.2	30.7
	Pós graduação	36	17.8	17.8	48.5
	Mestrado	79	39.1	39.1	87.6
	MBA	14	6.9	6.9	94.6
	Doutoramento	11	5.4	5.4	100.0
	Total	202	100.0	100.0	

### Em que setor opera a organização em que trabalha? (Selecione a opção mais próxima) - Selected Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Administração Pública	5	2.5	2.5	2.5
	Comércio/Retalho	9	4.5	4.5	6.9
	Construção	6	3.0	3.0	9.9
	Consultoria	38	18.8	18.8	28.7
	Educação	12	5.9	5.9	34.7
	Energia/Ambiente	12	5.9	5.9	40.6
	Financeiro/Bancário/Seguros	35	17.3	17.3	57.9
	Indústria/Produção	5	2.5	2.5	60.4
	Saúde	9	4.5	4.5	64.9
	Tecnologia	32	15.8	15.8	80.7
	Transportes/Logística	6	3.0	3.0	83.7
	Turismo/Hotelaria	5	2.5	2.5	86.1
	Outro	13	6.4	6.4	92.6
	Advocacia	15	7.4	7.4	100.0
	Total	202	100.0	100.0	

### Qual é a sua posição atual na empresa onde trabalha? (Selecione a opção que mais se adequa)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gestão de Topo	57	28.2	28.2	28.2
	Gestão Intermédia	38	18.8	18.8	47.0
	Supervisão	15	7.4	7.4	54.5
	Sem função de supervisão	92	45.5	45.5	100.0
	Total	202	100.0	100.0	

**Quantos trabalhadores tem a empresa onde trabalha?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Menos de 10	17	8.4	8.4	8.4
	Entre 10 e 49	28	13.9	13.9	22.3
	Entre 50 e 249	44	21.8	21.8	44.1
	Mais de 250	113	55.9	55.9	100.0
	Total	202	100.0	100.0	

**Qual é o volume anual de negócios da empresa onde trabalha?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Menos de 2 milhões de euros	27	13.4	13.4	13.4
	Entre 2 e 10 milhões de euros	30	14.9	14.9	28.2
	Entre 10 e 50 milhões de euros	38	18.8	18.8	47.0
	Mais de 50 milhões de euros	107	53.0	53.0	100.0
	Total	202	100.0	100.0	

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Qual é a sua idade?	202	19	66	40.11	15.587
Quantos anos tem de experiência profissional? (Se não souber exatamente, coloque, por favor, um valor aproximado)	202	1	45	17.00	14.818
Quantos anos de experiência tem em cargos de liderança? (Se não souber exatamente, coloque, por favor, um valor aproximado. Se não tiver experiência em cargos de liderança, por favor, coloque "0")	202	0	40	9.03	11.278
Valid N (listwise)	202				

**Appendix 3: Reliability Analysis**

**Appendix 3.1. Perceived Stress Scale**

**Reliability**

**Scale: ALL VARIABLES**

**Case Processing Summary**

		N	%
Cases	Valid	202	100.0
	Excluded <sup>a</sup>	0	.0
	Total	202	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.898	14

## Appendix 3.2. Sense of Power Scale

### Reliability

Scale: ALL VARIABLES

#### Case Processing Summary

		N	%
Cases	Valid	202	100.0
	Excluded <sup>a</sup>	0	.0
	Total	202	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.934	8

## Appendix 3.3. Perceived Information Overload

### Reliability

Scale: ALL VARIABLES

#### Case Processing Summary

		N	%
Cases	Valid	202	100.0
	Excluded <sup>a</sup>	0	.0
	Total	202	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.872	3

## Appendix 4: Scales: Descriptive statistics

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Perceived Stress Scale	202	21.00	75.00	50.5198	11.78379
Sense of Power Scale	202	1.38	6.75	4.5340	1.38421
Information Overload	202	1.00	7.00	4.3812	1.29907
Valid N (listwise)	202				

### Leader

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non Leader	92	45.5	45.5	45.5
	Leader	110	54.5	54.5	100.0
	Total	202	100.0	100.0	

## Appendix 5: Correlations

		Correlations			
		Perceived Stress Scale	Sense of Power Scale	Information Overload	Leader
Perceived Stress Scale	Pearson Correlation	1	-.707**	.639**	-.390**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	202	202	202	202
Sense of Power Scale	Pearson Correlation	-.707**	1	-.501**	.632**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	202	202	202	202
Information Overload	Pearson Correlation	.639**	-.501**	1	-.214**
	Sig. (2-tailed)	<.001	<.001		.002
	N	202	202	202	202
Leader	Pearson Correlation	-.390**	.632**	-.214**	1
	Sig. (2-tailed)	<.001	<.001	.002	
	N	202	202	202	202

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Appendix 6: Independent Samples T-Test

### T-Test

#### Group Statistics

	Leader	N	Mean	Std. Deviation	Std. Error Mean
Perceived Stress Scale	Non Leader	92	55.5326	11.66233	1.21588
	Leader	110	46.3273	10.17652	.97029
Sense of Power Scale	Non Leader	92	3.5802	1.29342	.13485
	Leader	110	5.3318	.85225	.08126
Information Overload	Non Leader	92	4.6848	1.31058	.13664
	Leader	110	4.1273	1.23900	.11813

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Perceived Stress Scale	Equal variances assumed	2.124	.147	5.990	200	<.001	<.001	9.20534	1.53683	6.17487	12.23580
	Equal variances not assumed			5.918	182.139	<.001	<.001	9.20534	1.55558	6.13606	12.27462
Sense of Power Scale	Equal variances assumed	39.075	<.001	-11.526	200	<.001	<.001	-1.75166	.15197	-2.05132	-1.45199
	Equal variances not assumed			-11.126	152.319	<.001	<.001	-1.75166	.15744	-2.06270	-1.44061
Information Overload	Equal variances assumed	.195	.659	3.102	200	.001	.002	.55751	.17972	.20312	.91190
	Equal variances not assumed			3.087	189.496	.001	.002	.55751	.18063	.20122	.91380

#### Independent Samples Effect Sizes

		Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval	
				Lower	Upper
Perceived Stress Scale	Cohen's d	10.87776	.846	.556	1.134
	Hedges' correction	10.91876	.843	.554	1.130
	Glass's delta	10.17652	.905	.601	1.205
Sense of Power Scale	Cohen's d	1.07566	-1.628	-1.946	-1.307
	Hedges' correction	1.07971	-1.622	-1.939	-1.302
	Glass's delta	.85225	-2.055	-2.441	-1.664
Information Overload	Cohen's d	1.27207	.438	.158	.718
	Hedges' correction	1.27687	.437	.157	.715
	Glass's delta	1.23900	.450	.166	.732

a. The denominator used in estimating the effect sizes.  
Cohen's d uses the pooled standard deviation.  
Hedges' correction uses the pooled standard deviation, plus a correction factor.  
Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

## Appendix 7: PROCESS Output

## Appendix 7.1. Model 6

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)  
 Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 6  
 Y : PSS  
 X : Leader  
 M1 : SPS  
 M2 : IO

Sample  
 Size: 202

\*\*\*\*\*

OUTCOME VARIABLE:  
 SPS

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.6318	.3991	1.1570	132.8557	1.0000	200.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.5802	.1121	31.9245	.0000	3.3590	3.8013
Leader	1.7517	.1520	11.5263	.0000	1.4520	2.0513

\*\*\*\*\*

OUTCOME VARIABLE:  
 IO

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.5178	.2681	1.2475	36.4518	2.0000	199.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.7281	.2875	23.4016	.0000	6.1611	7.2950
Leader	.4422	.2036	2.1722	.0310	.0408	.8437
SPS	-.5707	.0734	-7.7731	.0000	-.7155	-.4259

\*\*\*\*\*

OUTCOME VARIABLE:  
 PSS

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.7799	.6082	55.2292	102.4520	3.0000	198.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	55.9415	3.7054	15.0973	.0000	48.6344	63.2486
Leader	.7112	1.3705	.5190	.6044	-1.9914	3.4138
SPS	-4.5760	.5578	-8.2038	.0000	-5.6760	-3.4760
IO	3.4098	.4717	7.2292	.0000	2.4796	4.3399

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.7112	1.3705	.5190	.6044	-1.9914	3.4138

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
TOTAL	-9.9166	1.6326	-13.2609 -6.8260
Ind1	-8.0156	1.5207	-11.1861 -5.2806
Ind2	1.5078	.8415	-.0644 3.2130

Ind3 -3.4088 .7905 -5.0883 -1.9817

Indirect effect key:

Ind1 Leader -> SPS -> PSS  
Ind2 Leader -> IO -> PSS  
Ind3 Leader -> SPS -> IO -> PSS

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

----- END MATRIX -----

## Appendix 7.2. Model 4

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)  
Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 4  
Y : IO  
X : Leader  
M : SPS

Sample  
Size: 202

\*\*\*\*\*

OUTCOME VARIABLE:  
SPS

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6318	.3991	1.1570	132.8557	1.0000	200.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.5802	.1121	31.9245	.0000	3.3590	3.8013
Leader	1.7517	.1520	11.5263	.0000	1.4520	2.0513

\*\*\*\*\*

OUTCOME VARIABLE:  
IO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5178	.2681	1.2475	36.4518	2.0000	199.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.7281	.2875	23.4016	.0000	6.1611	7.2950
Leader	.4422	.2036	2.1722	.0310	.0408	.8437
SPS	-.5707	.0734	-7.7731	.0000	-.7155	-.4259

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
Leader	.2036	2.1722	.0310	.0408	.8437

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
SPS	-.9997	.1811	-1.3792	-.6693

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

----- END MATRIX -----