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**EMPOWERING LEADERSHIP AND PSYCHOLOGICAL
EMPOWERMENT: AN EMPIRICAL RESEARCH USING
FUZZY-SET QUALITATIVE COMPARATIVE ANALYSIS**

**Dissertação no âmbito do Erasmus Mundus Joint Master's degree in Work,
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Empowering leadership and psychological empowerment: An empirical research using fuzzy-set qualitative comparative analysis

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“Para ser grande, sê inteiro: nada

Teu exagera ou exclui.

Sê todo em cada coisa. Põe quanto és

No mínimo que fazes.

Assim em cada lago a lua toda

Brilha, porque alta vive”

Ricardo Reis, Odes

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Abstract

This study aims to identify necessary and sufficient conditions in terms of empowering leadership (EL) dimensions for a given outcome to occur in terms of psychological empowerment (PE) dimensions. EL's dimensions were *leading by example, coaching, informing, showing concern/interacting with the team* and *participative decision-making*. PE's dimensions considered were *meaning, competence, self-determination, and impact*. Fuzzy-set qualitative comparative analysis (fsQCA) is used to identify and evaluate these necessary and sufficient conditions that apply only in subgroups of the total sample. To deepen the understanding of the relationship between both constructs, different psychological mechanisms were identified. In the sample of N= 109 (65 females), the results of the global and gender analysis revealed important differences. For necessary conditions, the global analysis presented results just for the outcome competence. Gender analysis showed differences for women and men: the results for the outcome competence appeared for both, but the results for the outcome meaning, self-determination and impact occurred just for men. For sufficient conditions, the global analysis presented results in all outcomes. Gender analysis showed that the outcomes meaning, competence and self-determination appeared for both genders, however, results for the outcome impact emerged just for men. For the most important combinations of sufficient conditions, this dimension promoted PE just for men and not for women. Analyzing age differences for global and gender analysis, both necessary and sufficient conditions showed results on the outcomes competence and impact. In general, the results show how important it is to consider the different psychological processes leading to psychological empowerment.

Keywords: empowering leadership; psychological empowerment; fuzzy sets qualitative comparative analysis

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Introduction

Since the emergence of the term leader, in mid-1300 and the term leadership in the first half of the nineteenth century in the British Parliament, numerous works on leadership have been undertaken, levels of analysis addressed, and theoretical and methodological guidelines followed (Jago, 1982; Schriesheim & Neider, 1989; Yukl, 1989). Despite the diversity of definitions of the leader's role (Jago, 1982), leadership is generally defined as a process of influencing others (Yukl, 2010), the work environment, and the way subordinates view their work (Christian et al., 2011). This interaction process aims at a common goal between leaders and followers (Jago, 1982).

The concepts of empowering leadership and psychological empowerment derive and include the history of empowerment. In the late 1980s, empowerment appeared and gained popularity after a comparative study between old, patriarchal management with the new, empowered management (Forrester, 2000). As the author states, "Empowerment is about power and enhancing it" (Forrester, 2000, p.67), and having power helps in having feelings of self-efficacy. Some authors categorize empowerment through three approaches, such as Kuokkanen and Leino-Kilpi (2000) - leadership empowerment, structural empowerment ("socio-structural" or "contextual"), and psychological empowerment - and others categorize it only by two approaches (the socio-structural and the psychological). In general, the organizational field studies empowerment by the social-structural (macro-perspective) and psychological approach (micro-perspective) (Spreitzer, 1995; Spreitzer, 1996).

The socio-structural approach involves empowering subordinates through interventions and practices of organizations, leaders, and managers (Amundsen & Martinsen, 2015), and therefore comprises empowering leadership. The psychological approach to empowerment is defined as a process of reinforcing self-efficacy feelings in subordinates through formal organizational practices (socio-structural empowerment) and informal

systems. Both identify conditions that foster powerlessness and eliminate them, providing information about effectiveness (Conger & Kanungo, 1988). It can be expected that when employees feel psychologically empowered, they will produce an intrinsic motivation to work optimally (Syahrul, 2020).

Meanwhile, the new world scenario is challenging for leaders because of the constant changes with globalization, the changing technologies, and the increasing costs (Murphy, 2002). Flexibility and adaptability are necessary for the organization to survive over time (Knezovic & Musrati, 2018). The leader's role is becoming more challenging as they need to face new demands such as layoffs, downsizing, and work schedule changes (Sparks et al., 2001). Following that, leaders' roles are changing from more directive to more participatory and motivating (Knezovic & Musrati, 2018). Thus, companies have replaced the traditional hierarchical management structures with empowered work teams (Arnold et al., 2000, p. 249). In the last three decades, empowerment interventions and practices have emerged as important promoters of constructive attitudes and behaviors among subordinates (Amundsen & Martinsen, 2015). Furthermore, leaders who positively influence employees' attitudes and behaviors through an effective empowerment process in the organizational environment are essential (Syahrul, 2020).

In this scenario, empowering leadership could be addressed in the organizational field as a desirable style of leadership that apparently gives influence to subordinates in the way of motivational and development support, focusing on the independence of employees (Syahrul, 2020). Due to the impact of this leadership style on subordinates, it has already been related to several variables in previous studies, one of them being psychological empowerment. Psychological empowerment is described by Spreitzer (1995) as a motivational construct manifested in four cognitions combined to create an overall construct: *meaning, competence,*

self-determination, and *impact*. When psychologically empowered, individuals feel capable of shaping their work role and context (Spreitzer, 1995).

In previous studies, many authors have found empirical results that support that empowering leadership (EL) influences psychological empowerment (PE) among employees (Ahmed et al., 2017; Alotaibi et al., 2020; Amundsen & Martinsen, 2015; Atik & Celik, 2020; Bester et al., 2015; Fong & Snape, 2015; Kundu et al., 2019; Thomas & Rahschulte, 2018; Zhang & Bartol, 2010). However, they identified only general patterns of relationship between EL and PE, relating these variables with other organizational outcomes. Thus, this study's theoretical-conceptual contribution identifies specific patterns of relations between both variables through which dimensions of EL are necessary and/or sufficient conditions to generate the PE of employees, and in which cognitive dimensions.

Amundsen and Martinsen (2015) stated that although empowering leadership is associated with important results in organizations, the mechanisms by which it takes place are less clear. Thus, another theoretical contribution of this study will be the interpretation of the different psychological mechanisms identified from the dimensions of empowering leadership. When identified, they may contribute to new critical reflections on the relationship between EL and PE, as well as provide clues for new lines of research to be developed in the future.

Therefore, our study seeks to identify necessary and sufficient conditions in terms of empowering leadership dimensions for a given outcome to occur in terms of psychological empowerment dimensions. EL dimensions considered are *leading by example*, *participative decision-making*, *coaching*, *informing*, and *showing concern/interacting with the team*. PE dimensions considered are *meaning*, *competence*, *self-determination*, and *impact*. Fuzzy-set qualitative comparative analysis (fsQCA) is the data analysis technique used to identify and evaluate these necessary and sufficient conditions that apply only in subgroups of the total

sample. It is also expected that the dimensions of empowering leadership will allow the identification of different psychological mechanisms underlying the results. These mechanisms intend to deepen the understanding of the relationships between EL and PE dimensions and show what possible explanations can exist for the specific subgroups' results.

Furthermore, fsQCA brings an added value to the study by identifying which are the necessary and sufficient conditions for a specific result to occur, being that different processes may be involved in the manifestation of the same outcome. This technique was developed by the social scientist Professor Charles C. Ragin (2006) and seeks to establish logical connections between combinations of causal conditions and an outcome. Ragin (2006) states that with fuzzy-sets, a theory could be evaluated on its own terms, and not as usually, using standard linear correlations techniques (e.g., multiple regression analysis). Accordingly, set-theoretic approaches were recognized, and their relations became relevant to theory (Ragin, 2006). Throughout our study, new insights will be offered concerning qualitative analysis on empowering leadership and psychological empowerment in organizational settings.

Empowering leadership

There are typically two ways of defining empowering leadership: the behaviors of formal leaders and a power-sharing process by formal leaders, accounting more for its motivational effects (Sharma & Kirkman, 2015). Formal leaders' behaviors include encouraging subordinates to express opinions and ideas, supporting information sharing and teamwork, and promoting collaborative decision-making (Arnold et al., 2000; Burke et al., 2006). As a process of sharing power, these formal leaders delegate authority and responsibility to subordinates, enhancing employees' individuals' and teams' autonomy and the investment in their work (Amundsen & Martinsen, 2014a; Burke, 1986; Conger &

Kanungo, 1988; Thomas & Velthouse, 1990). This leadership style provides discretion, control, decision-making latitude (Albrecht & Andreetta, 2011), and self-efficacy feelings to subordinates (Amundsen & Martinsen, 2014).

This study will address the two definitions of EL, the leaders' behaviors and the power-sharing process, as the primary aspect of this leadership style is "leading others to lead themselves" (Manz & Sims, 2001, p. 4). Spreitzer (1995) also argues that empowering leadership is a motivator that helps hierarchical supervisors energize, direct, and sustain subordinates' specific behaviors to pursue organizational performance. Leaders that actively encourage employees allow them to develop adequate motivation to work autonomously (Amundsen & Martinsen, 2014a).

The literature has definitions for different leadership styles, and empowering leadership shares similarities and differences with other leadership constructs such as delegation, participative leadership, leader-member exchange (LMX) and transformational leadership (Amundsen & Martinsen, 2014b; Sharma & Kirkman, 2015). Table one shows the similarities and differences between empowering leadership and these other leadership constructs.

Table 1

Similarities and Differences between Leadership styles and Empowering leadership

| <i>Leadership styles</i> | <i>Similarities with Empowering leadership</i> | <i>Differences with Empowering leadership</i> |
|--------------------------|--|--|
| Delegation | Encourages subordinate decision-making authority and autonomy (Sharma & Kirkman, 2015) | A broader motivational influence is set beyond decision-making in EL as it encourages and enhances employees' confidence and personal control cognitively and behaviorally (Manz & Sims, 1987) |

| | | |
|-------------------------------------|---|--|
| Participative Leadership | Uses employee input in the decision-making of the leaders (Sharma & Kirkman, 2015) | More broadly, with EL, the employees make their own decisions and not just influence the leaders' decisions (Ahearne et al., 2005) |
| Leader-member exchange (LMX) | Is a dyadic relationship shared by a supervisor and the subordinate focused on this relationship's quality (Sharma & Kirkman, 2015) | EL goes beyond the quality of exchange relationships and instead wants to build employees' confidence, autonomy, and control in the organizational environment (Sharma & Kirkman, 2015) |
| Transformational Leadership | A leader who encourages subordinates' self-development and the satisfaction of their needs (Bass et al., 1987) | Transformational leaders may not transfer much power to subordinates, unlike EL, conceptualized for its motivational effects as a power-sharing process by formal leaders (Conger & Kanungo, 1988; Sharma & Kirkman, 2015; Thomas & Velthouse, 1990) |

According to Amundsen and Martinsen (2015), supporting the autonomy of subordinates is a central aspect of EL since empowering is more about giving influence to employees than influencing them, with several studies sharing this same vision (Amundsen & Martinsen, 2014a; Amundsen & Martinsen, 2015; Manz & Sims, 2001). Besides, empowering leaders assign greater responsibility to members and encourage this accountability among them (Arnold et al., 2000). Manz and Sims (2001) show that subordinates develop less dependence on this type of leadership than on other types (e.g., directive, transactional and transformational). As empowering leadership is more clearly focused on empowerment, this connection tends to be stronger and more significant contributor than these other leadership styles (Amundsen & Martinsen, 2014a; Fong & Snape, 2015).

More than 50 empirical studies showed the importance of studying empowering leadership and its positive outcomes fostered in the organizational environment (Sharma & Kirkman, 2015). Since EL can be addressed individually or to team members, the studies that examined the influence of this leadership style on employee attitudes and behaviors analyzed it at an individual level, team-level or cross-level (team to individual) (Chen et al., 2011; Fong & Snape, 2015; Srivastava et al., 2006; Zhang & Bartol, 2010).

Table two synthesizes some of these empirical studies and the outcomes fostered by empowering leadership in the organizational environment.

Table 2

Empowering leadership: levels of analysis and empirical studies

| <i>Empowering leadership: levels of analysis</i> | <i>Focus of analysis</i> | <i>Empirical studies</i> |
|--|---|--|
| Individual level | | <i>1.1</i> Positive association between EL and job performance (Ahearne et al., 2005; Kundu et al., 2019) |
| | | <i>1.2</i> Positive association between EL and employee creativity (Amundsen & Martinsen, 2015; Knezovic & Musrati, 2018; Zhang & Bartol, 2010) |
| | | <i>1.3</i> Empowering leadership had a significant direct effect on in-role work behaviors (i.e., service behavior) and affiliative extra-role behaviors (i.e., helping) (Raub & Robert, 2010) |
| | Employees' attitudes and behaviors (Sharma & Kirkman, 2015) | <i>1.4</i> Empowering leadership attenuated the levels of perceived stress and positively impacted employees' general mental health (Tripathi & Bharadwaja, 2020) |

Team level

Performance outcomes
(Stewart et al., 2011)

1.1 Empowering leadership was positively associated with team performance and improved group knowledge sharing through guidance and coaching (Srivastava et al., 2006)

These studies also show that in this kind of leadership, leaders' sharing of power increases employees' intrinsic motivation to work adequately on organizational goals (Syahrul, 2020). Thus, results suggest that "empowering leadership is an effective leadership style for many employees and organizational settings" (Sharma & Kirkman, 2015, p.199). As follows, it is possible to conclude that EL is a desirable leadership style (Atik & Celik, 2020).

In a model developed by Arnold et al. (2000) that focuses on the promotion and development of workers, empowering leadership is seen as a multidimensional concept comprising five dimensions – leading by example, coaching, informing, showing concern/ interacting with the team, and participative decision-making. These dimensions, which will be addressed in this study, are included in the scale of 15 items developed by the author (Arnold et al., 2000).

The dimension leading by example can be defined through exemplary behaviors of empowering leaders who show their commitment to their work and employees' work, raising performance standards through their behavior. Coaching can be defined as a set of behaviors of the leader to support and teach employees how to become self-sufficient and solve complex tasks that may arise in the organizational environment. Informing refers to sharing specific information about the organization, such as explaining the expectations and rules for subordinates in an individual or a team way. Showing concern/ interacting with the team reflects a set of behaviors on the part of leaders about consideration for workers' well-being

and circumstances in general, such as showing interest in members' success. The last dimension, participation in the decision-making process, concerns a leader who provides opportunities for employees to express opinions and values, incorporating their ideas into decision-making processes of the organization (Hon, 2011; Zhou et al., 2018).

According to Zhang and Bartol (2010), there are strong conceptual connections between empowering leaders' actions and the four cognitions of psychological empowerment: meaning, competence, self-determination, and impact. As empowering leaders show employees how their contributions are important to organizational effectiveness, their meaningfulness tends to be enhanced. The leaders can also express confidence in the competence of an employee for high performance. As leaders encourage the individual for autonomy, they provide prospects for self-determination. Lastly, with empowering leaders providing participation into the decision-making process, the employees feel that they have control over work situations, and their behaviors impact the organization itself (Zhang & Bartol, 2010).

Hence, the label empowerment clearly points out the goals of this leadership, which is to generate specific empowering reactions in subordinates through leaders' empowering actions (Amundsen & Martinsen, 2013). Consequently, in this empowering leadership scenario workers can experience psychological empowerment (Bartram et al., 2014), which will be discussed in the next section.

Psychological Empowerment

Conger and Kanungo (1988) defined the concept of empowerment, in terms of the motivational process in workers. According to them, delegating and sharing resources are conditions that do not necessarily empower the subordinates (Conger & Kanungo, 1988). Thus, it may not be enough for leaders to provide formal autonomy, as subordinates must also

develop an adequate motivation to work autonomously (Amundsen & Martinsen, 2013). So, empowering leadership alone may not be enough for these authors at that time.

Moreover, further expanding this approach, Thomas and Velthouse (1990) developed a complex cognitive model differentiated from Conger and Kanungo in three ways. First, they define empowerment in terms of intrinsic task motivation. Second, they explain intrinsic task motivation involving positive valued experiences by an individual directly related to the task that promotes motivation and satisfaction. Third, they describe the task assessments and the basis for worker empowerment, which are the key cognitions – meaningfulness, competence, choice, and impact. Fourth, they capture the interpretative process that allows workers to arrive at those task assessments. The authors considered individual differences in the interpretative process, as individuals subjectively interpret reality, influencing the task assessments (Thomas & Velthouse, 1990). Furthermore, with a new paradigm focusing on the internalized commitment to the task itself, the cognitions "are presumed to be the proximal cause of intrinsic task motivation and satisfaction" (Thomas & Velthouse, 1990, p. 668).

Drawing on these previous authors, Spreitzer (1995) describes psychological empowerment as a motivational construct that manifests itself in four cognitions - meaning, competence, self-determination, and impact - combined to create an overall construct. These cognitions together reflect an active orientation to a work role, when "an individual wishes and feels able to shape his or her work role and context" (Spreitzer, 1995, p.1444). *Meaning* can be defined by the collaborators' subjective evaluation of their work's relevance and their feeling of intrinsic pleasure about it. *Competence* encompasses the belief in personal ability to perform work tasks, promoting feelings of effectiveness. *Self-determination* can be defined as the autonomy and freedom of individual responsibilities and initiatives in how one acts concerning the tasks performed, providing a sense of control over them. The author's last dimension, *impact*, is characterized by the employees' perception of their influence on the

organization's specific outcomes, as a contribution, administratively or strategically (Spreitzer, 1995).

Empowerment is much more than sharing power, control, and promoting self-efficacy feelings; it is knowing how to inspire employees to develop an intrinsic motivation for the task (Bester et al., 2015). Accordingly, psychological empowerment relates to employees' perceptions and cognitive processes that occur once EL/ or structural empowerment is successfully implemented (Fong & Snape 2013; Spreitzer, 1995).

At the individual level, psychological empowerment is analyzed through the integration of the supervisor's behavior and the psychological state of the subordinate. Previous studies at this level showed that psychological empowerment positively predicted several variables: job satisfaction (Amundsen & Martinsen, 2015; Atik & Celik, 2020), job performance (Kundu et al., 2019), and creativity (Knezovic & Musrati, 2018). Atik and Celik (2020) found a variable added to psychological empowerment in the significant predictors of job satisfaction: trust in the leader. As the authors also stated, factors such as having a meaningful job, a feeling of effectiveness, and the perception of autonomy and competence were directly related to PE (Atik & Celik, 2020). Psychological empowerment and intrinsic motivation also mediated the relationship between leadership and performance outcomes (Ahearne et al., 2005; Srivastava et al., 2006; Zhang & Bartol, 2010).

Thus, the psychological empowerment approach as a motivational process enabled several positive organizational results, as described above. Moreover, according to Thomas and Velthouse (1990), it allows researchers to study the various effects of empowerment due to different interventions in the organizational environment. Therefore, there are strong practical connections between the socio-structural approach of empowerment that comprises EL, and the psychological approach of empowerment which includes PE. As mentioned in the section introduction, many previous studies have found empirical results that support that

empowering leadership (EL) has a relationship with psychological empowerment (PE) in organizational settings, leading to several outcomes that will be approached in the next section (Ahmed et al., 2017; Alotaibi et al., 2020; Amalia & Handoyo, 2018; Amundsen & Martinsen, 2015; Atik & Celik, 2020; Auh et al., 2014; Bester et al., 2015; Chen et al., 2011; Fong & Snape, 2015; Konczak et al., 2000; Kundu et al., 2019; Raub & Robert, 2010; Syahrul, 2020; Thomas & Rahschulte, 2018; Ul Haq et al., 2019; Zhang & Bartol, 2010; Zhu et al., 2019).

Empirical studies

Previous empirical evidence showed a positive association between EL and PE, sometimes PE being the outcome of EL, and other times PE mediating the relationships between EL and other organizational outcomes. The results that show that EL fosters psychological empowerment of employees can also be found in several cultures.

Table three characterizes the literature found about the associations between EL and PE with other organizational outcomes, also in different cultural contexts.

Table 3

Relationship between EL, PE and other organizational outcomes in different cultural contexts

| <i>Empirical studies</i> | <i>Relationship between EL, PE and organizational outcomes</i> | <i>Cultural context</i> |
|--------------------------|---|-------------------------------------|
| Konczak et al. (2000) | Psychological empowerment mediated the relationship between EL and job satisfaction and organizational commitment. | United States |
| Raub and Robert (2010) | Psychological empowerment mediated the effect of empowering leadership in challenging extra-role behaviors (i.e., service improvement). This relationship was also moderated by power values. | Middle Eastern and Asian countries. |

| | | |
|-------------------------------|--|--|
| Zhang and Bartol (2010) | EL positively affected PE, with empowerment role identity moderating the relationship between both constructs. | China |
| Chen et al. (2011) | EL significantly and positively predicted psychological empowerment. PE also mediated the relationship between EL and teamwork behavior, innovative behavior, and turnover intentions. | United States and People's Republic of China |
| Auh et al. (2014) | PE partially mediated the relationship between EL and citizenship behaviors | South Korea |
| Fong and Snape (2015) | EL was associated with PE at both the individual and group levels Individual level: PE mediated the relationship between empowering leadership and job satisfaction, organizational commitment, IRBs (in-role behaviors), and OCBI (organizational citizenship behaviors) Group level: psychological empowerment mediated the relationship between EL and job satisfaction and IRB (in-role behaviors) | China |
| Bester et al. (2015) | Empowering leaders' behaviors (ELBs) in conjunction with PE were predictor variables of organizational citizenship behavior (OCB). Moreover, ELBs, PE, and OCB together predicted turnover intentions | South Africa |
| Amundsen and Martinsen (2015) | EL affected PE directly and indirectly through self-leadership (SL), which operated as a mediating variable between both constructs | Norway |
| Ahmed et al. (2017) | Impact of EL on employees occurred when they perceived an increase in the levels of PE and SL. PE and self-leadership together with creative work involvement were mediators in the study, enhancing creativity among employees | n/a |
| Thomas and Rahschulte (2018) | EL had a significant positive effect on PE and SL in the African and American cultures analyzed, with power distance moderating these | Africa and America |

relationships

| | | |
|---|--|----------------------------------|
| Zhu et al. (2019); Amalia and Handoyo (2018) | Influence of EL on subordinates' innovative behavior in work through PE | China and Indonesia respectively |
| Shahab et al. (2019) | Empowering leaders' behaviors (ELBs) in conjunction with PE were predictor variables of organizational citizenship behavior (OCB) | Indonesia |
| Ul Haq et al. (2019) | Empowering leadership had a significant and positive effect on proactive behavior when partially mediated by PE. The study also showed that a higher leader-follower distance lowers the influence of EL | Pakistan |
| Kundu et al. (2019) | EL behaviors were effective in cultures like India (high power distance), as they had a positive influence and were significant predictors of PE and job performance | India |
| Atik and Celik (2020) | Empowering leaders' behaviors significantly and positively predicted confidence, perception of PE, and job satisfaction | Turkey |
| Alotaibi et al. (2020) | Employees who were stimulated by EL and had high emotional intelligence increased their PE and work engagement levels | Saudi Arabia |
| Syahrlul (2020) | PE partially mediated the relationship between EL and intrinsic motivation. EL had a positive and significant effect on intrinsic motivation, and individuals would produce this motivation to work if they feel psychologically empowered with the cognition's competence, self-determination, meaningfulness, and effect | Indonesia |
| Tripathi and Bharadwaja (2020) | When EL was positively related to PE in the workplace, these two constructs effectively predicted positive results in employees' health | India |

According to Thomas and Raehschulte (2018), there is empirical evidence that EL was a powerful and effective form of leadership that produces empowerment in diverse cultural contexts. Kundu et al. (2019) discovered the application of EL in cultures like India with a

higher power distance (non-exclusive to Western culture). According to the authors, it signifies that subordinates adopt these leaders' behavior as a reference point to help them adopt a similar type of empowering ideology. Accordingly, Bester et al. (2015) stated that EL behaviors should be implemented because they increase PE and OCB, decrease turnover intentions, and affect the organization's longevity.

Self-leadership (SL) is another variable that appears in relation with EL and PE in many empirical studies (Ahmed et al., 2017; Amundsen & Martinsen, 2015; Thomas & Rahschulte, 2018). Self-leadership are the strategies and skills to self-led, where the individuals influence themselves toward performance of motivating tasks, and the ones that are not motivating but need to be done. (Manz, 1986). Moreover, SL (the "do" state of empowerment) is a different concept from psychological empowerment (the "be" state of empowerment), but both are results of empowering leadership (Amundsen & Martinsen, 2014a). In fact, both constructs together measure the "true and complete state of follower empowerment" (Thomas & Raschulte, 2018, p. 6).

The findings above highlight the general patterns of the relationships between EL and PE with other organizational outcomes. It is rare, though, to find a study only associating and deepening the understanding between both constructs. As Zhang and Bartol (2010) stated, there is a need "to empirically test the specific connection between empowering leadership and psychological empowerment" (p. 119). It is also relevant to go further in analyzing differences in feeling psychologically empowered considering age and gender in the presence of empowering leaders' actions. Therefore, based on the previous literature, this study aims to expand and deepen the knowledge between the relationships of EL and PE dimensions. Hence, in the analysis of these relationships, differences in feeling psychologically empowered considering age and gender are also the focus of analysis.

Support for research questions

Although it is expected that EL positively influences PE, with literature research supporting this evidence, empowering leaders could empower employees in different ways, and this empowerment process could also be felt differently among them.

There is theoretical support that leaders can empower employees more or less depending on individual characteristics (Ahearne et al., 2005; Keller & Dansereau, 1995; Leana, 1986; Yukl & Fu, 1999). Leader-member exchange theory (LMX) gives some insight into these differences suggesting that leaders adjust their behaviors according to personal relationships, compatibility, and follower characteristics (Fong & Snape, 2015; Nielsen & Daniels, 2012). Yukl and Fu (1999) found that employees who were seen as competent had a good exchange relationship, and had a longer dyad tenure were characteristics that made managers delegate more to subordinates.

Concerning the differences in feeling empowered, previous evidence showed that individuals differ in the way of welcoming and seeing themselves as psychologically empowered in contexts of EL (Ahearne et al., 2005; Forrester, 2000; Zhang & Bartol, 2010). According to Zhang and Bartol (2010), these differences come from how employees view empowerment as a part of their role identities. The role identity theory addresses personal expectations in developing appropriate behaviors in roles, that are internalized by individuals as role identities serving as reference (self-view) (Burke, 1991; Zhang & Bartol, 2010). Hence, EL is more successful in causing cognitions of PE in individuals who feel empowerment as a role identity (Zhang & Bartol, 2010).

However, some employees show a personal view that they are not ready to take on more responsibilities or have other reasons for not wanting to take empowered roles (Forrester, 2000). In conclusion, some other psychological factors and situations differ

between individuals: competitiveness/ being helpful to another person, understanding things deeply before acting/ the need to move quickly, approval by others, social interaction, money, and artistic expression (Forrester, 2000). Subsequently, empowerment programs should differentiate among employees (not systems) because of the reality of how they, as different individuals, feel about taking this power, if they want it or not, and if they have the skills for it (Forrester, 2000). "In fact, selective empowerment is not destructive" (Forrester, 2000, p. 70).

The constructs of EL and PE were also studied in gender differences. Kanter's (1977) early observations found that women were given little power in organizations, and thus did not feel psychologically empowered. Accordingly, the literature showed differences between males and females regarding motivation and desire for power (Gino et al., 2015; Schuh et al., 2014). Studies showed that women considered high-powered roles less desirable compared to men (Gino et al., 2015), reporting lower power motivation (Schuh et al., 2014). However, as values are changing in the work system, women are taking more equal roles in organizational settings. Studies also revealed that female employees value empowering leaders more than men (Knezovic & Musrati, 2018). Moreover, more recent findings go in the opposite direction of Kanter's (1977) and showed that women and men did not differ in feeling psychologically empowered (Seibert et al., 2011; Knezovic & Musrati, 2018).

As EL actions can help people self-led, fostering cognitions of PE as outcomes, the gender analysis will enrich the overview of the results. Following the above scientific findings, our study seeks to identify if there are any differences in the way the dimensions of EL can psychologically empower women and men in an environment fostered by empowering leadership. Hence, confirming the gender findings of no differences between feeling PE or diverging from it. In addition, it is important to analyze these differences concerning age, since demographic changes that society faces are increasing the proportion of

older people that are still actively working (Rechel et al., 2013). In general, the interest in life-long perspectives and ageing is growing, however, research on leadership and ageing is still scarce (Walter & Scheibe 2013; Zacher et al., 2011a).

Moreover, the literature showed different preferences for leadership styles and different reactions to the same factors in the work environment depending on the age (Rosing & Jungmann, 2015; Truxillo et al., 2012). The generation of baby boomers (born 1956–1965) prefer a leadership style that focuses on cooperation among colleagues, opportunities for further development, that is, a relationship-oriented leadership. Lorente et al. (2018) found that in older workers, social support has a strong relationship with meaning at work. Whereas the Millennials (born between 1982 and 1999), prefer task-oriented leadership, where they demand from the leader clear goals and visions, learning opportunities, appreciating feedback and accountability (Graen & Schiemann, 2013; Laird et al., 2015; Rosing & Jungmann, 2015; Twenge & Campbell, 2008).

Some age stereotypes also involve the idea of older employees having lower motivation for personal development than younger ones (Posthuma & Campion, 2009). One study associating age, proactivity and career development found that older and younger employees hardly differ in their developmental proactivity. Moreover, that job proactivity was positively associated with age, being higher proactivity also correlated with more career opportunities. On the other hand, career opportunities were found to be negatively associated with age. The study results showed that better career opportunities are perceived by employees when the line management reported HR practices targeted at development. Thus, younger employees report more career opportunities when working in a place for development practices (Van Veldhoven & Dorenbosch, 2008). Hence, leaders of the twenty-one century have two challenges ahead: deal with the increased proportion of older

employees and the need to integrate age differences to successfully manage subordinates at work (Rosing & Jungmann, 2015).

This study, being qualitative, explores conditions that do not constitute tests of hypotheses. However, with evidence that age has associations with proactivity, career development and leadership style, this suggests that there may exist different conditions for psychological empowerment from an empowering leadership. Furthermore, the literature analyzes the utility of other leadership theories (e.g., Transformational Leadership, Leader-Member Exchange) applied to younger employees (Anderson et al., 2017). However, there is a lack of focus on the utility of EL applied to both younger and older individuals. The study sample with a vast range of age (23-63 years old) will allow us to see if EL has a different influence to psychologically empowering younger and older employees. Thus, since the age diversity in work teams is increasing (Rosing & Jungmann, 2015), another challenge for empowering leaders is to perceive how to psychologically empower this diverse workforce.

Age is included in the analysis as a condition, having different treatment than gender. Age has several categories (e.g., young, middle-aged, elderly), while gender has only two categories in the study sample (female and male). Thus, the consideration of age as it is done with gender will not be undertaken. The decision, based on empirical elements, in this case is to analyze age together with other variables (EL dimensions), focusing on dividing the sample based on gender. This decision is also due to ease of participation considering the categorical aspects, and to understand the differences in behavior concerning these two categories (men and women). Indeed, the study is set to answer the following research questions: 1) What are the necessary conditions in terms of EL dimensions for PE to occur in its multiple dimensions? 2) What are the sufficient conditions in terms of EL dimensions for PE to occur in its multiple dimensions? 3) What differences occur in the necessary and

sufficient conditions mentioned above between the different age groups? 4) What differences occur in the necessary and sufficient conditions mentioned above between gender?

The present work will be carried out by presenting the method with the participants, data collection procedures, instruments, and data analysis to fulfil the established objective. The following sections will describe the results and discussion for global and gender analysis both in terms of necessary and sufficient conditions of EL for developing employees' psychological empowerment. Moreover, in the discussion, conceptual interpretations of the psychological mechanisms identified through the results will be made, and new insights for practice and future investigations will be provided.

Method

Participants and procedure

The sample is constituted by 113 participants ($N=113$), most female (57,5%) whose age ranges from 23 to 63 years old ($M=40,75$; $SD=11,14$). Most participants (73,5%) finished a college degree, 20,4% high school and 2,7% middle school (0,4% of participants did not answer and will be eliminated in the data analysis). Relating to the job tenure of the participants, the working time in the current organization ranges between 3 months and 39 years, with an average of 9.44 years ($SD=9.05$). Moreover, the time at the current function ranges between 3 months and 34 years, with an average of 7.27 years ($SD=8.07$). Most of the participants have a permanent employment contract (78.8%, $n=89$) and 17.7% have a fixed-term contract ($n=20$). The descriptive and frequency analysis of the demographic variables were published before in the work of Serrenho (2021) and it is presented in the Appendix A (Table A1).

The snowball sampling technique was used to reach the participants. This technique was applied considering data were collected during the COVID-19 Pandemic. This method, also known as chain-referral-sampling, starts with a convenience sample of individuals that serves as “seeds” to further recruit other subjects (Heckathorn, 2011). First, the data collection started by the researcher Rita Serrenho (2021), a master’s student of a Portuguese public university, and participants from the network such as friends and family, qualified to respond to the questionnaire were contacted. Then, the first respondents – the “seeds” – recruit other possible subjects for the study. The participants labeled as seeds were asked to share the questionnaire with other employees they trust who meet the inclusion criteria: having a formal performance evaluation and a hierarchical relationship at workplace for six months or more. Participants were asked to fill in via web link the instruments, three questionnaires presented in a sequential way. The instruments were online for three months during the first half of 2020 (from 26th April to 25th July). An informed consent was included before the subject began filling in. Approval by the Ethical Committee of a Public University was obtained.

Measures

The three instruments applied in the study were: a five dimensions questionnaire of empowering leadership (ELQ; Arnold et al., 2000), the Spreitzer’s psychological empowerment instrument (PEI; Spreitzer, 1995) and a social demographic questionnaire.

The Empowering Leadership Questionnaire (ELQ) is an operationalization of the empowering leadership construct. The respondents of this questionnaire perceive their leaders' behavior (Mónico et al., 2019). The ELQ had been previously applied by Serrano (2015) on a sample of 315 subjects. This questionnaire uses a five-point Likert scale ranging from "never" (1=the leader never behaves this way) to "always" (5=the leader always

behaves this way). There is a total of 38 items grouped into five factors: leading by example (5 items); participation in the decision making process (6 items); coaching (11 items); informing (6 items) and showing concern/interacting with the team (10 items). In the Portuguese validation of the scale (Serrano, 2015; Mónico et al., 2019), it was possible to observe an excellent internal consistency of the factors with an $\alpha \geq .91$. Specifically, regarding each factor, Cronbach's alpha was $\alpha=0.91$ for leading by example (ELQ1, example: sets a good example by the way he/she behaves) and participative decision-making (ELQ3, example: uses my work group's suggestions to make decisions that affect us) $\alpha=0.96$ for coaching (ELQ1, example: helps my work group see areas in which we need more training); $\alpha=0.94$ for informing (ELQ1, example: explains company decisions) and $\alpha=0.95$ for showing concern/interacting with the team (ELQ4, example: takes the time to discuss work group members' concerns patiently) (Mónico et al., 2019).

The psychological empowerment theory is operationalizable through the psychological empowerment instrument (PEI; Spreitzer, 1995), which addresses PE through its dimensions: meaning, competence, self-determination, and impact. The study of the factor analysis of the PEI by Teixeira et al. (2016) determined the same four factors found by Spreitzer (1995). In the translation, adaptation, and validation of the PEI for the Portuguese version, the instrument comprises 12 items, with each dimension consisting of 3 items (Teixeira et al., 2016). The PEI uses a seven-point Likert scale ranging from 1= strongly disagree to 7= strongly agree. Each dimension's score is divided by 3 (three items per dimension) to provide its average score (Teixeira et al., 2016). The instrument revealed an internally consistent scale in its validation for the Portuguese population with a total internal consistency coefficient $\alpha=0.824$. Cronbach's alpha ranges between 0.688 and 0.868. Specifically, in each of the dimensions, the Alpha coefficient was: $\alpha=0.868$ for meaning (PEI2, example: my job activities are personally meaningful to me), $\alpha=0.780$ for competence

(PEI1, example: I am confident about my ability to do my job), $\alpha=0.688$ for self-determination (PEI3, example: I have considerable opportunity for independence and freedom in how I do my job) and $\alpha=0.815$ for impact (PEI3, example: I have significant influence over what happens in my department). Thus, this instrument can be used for future investigations because it presents psychometric validity and adequacy to the sample (Teixeira et al., 2016).

The last part includes the social demographic questionnaire. Participants have to indicate their year of birth, gender, educational level, occupation, working time in the current organization and in the performance role they were working, and employment contract type.

The descriptive analysis of the dimensions EL and PE from Serrenho (2021) is referred to in Table A2 in the Appendix A. Moreover, the empowering leadership questionnaire frequency and the psychological empowerment instrument frequency for some items are also presented in the Appendix A (Table A3, A4, A5, A6, and A7).

Data analysis

Relating to data treatment, we use fuzzy-set qualitative comparative analysis (fsQCA) to analyze the different dimensions of EL as necessary and/or sufficient conditions to foster PE in the dimensions meaning, competence, self-determination and impact. Fuzzy-sets evaluate how conditions (of EL) are related with a specific outcome (PE) (Wagemann & Schneider, 2010). While traditional quantitative methodologies, namely regression analysis, aim to find cause-effect relations between dependent and independent variables, this particular qualitative methodology, as stated by Vis (2012), “fits the causes-of-effects approach most because aims to reveal the minimal (combinations of) conditions bringing about a particular outcome in specific cases” (p.171). Thus, fsQCA obtains "linguistic summarizations from data that are associated with cases" (Korjani & Mendel, 2012, p.1).

With this technique “cases can have varying degrees of membership in sets, with membership scores ranging from 0.0 to 1.0” (Ragin, 2006, p.4). The range to be considered for the adjustment of the conditions and the outcome has to be between 1 (fully in the set), the middle point 0.5 (neither in nor out of the set), and 0 (fully out of the set).

To start the analysis with fsQCA, the first step is to calibrate variables, since they only work with binary or standardized data, not being possible the use of original data. According to Ragin (2006) the calibration is central to fuzzy-sets analysis and allows to make it using scores between 0.0 to 1.0. There are two ways to make the calibration of a variable: with a focus on the theoretical dimension, which considers a low, median, and high value, or using the percentile approach when does not exist a theoretical background defined. In our study, the calibration of age was made using the percentile approach since it defines the cut-off point of the sets. According to Ragin (2008), this approach defines the 95th percentile by the “fully in” the set, the median is defined by the “neither in nor out” of the set, and the 5th percentile defined by the “fully out” of the set. The age percentile values found and used in the separately calibration of the data was 56, 43 and 25 (95%, 50%, 5%) for women and 60.85, 43 and 25 (95%, 50%, 5%) for men. As women and men have different ages in the sample, the calibration leads to different results for these thresholds of values, however, on the same theoretical basis, the percentile approach.

Nonetheless, the calibration of variables (dimensions of EL and PE) were made based on theoretical cut-off points, since we have seen in the study's factors (fractional values) that the range of values varies from 1-5 for EL dimensions and from 1-7 for PE dimensions. Consequently, in our study we use the scale itself (1-5 and 1-7) to determine the cut-off points. A threshold of values was determined for high, median, and low levels to calibrate the factors. For the EL dimensions (1-5 scale), were determined the cut-off points for the fully in the set, the middle point and the fully out of the set as respectively 4,3,2 (high, median, low).

For the PE dimensions (1-7 scale), were determined the cut-off points for the fully in the set, the middle point and the fully out of the set as respectively 6,4,2 (high, median, low).

Table 4

Calibration of outcomes and empowering leadership dimensions

| | Fully in | Neither in nor out | Fully out |
|--|----------|--------------------|-----------|
| Psychological empowerment dimensions (outcomes) | 6 | 4 | 2 |
| Empowering leadership dimensions (necessary and sufficient conditions) | 4 | 3 | 2 |

After running all the analysis, each dimension of PE, as outcomes, originates a set of necessary and sufficient conditions (dimensions of EL). For necessary conditions, the output gives us the values of consistency and coverage for the existence and absence of each outcome (e.g., presence of competence, absence of competence). Consistency evaluates the “degree to which the cases sharing a given condition or combination of conditions” for the occurrence of a given outcome in question, indicating “how closely the subset relation is approximated” (Ragin, 2006, p.3). It captures the proportion of cases which are consistent with the outcome and penalizes severe inconsistencies. Coverage evaluates the “degree to which a cause or causal combination “accounts for” instances of an outcome” (Ragin, 2006, p.3). To analyze the necessary conditions, the value adopted as the cut-off point of consistency is 0.85. Based on Fiss (2011) that set the lowest acceptable consistency for solutions at ≥ 0.80 , which is still above the minimum recommended threshold of 0.75 (Rihoux & Ragin, 2009).

For sufficient conditions, the output of fsQCA gives us three solutions: the parsimonious, the complex, and the intermediate solution. Solution refers to the combinations of configurations supported by a high number of cases, “where the rule ‘the combination leads to the outcome’ is consistent” (Pappas & Woodside, 2021). Since the number of complex solutions can be very large, the interpretation of them can be rather difficult and in most cases impractical. Hence, they are simplified in parsimonious and intermediate solution sets. In our study, we will consider only the intermediate solution since it is part of the complex solution and includes the parsimonious solution. Basically, it is the middle ground between the complex solutions and parsimonious ones (smaller than the intermediate). Thus, we increase complexity in favor of increased consistency (Pappas & Woodside, 2021).

For the analysis of sufficient conditions, there is no absence of outcomes, only the presence/existence of them. To analyze the combinations of conditions for causing the specific outcome, we will consider the solution consistency and the unique coverage. Regarding the values for solution consistency, the researcher has to decide which is the appropriate threshold and identify natural breaking points in the consistency values that have been obtained (Pappas & Woodside, 2021). In detail, noticing the lowest and highest consistency values in the analysis, we adopt the value 0.90 as the cut-off point for solution consistency. This value means the percentage in which the solution membership is a subset of the result. Solution coverage is the percentage of cases explained by the model, including all combinations. Both indicators, raw coverage and unique coverage are used to select combinations of sufficient conditions and eliminate others, specifically when the unique coverage tends to 0. Raw coverage is the proportion of positive cases explained by the proposed combination. Unique coverage is the proportion of all positive cases explained solely by the combination of conditions under analysis.

The fuzzy sets results show many different paths to the same outcome. Nevertheless,

it is important to calculate the raw and unique coverage for each causal combination even in the analysis that has many combinations. Frequently, these calculations show only a few high-coverage causal combinations. In this sense, although it is useful to know all causal combinations of sufficient conditions linked to the outcome, it is important to assess their relative empirical weight. Calculations of unique coverage provide these assessments directly (Ragin, 2006). The focus of analysis on this study is the sufficient conditions with the values of high unique coverage greater than 0. Seeing that these values encompass not only the proportion of positive cases as raw coverage, but all of them that are explained by the conditions under analysis.

Results and Discussion

The results will refer to a sample of N=109 since our study eliminated individuals with missing values in the fsQCA analysis (four individuals in total). Thus, we are left with fewer observations for the analysis. This section will report only the outcomes that have significant results. In the Appendix A, it is possible to find the results for the necessary and sufficient conditions that do not have significant values and are not approached in this section. The results and discussion will be addressed together and divided into two clusters: the necessary conditions of the global and gender analysis, and the sufficient conditions of the global and gender analysis. This approach is adopted to foster a better understanding of the complexity of the results, with the interpretation being provided while the results are reported.

Moreover, the outcomes that are the dimensions of PE appear as *present* (e.g., fs_Compotence) and *absent* (e.g., ~fs_Compotence) in the necessary conditions. For the sufficient conditions, these outcomes just appear in its *presence* (Impact). When we look at the conditions (ie., dimensions of EL) and not the outcomes, they appear in both the

necessary and sufficient conditions as *present* and/or *absent* (e.g., *fs_Lead*, *~fs_Lead*). The abbreviated nomenclature adopted for EL dimensions are: *Lead* for leading by example; *Coach* for coaching; *Inf* for informing; *Concern* for showing concern/interacting with the team and *Dec* for participative decision-making. This explanation is essential to understand the tables and the following interpretation of the results.

Furthermore, it is essential to emphasize that the necessary conditions (dimensions of EL) are analyzed individually for a given outcome (dimensions of PE) to be *present* or *absent* in a subgroup of the total sample. Regarding the sufficient conditions, due to the relevance of the results and as argued before, we decide to focus the discussion only on the most significant combinations of sufficient conditions for specific subgroups (e.g., those with the highest value of unique coverage). It is also worth to account that if these combinations have the same conditions for different outcomes, they are discussed together in the same section.

All results will be analyzed under the identification of psychological mechanisms in the subgroups of individuals. These mechanisms can be possible explanations for the relationship between the dimensions of EL and PE on subjects. Moreover, the analyses of the psychological mechanisms underlying the results consider two types of variables: dispositional and contextual/situational. The dispositional variables are related to “personal qualities, prior experiences, values, beliefs, skills, expertise and conceptions of leadership” (Mutch, p. 192, 2015). Situational variables are related to the understanding of the context, the different responses, the adaptation of the changing needs, the use of resources (material and personnel), the assessment of the situation flexibly and creatively, and the constantly re-appraised of the options (Mutch, 2015).

Since our study focuses on the dimensions of PE that the subjects felt – meaning, competence, self-determination, and impact – the dispositional variables are justified because each person is unique, and this subjectivity influences their values, beliefs, skills and

experiences, as well as the way they feel. At the same time, contextual variables need to be considered in the constant individual-environment interaction, since their subjectivity influences the way they perceive and respond to the work environment.

Necessary conditions: global analysis

Regarding the *absence of the outcome competence* (Table 5), most of the results found high consistency levels above 0.85 (fs_Age = 0.91; ~fs_Age = 0.89; fs_Lead = 0.88; fs_Coach = 0.87; fs_Inf = 0.87; fs_Concern = 0.87). The results showed no age differences in two subgroups, being younger and older individuals lack feelings of competence. Furthermore, none of the dimensions – leading by example, coaching, informing, and showing concern/interacting with the team – individually were able to urge feelings of competence in the individuals of any of those subgroups.

A possible explanation for these results could be related to the individuals' dispositional variables. If their personality traits were deeply analyzed, they might present high levels of self-criticism and personal demands, which make them not feel competent, even under the actions of an empowering leader. Moreover, these traits and attributes can be related to the perception of the performance of leaders. Research on individual differences, for example, on the Big five dimensions of personality or cognitive and emotional intelligence examines these relationships (Kirkpatrick & Locke, 1991). Thus, even if the leader is having an empowering behavior, the employees may have different perceptions of their performance, not being influenced by them and hence, not having feelings of competence even being under this leadership style. Consequently, the external attitudes of the leader are not determinants, and instead, other complex psychological aspects such as personality traits, cognitive and emotional intelligence are present.

Moreover, their self-beliefs should be considered for the lack of feelings of competence. Self-perception is when individuals attribute their own characteristics by observing their behavior and consequences (Schwalbe et al., 1986). According to Schwalbe et al. (1986), the sources of self-evaluative information in the workplace are "the reflective appraisals of others, comparison between self and others, and self-perceptions of behavior and its consequences" (p.64). Their self-perceptions may be distorted, and even if others see them as competent, they do not see themselves in the same way. Furthermore, these individuals may constantly compare their actions with others, feeling less competent than their peers.

At the same time, there may also be contextual variables from the work environment occurring concurrently for the lack of feelings of competence. One possible explanation could be the lack of person-organization fit, not identifying themselves with the organizations' values and culture, adapting differently for the changing needs. Hence, they may be feeling more stressed performing the job tasks, not putting the energy and effort that are necessary, regardless of being under the effect of an EL. Thus, they do not feel competent in what they do, since they are not committed enough with the tasks and an environment that doesn't bring them positive feelings. This lack of identification and the decreased performance are two adverse effects of stress (Grau et al., 2005).

For the *presence of the outcome competence*, no significant values of consistency were found and the table with results is reported in the Appendix A (see Table A9). Furthermore, concerning the other outcomes for global analysis – meaning, self-determination and impact – no significant values of consistency were found and the tables with results are also reported in the Appendix A (see Table A8, A10 and A11).

Table 5

Analysis of the necessary conditions for the outcome variable absence of competence(~fs_Comp)

| Outcome | variable: | ~fs_Comp |
|-------------------|------------------|-----------------|
| Conditions | tested: | |
| | Consistency | Coverage |
| fs_Age | 0.9114 | 0.1335 |
| ~fs_Age | 0.8966 | 0.1149 |
| fs_Lead | 0.8886 | 0.0812 |
| ~fs_Lead | 0.7342 | 0.1992 |
| fs_Coach | 0.8779 | 0.0830 |
| ~fs_Coach | 0.7503 | 0.1848 |
| fs_Inf | 0.8711 | 0.0860 |
| ~fs_Inf | 0.7611 | 0.1691 |
| fs_Concern | 0.8711 | 0.0819 |
| ~fs_Concern | 0.7758 | 0.1944 |
| fs_Dec | 0.8175 | 0.0775 |
| ~fs_Dec | 0.7732 | 0.1897 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Necessary conditions: gender analysis

When we observe mens' results in the *absence of the outcome meaning* (Table 6), the *presence of the outcome self-determination* (Table 7), the *presence of the outcome impact* (Table 8), the dimension leading by example showed a significant level of consistency respectively (fs_Lead=0.92, 0.86 and 0.86). This means that leading by example is a necessary condition for the lack of feelings of meaning, and the presence of feelings of self-determination and impact in different subgroups of men. Possible explanations for these results are as follows.

One possible explanation for the absence of feelings of meaning in one subgroup of men could be the lack of challenge those men feel when the leader provides an example of what they must do. That specific orientation can be felt as childish by the workers. Therefore, we can propose the following hypothesis: self-directed workers perceive leadership by example as too much guidance and prefer to have more freedom to design their way of performing tasks. This idea can be related to job crafting, which means workers' ability to reinvent and change their work in a constructive, efficient, and pleasant way (Berg et al., 2013). Individuals craft their work to align with their abilities, motivations, and preferences, improving work meaning and identity (Lazazzara et al., 2020). Still, according to Sánchez-Cardona et al. (2020), higher levels of meaning at work appear to exist for individuals who craft their jobs.

For the presence of feelings of self-determination in another subgroup of men, the following hypothesis can propose a possible explanation for this finding: the identification with the leader makes these men integrate the performance behavior observed in the leader when he or she leads by example, and, consequently, they perceive themselves as self-determined. Bandura (1991) stated that employees receive a clear signal of what is expected from them by observing how a leader performs and achieves outcomes. Also, employees realize how they can better meet required outputs (Bandura, 1991). Thus, identifying and being sensitive to the leader's exemplary behaviors make individuals feel self-determined as they realize what is expected, having autonomy in initiating and regulating their actions (e.g., making decisions about work methods) (Bell & Staw, 1989).

One possible explanation for the presence of the feeling of impact in one subgroup of men lies in Banduras' social learning theory. This theory points out that leaders are an essential modelling source for employees. The modelling occurs through social and psychological processes (e.g., imitation) in learning new capabilities, expected norms, and

ideal behaviors (Bandura, 1977, 1986). For example, Conger and Kanungo (1987) portray influential leaders in exemplary actions perceived by subordinates as involving energy, risk, cost, and so worthy of imitation. In this sense, employees see the leader as a role model and learn what to do to have an impact on the work environment. Therefore, they realize their actions have a more consistent echo by doing what they see the leader do. Thus, these men may feel that they impact work tasks and context.

However, another subgroup of younger individuals had a significant level of consistency ($\sim fs_Age=0.86$) for the lack of feelings of impact at work. One possible explanation for this finding could be that younger men are still beginning their careers. Therefore, they may not have the self-confidence and the influence/networking between the co-workers to feel that they have a voice inside the organization, impacting job decisions and the work environment.

For men, there are no significant results on the *presence of the outcome meaning* and *absence of the outcome self-determination* with the respective tables reported in the Appendix A (Table A13 and A17). Women subgroups showed no significant results in the outcomes meaning, self-determination and impact (*presence* and *absence*) being the respectively tables with the results found in the Appendix A (Table A12, A16, A18 and A14).

Table 6

Analysis of the necessary conditions for the outcome variable absence of meaning ($\sim fs_Meaning$) for men

| Outcome | variable: | $\sim fs_Meaning$ |
|-----------------|------------------|--------------------------------------|
| Conditions | tested: | |
| | Consistency | Coverage |
| fs_Age | 0.6660 | 0.1599 |
| $\sim fs_Age$ | 0.7959 | 0.1622 |
| fs_Lead | 0.9258 | 0.1268 |
| $\sim fs_Lead$ | 0.4144 | 0.2343 |

| | | |
|-------------|--------|--------|
| fs_Coach | 0.7134 | 0.1103 |
| ~fs_Coach | 0.7072 | 0.2718 |
| fs_Inf | 0.7567 | 0.1209 |
| ~fs_Inf | 0.7113 | 0.2529 |
| fs_Concern | 0.7381 | 0.1134 |
| ~fs_Concern | 0.7361 | 0.2874 |
| fs_Dec | 0.7237 | 0.1127 |
| ~fs_Dec | 0.7278 | 0.2745 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table 7

Analysis of the necessary conditions for the outcome variable presence of self-determination

(fs_Selfd) for men

| Outcome variable: | fs_Selfd | |
|--------------------|---------------|----------|
| Conditions tested: | Consistency | Coverage |
| fs_Age | 0.5191 | 0.9441 |
| ~fs_Age | 0.6048 | 0.9336 |
| fs_Lead | 0.8680 | 0.9003 |
| ~fs_Lead | 0.1987 | 0.8508 |
| fs_Coach | 0.7967 | 0.9328 |
| ~fs_Coach | 0.2866 | 0.8344 |
| fs_Inf | 0.7741 | 0.9368 |
| ~fs_Inf | 0.3193 | 0.8600 |
| fs_Concern | 0.7997 | 0.9303 |
| ~fs_Concern | 0.2858 | 0.8454 |
| fs_Dec | 0.7959 | 0.9390 |
| ~fs_Dec | 0.2874 | 0.8212 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing

concern/interacting with the team; Dec= participative decision-making

Table 8

Analysis of the necessary conditions for the outcome variable presence of impact (fs_Impact) and absence of impact (~fs_Impact) for men

| Outcome | variable: | fs_Impact | Outcome | variable: | ~fs_Impact |
|----------------|---------------|-----------|----------------|---------------|------------|
| Conditions | tested: | | Conditions | tested: | |
| | Consistency | Coverage | | Consistency | Coverage |
| fs_Age | 0.5282 | 0.9470 | fs_Age | 0.7378 | 0.2842 |
| ~fs_Age | 0.6008 | 0.9143 | ~fs_Age | 0.8625 | 0.2819 |
| fs_Lead | 0.8675 | 0.8871 | fs_Lead | 0.8329 | 0.1829 |
| ~fs_Lead | 0.2010 | 0.8485 | ~fs_Lead | 0.4859 | 0.4406 |
| fs_Coach | 0.7968 | 0.9197 | fs_Coach | 0.7224 | 0.1791 |
| ~fs_Coach | 0.2888 | 0.8288 | ~fs_Coach | 0.6761 | 0.4168 |
| fs_Inf | 0.7714 | 0.9203 | fs_Inf | 0.7455 | 0.1910 |
| ~fs_Inf | 0.3219 | 0.8548 | ~fs_Inf | 0.6889 | 0.3930 |
| fs_Concern | 0.7929 | 0.9094 | fs_Concern | 0.7712 | 0.1900 |
| ~fs_Concern | 0.2938 | 0.8567 | ~fs_Concern | 0.6324 | 0.3961 |
| fs_Dec | 0.7860 | 0.9143 | fs_Dec | 0.7108 | 0.1776 |
| ~fs_Dec | 0.2929 | 0.8250 | ~fs_Dec | 0.6568 | 0.3974 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Regarding the *absence of the outcome competence for women and men* (Table 9), it was possible to find many significant consistency values. For women, the values to older (fs_Age=0.90), younger (~fs_Age=0.85) individuals and the dimensions of EL (fs_Lead=0.89; fs_Coach=0.86; fs_Inf=0.86 and fs_Concern=0.88). For these subgroups of women, the results showed that being younger, older and having the dimensions of EL –

leading by example, coaching, informing, and showing concern/interacting with the team (each of them independently in one subsample) – appear as necessary conditions for the lack of feelings of competence. A possible explanation for these findings, as already mentioned, is that for some people, the feeling of competence is more related to dispositional variables. The personal demands and self-perceptions of their behavior in the work environment (e.g., skills, personal qualities) may be independent of age differences or the actions of an empowering leader. In this sense, this feeling can be less dependent on external agents (EL style) and more on internal mechanisms.

For men, the values to older ($fs_Age=0.92$), younger ($\sim fs_Age=0.94$) individuals and the dimensions of EL ($fs_Lead=0.87$; $fs_Coach=0.89$; $fs_Inf=0.88$ and $fs_Concern=0.85$) are the necessary conditions for these subgroups also having lack of feelings of competence. A possible explanation for the coaching practice not affecting the feelings of competence for one subgroup of men could evolve the way this practice is delivered, and how good is the interpersonal relationship between leader-employee. Adán et al. (2004) found that the absence of satisfaction related to personal relationships leads to stress and burnout. Thus, if the coaching practices encompasses interpersonal problems, the stress and burnout (in extreme cases) could lead employees to lack feelings of competence, since they are negatively suffering from these effects. Furthermore, coaching may cause discomfort throughout the learning process. A possible explanation involves the practical application of the learning acquired in the coaching sessions and the perception of improvement by the individual. If the former does not happen successfully, the latter will not bring feelings of competence since professional satisfaction depends not only on acquiring knowledge and skills but also on applying those and improving competence (Garafalo, 2016).

It is possible to realize that both genders showed the same EL dimensions and age differences as necessary conditions, despite diverse values of consistency. Thus, for the lack

of feelings of competence in the workplace under these conditions, there are no differences between them. In addition, for the *presence of the outcome competence*, both genders lack significant results and the respective tables are reported in the Appendix A (Table A14 and A15).

Table 9

Analysis of the necessary conditions for the outcome variable absence of competence (~fs_Competence) for women and men

| Outcome variable: Conditions | ~fs_Competence for Women | Outcome variable: Conditions | ~fs_Competence for Men | | |
|---------------------------------|--------------------------|---------------------------------|------------------------|---------------|--------|
| Consistency | Coverage | Consistency | Coverage | | |
| fs_Age | 0.9064 | 0.1357 | fs_Age | 0.9273 | 0.1262 |
| ~fs_Age | 0.8532 | 0.1193 | ~fs_Age | 0.9418 | 0.1088 |
| fs_Lead | 0.8979 | 0.0915 | fs_Lead | 0.8727 | 0.0678 |
| ~fs_Lead | 0.7532 | 0.1875 | ~fs_Lead | 0.7018 | 0.2249 |
| fs_Coach | 0.8681 | 0.0861 | fs_Coach | 0.8945 | 0.0784 |
| ~fs_Coach | 0.7191 | 0.1917 | ~fs_Coach | 0.8036 | 0.1751 |
| fs_Inf | 0.8660 | 0.0902 | fs_Inf | 0.8800 | 0.0797 |
| ~fs_Inf | 0.7149 | 0.1688 | ~fs_Inf | 0.8400 | 0.1694 |
| fs_Concern | 0.8830 | 0.0870 | fs_Concern | 0.8509 | 0.0741 |
| ~fs_Concern | 0.7383 | 0.2005 | ~fs_Concern | 0.8400 | 0.1860 |
| fs_Dec | 0.8340 | 0.0825 | fs_Dec | 0.7891 | 0.0697 |
| ~fs_Dec | 0.7447 | 0.1999 | ~fs_Dec | 0.8218 | 0.1757 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Sufficient conditions: global analysis

According to the global solution consistency of 0.90, we can consider the sufficient conditions of the outcomes meaning (see Table 10, solution consistency= 0.95), self-determination (see Table 11, solution consistency= 0.92), competence (see Table 12, solution consistency= 0.99) and impact (see Table 13, solution consistency= 0.92). These values mean the percentage in which the belonging to the solution is a subset of the result.

Analyzing the higher values of unique coverage for the different subgroups concerning the diverse outcomes, a set of combinations that seemed the most important ones stand out. For the outcome meaning (unique coverage= 0.1671) and self-determination (unique coverage= 0.1703), the set of combinations that stands out includes all dimensions of EL: leading by example, coaching, informing, showing concern/interacting with the team, and participative decision-making. However, the results showed different percentages. For the outcome meaning, 16% of all positive cases were explained solely by the combinations of all these EL conditions. For the outcome self-determination, 17% of all positive cases were explained solely by the combinations of these conditions. Furthermore, the presence of all EL dimensions showed to be the most significant combination of sufficient conditions for this subgroup to have meaning and self-determination at work.

A possible explanation for the results related to meaning and self-determination can consider contextual variables. An environment with an empowering leader, who shows concern to individuals, leads by example, provides guidance (coaching), informs what is needed and also incorporates the employees' voice in the work decisions (participative decision making), encourages their autonomy. Therefore, employees may feel they have a voice in the company decisions. This voluntary voice behavior is proactive and "willingness to contribute to effective decision making at work" (Shah & Purang, p.281, 2020). Hence,

individuals feel self-determined as they have autonomy in participating in the decisions about work (e.g., decisions about work methods, pace, and effort, see in Bell & Staw, 1989). Thus, the actions of the leader that support the employees' psychological needs have a positive impact on their autonomous motivation (Baard et al., 2004).

Furthermore, since this leadership style enables this autonomy and constant individual self-development, employees may feel that they can achieve better work outcomes and they invest full effort to fulfill organizational tasks. According to May et al. (2004), individuals that feel this achievement and make this effort, also feel that their job is meaningful, being the latter the cause of the former. This meaningfulness at work leads to employees being more empowered in doing their tasks, since it allows them to gain a sense of responsibility and to take ownership of their actions (May et al., 2004).

Table 10

Analysis of the sufficient conditions for the outcome variable meaning- Intermediate solution

| | raw coverage | unique coverage | consistency |
|--|--------------|-----------------|-------------|
| fs_Age*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.1585 | 0.0840 | 0.8861 |
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.0805 | 0.0059 | 0.9211 |
| fs_Age*fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern | 0.0849 | 0.0060 | 0.9259 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.0812 | 0.0107 | 0.9950 |
| fs_Age*fs_Coach*~fs_Inf*fs_Concern*fs_Dec | 0.1228 | 0.0184 | 0.9967 |
| ~fs_Age*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.4756 | 0.0154 | 0.9733 |
| fs_Lead*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6398 | 0.1671 | 0.9757 |
| solution coverage: 0.8142 | | | |
| solution consistency: 0.9553 | | | |

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table 11

Analysis of the sufficient conditions for the outcome variable self-determination- Intermediate solution

| | raw coverage | unique coverage | consistency |
|--|--------------|-----------------|-------------|
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.0851 | 0.0065 | 0.8846 |
| fs_Age*fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern | 0.0900 | 0.0066 | 0.8911 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.0827 | 0.0087 | 0.9193 |
| fs_Age*fs_Coach*~fs_Inf*fs_Concern*fs_Dec | 0.1347 | 0.0203 | 0.9925 |
| ~fs_Age*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.5163 | 0.0189 | 0.9589 |
| ~fs_Age*~fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.0822 | 0.0257 | 0.8610 |
| fs_Lead*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6815 | 0.1703 | 0.9432 |
| solution coverage: 0.8031 | | | |
| solution consistency: 0.9247 | | | |

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

When we look at the value of unique coverage for the set of combinations that seemed the most important of the outcome competence (0.2874) and impact (0.3093), the results show: to be younger and coaching, informing, showing concern/interacting with the team and participative decision-making. For the outcome competence, one subsample explains 28% of all positive cases solely by the combinations of these conditions. For the outcome impact, another subsample explains 30% of all positive cases by these combinations.

The feeling of competence appears in one subgroup of younger individuals that has an empowering leader that does coaching, informs, shows concerns and allows or even encourages the employees to participate in the decision making. A possible explanation for this finding could be that an empowering leader is important for individuals who have

recently started their professional careers. Even more, if it is a new job to them, they may feel the need to be informed about the organizational objectives, rules, expectations, values, and goals. As Kahn (1990) argued, employees are more willing to engage in their work when their values, goals, and skills align with the organizational ones. Thus, by knowing their environment, what is expected from them, and their role, they can better engage in what they are supposed to do and consequently feel competent in what they do. Hence, the feeling of competence in this subgroup also depends on contextual variables (understanding the context and adaptation to change needs, see Mutch, 2015) and not only on the individual self-perception of feeling capable of performing the job.

Regarding the findings on the outcome *impact* that appear in another subgroup of younger individuals with the same results of sufficient conditions, one possible explanation can be based on employees' voice behavior. Under this leadership style that coaches, informs, shows concern, and allows or encourages participative decision-making, younger individuals can express their opinions and ideas, feeling that they are listened to and considered by the leader despite having little work experience. Accordingly, the voice behavior may make them perceive they have an impact and active participation in the decisions of their work environment. For example, Chou and Barron (2016) showed that employees' voice behavior in constructive suggestions and ideas positively affects organizational learning, managerial decisions, and problem-solving.

Table 12

Analysis of the sufficient conditions for the outcome variable competence- Intermediate solution

| | raw coverage | unique coverage | consistency |
|--|--------------|-----------------|-------------|
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.0836 | 0.0057 | 1.0000 |
| fs_Age*fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern | 0.0877 | 0.0057 | 1.0000 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.0781 | 0.0098 | 1.0000 |

| | | | |
|--|--------|---------------|--------|
| fs_Age*fs_Coach*~fs_Inf*fs_Concern*fs_Dec | 0.1179 | 0.0060 | 1.0000 |
| ~fs_Age*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.4632 | 0.2874 | 0.9905 |
| ~fs_Age*~fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.0829 | 0.0318 | 1.0000 |
| fs_Age*fs_Lead*fs_Coach*fs_Concern*fs_Dec | 0.3139 | 0.1146 | 0.9991 |

solution coverage: 0.6999

solution consistency: 0.9933

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table 13

Analysis of the sufficient conditions for the outcome variable impact- Intermediate solution

| | raw coverage | unique coverage | consistency |
|--|--------------|-----------------|-------------|
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.0979 | 0.0066 | 0.9988 |
| fs_Age*fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern | 0.1029 | 0.0067 | 1.0000 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.0894 | 0.0094 | 0.9760 |
| fs_Age*fs_Coach*~fs_Inf*fs_Concern*fs_Dec | 0.1381 | 0.0070 | 0.9992 |
| ~fs_Age*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.5152 | 0.3093 | 0.9398 |
| ~fs_Age*~fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.0874 | 0.0276 | 0.8991 |
| fs_Age*fs_Lead*fs_Coach*fs_Concern*fs_Dec | 0.3533 | 0.1196 | 0.9589 |

solution coverage: 0.7659

solution consistency: 0.9272

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Sufficient conditions: gender analysis

According to the cut-off point for the global solution consistency of 0.90, we can consider the sufficient conditions for both genders of the outcome meaning (see Table 14, solution consistency for women=0.97; solution consistency for men=0.96), competence (see

Table 15, solution consistency for women=0.98; solution consistency for men=0.99) and self determination (see Table 16, solution consistency for women=0.92; solution consistency for men=0.94). The results of the outcome impact appear just for men (see Table 17, solution consistency=0.93), with the lack of significant results for women.

Regarding the outcome meaning, competence and self-determination and looking at the high values of unique coverage for women respectively (0.36, 0.35 and 0.38) the set of combinations that seemed the most important for these subgroups are: coaching, informing, showing concern/interacting with the team, and participative decision-making. This result shows that respectively 36%, 35% and 38% of all positive cases are explained solely by the combinations of these conditions in each subgroup for women having feelings of meaning, competence and self-determination. Considering the outcome impact, no significant value of solution consistency was found for women (see women's results on Table A19 in the Appendix A).

Regarding the outcome meaning, competence, self-determination for men and looking at the high values of unique coverage respectively (0.31, 0.31 and 0.32) the set of combinations that seemed the most important for these subgroups are: leading by example, coaching, informing, showing concern/interacting with the team, and participative decision making. This result shows that respectively 31%, 31%, 32% and 31% of all positive cases are explained solely by the combinations of these conditions in these subgroups. The difference between gender is clear: the dimension leading by example is present for men but not for women. Hence, for men all the dimensions of EL are present for them to be psychologically empowered in the cognitions meaning, competence and self-determination. For women's subgroups, it is not relevant to have a leader who leads by example to have the feelings of meaning, competence and self-determination at work, despite the same dimension being relevant to men's subgroups. Accordingly, when comparing gender, it is possible to notice

that the dimension leading by example stands out for these three outcomes, highlighting the difference between subgroups of women and men.

When we consider the outcome *meaning*, a possible explanation for this difference between subgroups of women and men on the dimension of leading by example might be that the men in that subsample has similar beliefs, values, and behaviors as the leader in his exemplary actions. According to House (1977), if leaders express by their actions, values, and beliefs that they want the employees to follow, they can profoundly affect them. This alignment of ideas causes them to project meaning to their work by recognizing the value and purpose of their work in the leader's exemplary actions. Therefore, for women meaning at work is more related to how they see their job roles and whether they are fulfilled. In this sense, this value depends on their self-perceptions of purpose as meeting their job requirements. Hence, they are less influenced by the leader's exemplary actions since meaning involves a match between the job requirements and the individual's beliefs, values, and behaviors (Brief & Nord, 1990). Thus, for this subgroup of women, the feeling of meaning at work is more related to dispositional variables, while for the subsample of men, it is more related to contextual variables.

When considering the outcome *competence*, a possible explanation for this difference concerning the leading by example dimension for gender was already discussed through Bandura's social learning theory. This theory states that by imitating the behaviors of the role models, the individuals will strive to ensure their actions are in line with the desirable performance (Bandura, 1977). The subgroup of men incorporates exemplary actions (especially if the leader is also male). Moreover, if subordinates judge that the leader is competent and identify with their actions, they also transfer this perception to themselves. Bass (1985) argues that role-modelling leaders are better positioned to motivate employees, affecting their perception of their competence and fit in the organization. On the contrary,

analyzing the subgroup of women, the inexistence of regularities in this subsample can be sufficiently large to be above the cut-off point and to consider a result with the dimension leading by example.

The same hypothesis can be considered for women when analyzing the results for the outcome *self-determination*. However, for men’s results, the contextual variables of the work environment stand out for them to feel psychologically empowered. One hypothesis could also be related to the major incidence of men in leadership positions throughout work history than women. The fact of the gender similarity between superior and subordinate thus, makes it more likely that the same gender favors the role model identification. Thus, there is a higher number of subgroups of men that allows the result – that encompass leading by example as one of the dimensions – above the cut-off point possible.

Table 14

Analysis of the sufficient conditions for the outcome variable meaning for gender- Intermediate solution

| Meaning for Women | raw coverage | unique coverage | consistency |
|---|--------------|-----------------|-------------|
| fs_Age*fs_Lead*fs_Dec | 0.3543 | 0.0209 | 0.9932 |
| fs_Age*fs_Coach*fs_Concern*fs_Dec | 0.3531 | 0.0126 | 0.9908 |
| fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6807 | 0.3646 | 0.9760 |
| solution coverage: 0.7386 | | | |
| solution consistency: 0.9752 | | | |
| Meaning for Men | raw coverage | unique coverage | consistency |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.1065 | 0.0266 | 0.9929 |
| fs_Age*fs_Lead*fs_Coach*fs_Concern*fs_Dec | 0.3305 | 0.0148 | 1.0000 |
| fs_Lead*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6373 | 0.3132 | 0.9693 |
| fs_Age*~fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.1507 | 0.0981 | 0.9578 |
| fs_Age*fs_Lead*~fs_Coach*fs_Inf*~fs_Concern*~fs_Dec | 0.0710 | 0.0171 | 0.9360 |

solution coverage: 0.8092

solution consistency: 0.9623

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table 15

Analysis of the sufficient conditions for the outcome variable competence for gender- Intermediate solution

Competence for Women

| | raw coverage | unique coverage | consistency |
|--|--------------|-----------------|-------------|
| fs_Age*fs_Lead*fs_Dec | 0.3425 | 0.0179 | 0.9976 |
| fs_Age*fs_Coach*fs_Concern*fs_Dec | 0.3423 | 0.0124 | 0.9981 |
| fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6607 | 0.3556 | 0.9844 |
| ~fs_Lead*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.1798 | 0.1318 | 0.9864 |

solution coverage: 0.8501

solution consistency: 0.9848

Competence for Men

| | raw coverage | unique coverage | consistency |
|--|--------------|-----------------|-------------|
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.0975 | 0.0434 | 1.0000 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.1018 | 0.0225 | 1.0000 |
| fs_Age*fs_Lead*fs_Coach*fs_Concern*fs_Dec | 0.3137 | 0.0141 | 1.0000 |
| fs_Lead*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6201 | 0.3125 | 0.9938 |

solution coverage: 0.7130

solution consistency: 0.9946

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table 16

Analysis of the sufficient conditions for the outcome variable self-determination for gender-Intermediate solution

| Self-determination for Women | | | |
|---|--------------|-----------------|-------------|
| | raw coverage | unique coverage | consistency |
| fs_Age*fs_Lead*fs_Dec | 0.3894 | 0.0227 | 0.9681 |
| fs_Age*fs_Coach*fs_Concern*fs_Dec | 0.3852 | 0.0152 | 0.9584 |
| fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.7287 | 0.3863 | 0.9266 |
| solution coverage: 0.7942 | | | |
| solution consistency: 0.9299 | | | |
| Self-determination for Men | | | |
| | raw coverage | unique coverage | consistency |
| fs_Age*~fs_Coach*~fs_Inf*~fs_Concern*~fs_Dec | 0.1728 | 0.0901 | 0.8771 |
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.0980 | 0.0147 | 0.8955 |
| fs_Age*fs_Lead*fs_Coach*fs_Concern*fs_Dec | 0.3522 | 0.0158 | 1.0000 |
| fs_Lead*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6747 | 0.3293 | 0.9631 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern*fs_Dec | 0.1002 | 0.0191 | 1.0000 |
| solution coverage: 0.8514 | | | |
| solution consistency: 0.9444 | | | |

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

The results of the outcome *impact* as seen were significantly found just for men (0.93). Looking at the values of unique coverage (0.31), the combinations of conditions that explain 31% of all positive cases have to lead by example, coaching, informing, showing concern and participative decision-making as the dimensions of EL causing feelings of impact in men. A possible explanation for this result must consider the history of roles played by both genders in the work environment, and how women may have realized over time that

they depend more on themselves to feel empowered since this is how they have conquered their space. Moreover, evidence has already shown that women were given little power in organizations (Kanter, 1977). Other studies demonstrated that women are less motivated and desire less power than men (Gino et al., 2015; Schuh et al., 2014). Hence, men may tend more toward the influence of a leader empowering actions in this subgroup, even more if they perceive or receive power. In the self-efficacy definition by Conger and Kanungo (1988), power is used to describe capacity. Because the leader has power, their actions should be more considered, as this subgroup of men may see power as a value to pursue and a consequence of their capacity to impact the work role.

Table 17

Analysis of the sufficient conditions for the outcome variable impact for men- Intermediate solution

| Impact for Men | | | |
|--|--------------|-----------------|-------------|
| | raw coverage | unique coverage | consistency |
| fs_Age*fs_Lead*~fs_Coach*~fs_Concern*~fs_Dec | 0.1110 | 0.0494 | 1.0000 |
| ~fs_Age*fs_Lead*~fs_Coach*~fs_Inf*fs_Concern | 0.1107 | 0.0204 | 0.9548 |
| fs_Age*fs_Lead*fs_Coach*fs_Concern*fs_Dec | 0.3542 | 0.0160 | 0.9915 |
| fs_Lead*fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.6643 | 0.3170 | 0.9347 |
| solution coverage: 0.7648 | | | |
| solution consistency: 0.9368 | | | |

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

An interesting result was found comparing global and men's results for sufficient conditions for the outcomes *meaning* and *self-determination*. The combinations of sufficient conditions that appear to men related to these two outcomes are the same that appear in the global results for the same outcomes. These combinations involve all the dimensions of EL –

leading by example, coaching, informing, showing concern/interacting with the team, and participative decision-making – to empower these global and men’s subgroups to have feelings of meaning and self-determination at work.

This similarity also brings another important conclusion. Despite the sample being considered most female (57,5%), in general men showed more significant results than women. For example, analyzing the necessary conditions for both genders, men showed significant results in the outcomes meaning, self-determination and impact, while women lacked significant results on these outcomes. Women and men showed results on the outcome competence. Considering the sufficient conditions, men also showed significant results on the outcome impact, while women did not. As seen above, both showed results on the outcomes meaning, competence and self-determination. Furthermore, it was possible to see from all the results of sufficient conditions that men in the majority of cases need all dimensions of empowering leadership to feel psychologically empowered. Instead, women do not show the need for a leader who leads by example to feel psychologically empowered.

In conclusion, it is relevant to explore the gender similarity between superior and subordinate as a proposition to test in future studies: psychological empowerment appears more in a situation of gender similarity, that is, if towards empowering leadership, the similarity of gender between superior and subordinate enhances the empowering effect of this leadership style. Despite the intellectual effort exerted to describe the psychological mechanisms underlying the results through the variables, the complexity of human subjectivity is a fact, even so when analyzed in interaction with others and the work environment.

Conclusions, Limitations and Directions for future research

The study shows possible paths through the knowledge of the necessary and sufficient conditions in terms of EL dimensions for a specific PE to occur: meaning, competence, self-determination, or impact. In addition, the psychological mechanisms identified through the results allowed a deeper understanding of how subjects can perceive and respond differently to the actions of an empowering leader, feeling psychologically empowered or not.

For example, the results on the gender analysis of necessary conditions showed that EL psychologically empowered more subgroups of men than women. In this case, men feel all cognitions of PE when in the presence of an EL. Considering the same necessary conditions, women showed no results in feeling PE in the presence of EL. Thus, when a leader thinks about empowering actions separately directly to gender (e.g., coaching) they need to pay attention more in ways of effectively psychologically empowering women. On the other hand, when considering EL in a whole, with all its dimensions being able to be combined to have results in the work environment (sufficient conditions), women showed feelings of meaning, competence and self-determination. Leaders can adopt approaches together and not individually to PE this workforce. For example, doing coaching, informing, showing concern, and allowing participation in the decision making process to help these women employees to feel PE, and thus, bringing more positive results at work.

Moreover, employees feeling that they impact the work environment appeared just for men. So, leaders can know that this cognition of PE is rarer to women than men. Hence, the empowering leader could put practices into action to help these women to feel that they can impact their work environment, feeling PE. Looking at the gender results for necessary conditions, leaders can also rethink for the future which new empowering practices individually need to take place to help both women and men feeling competence in the work environment.

Another limitation of the study is the analysis of the relationship between EL and PE considering subgroups of a Portuguese sample. Since this is a qualitative study that explores the meaning of the results making conceptual propositions, future studies should be testing these propositions in different cultural contexts. Thus, to understand if these propositions remain or change under an equal leadership style, particularly considering the Hofstede's cultural dimension – power distance. For example, if women feel that they impact the work environment under different circumstances such as diverse hierarchical lines and interpersonal relationships.

As some authors stated, there is little work bridging empowering leadership and psychological empowerment, which are two different perspectives of empowerment at work (although complementary) (Faulkner & Laschinger, 2008; Spreitzer, 2008). This study tries to bridge the gap between them, giving insight through the psychological mechanisms provided on the nature of the relationship between EL behavior and PE. Different psychological mechanisms could be influencing this relationship such as personality traits, self-beliefs, personal demands, lack of person-organization fit and challenge, the way the interpersonal relationships are developed at work, just to name a few. Moreover, the identification with the leader leading by example actions is more important to men than women to bring feelings of meaning, competence and self-determination. Thus, perception of power, the idea of the leader being a modelling source, the gender similarity that can exist between leader-employees are just some factors that could explain these differences. In practical terms, leaders need to invest in other actions that are not leading by example if they want to empower this workforce of women. However, It is also essential to realize the limitations of the conceptual explanations provided in the study. Therefore, they are just possible paths to the complex understanding of human nature in the work context, despite allowing a more profound awareness on how leaders can influence subordinates based on gender.

Studies indicate that the most stressful aspect of the work for many people is their relationship with their immediate superior (Hogan et al., 1994). One of the solutions mentioned for this situation is to re-examine the criteria for selecting individuals for leadership and management positions (Burke, 2006). Thus, in practical terms, this study shows possible ways to develop empowering leaders who can be better informed on how to get involved in employee empowerment initiatives as they understand some mechanisms underlying employees' feelings. It also enables the recruitment and selection of better leaders depending on the organization's strategic objectives. Through the conceptual interpretations of the results, leaders can also have new insights for future challenges and actions unthinkable until then to be applied in the workplace. Moreover, leaders could also develop a greater critical sense of their current mode of action, identifying which personal human characteristics should be improved in themselves (e.g., better relationships) to exercise an empowering leadership that maximizes individuals' full development.

Based on the results discussed, there is substantial variability on the dimensions of EL as necessary or sufficient conditions to cause PE in employees, depending on the subgroup of analysis. Furthermore, age was a predominant factor concerning some subgroups, differentiating older and younger members on feeling psychological empowerment. However, as the age of the subjects regarding gender is different, the calibration of the data also had a different result (60.85, 43 and 25 for men and 56, 43 and 25 for women) considering high, median and low values, despite following the same theoretical basis. In fact, this is a limitation of the study because it brings an inability to compare employees' age from a methodological point of view. Accordingly, further analysis regarding the comparison of age differences from a methodological point of view should also be considered in future research.

Nonetheless, the study's findings may give clues to different postures to be acquired by leaders to generate the psychological empowerment of older and younger employees. For

example, through the results it is possible to realize that beginners of career may lack self-confidence, influencing in the ways they feel PE, especially their perceptions of impact in the work environment. Hence, leaders can have practices to make their voice feel valued, even when they have little experience.

As human subjectivity is complex and related to different factors such as personality traits, intrinsic and extrinsic motivation, personal demands, self-perception, individuals may feel psychologically empowered in different ways. Therefore, no single study can provide answers to the scope of knowledge that is still needed to understand human nature. Our findings need to be complemented with a more profound knowledge of those psychological aspects. Moreover, the study variables need to be understood concerning different cultural contexts of a specific organization (e.g., organizational culture and climate).

Many advances are needed to understand the more objective and subjective reasons for a person to feel psychologically empowered or not in the presence of an empowering leader. As Holbrook and Gardner (1998) stated, the growth of knowledge and understanding proceeds by small contributions taken by each research answering the previous questions, especially by raising so many more questions than it answered. To conclude, we can state that not all people are empowered and empowerable in the same way. An empowering leadership style empowers some, and not everyone needs to be empowered by others to feel psychologically empowered.

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Appendix A

Table A1

Sample Characteristics from Serrenho (2021)

| | A | SD | N | % |
|--|-------|-------|----|--------|
| Gender | | | | |
| Female | | | 65 | 57.5% |
| Male | | | 44 | 38.9% |
| Age | 40.75 | 11.14 | | |
| Education Level | | | | |
| Didn't complete primary education | | | 0 | 0% |
| 1st cycle of basic education (primary school) | | | 0 | 0% |
| 2nd cycle of basic education (elementary school) | | | 0 | 0% |
| 3rd cycle of basic education (middle school) | | | 3 | 2.70% |
| Secondary Education (High School) | | | 23 | 20.40% |
| Bachelor's Degree | | | 1 | 0.90% |
| Ongoing Degree | | | 9 | 8.00% |

| | | | |
|--|--------|--------|--------|
| Degree (after Bologna) | | 17 | 15.00% |
| Post-Graduation/Master Degree (after Bologna) or Degree (before Bologna) | | 43 | 38.10% |
| Master Degree (before Bologna) | | 11 | 9.70% |
| Doctoral Degree | | 2 | 1.80% |
| Working time at current organization (months) | 113.31 | 108.63 | |
| Working time at current function (months) | 87.19 | 96.82 | |
| Employment Bond | | | |
| Casual Employment | | 0 | 0% |
| Fixed Term Contract | | 20 | 17.70% |
| Permanent Employment Contract | | 89 | 78.80% |

Note: Average (A); Standard Deviation (SD); this table doesn't contain information about "missing values"

Table A2

Descriptive Analysis of the dimensions from Serrenho (2021)

| | Minimu m | Maximu m | Mean | Std. Deviatio n |
|-------|-------------|-------------|------|-----------------------|
| <hr/> | | | | |

| | | | | | |
|--------------------------------------|--|------|------|--------|---------|
| Empowering Leadership Dimensions | Leading by Example | 1.00 | 5.00 | 3.6991 | 0.89767 |
| | Participation in the decision-making process | 1.40 | 5.00 | 3.6509 | 0.95276 |
| | Coaching | 1.00 | 5.00 | 3.6251 | 0.93464 |
| | Informing | 1.00 | 5.00 | 3.5811 | 0.92558 |
| | Showing Concern/Interacting with the team | 1.00 | 5.00 | 3.5575 | 0.91850 |
| Psychological Empowerment Dimensions | Meaning | 1.00 | 7.00 | 5.8563 | 1.07761 |
| | Competence | 4.67 | 7.00 | 6.0367 | 0.68093 |
| | Self-determination | 1.00 | 7.00 | 5.2875 | 1.12351 |
| | Impact | 1.00 | 7.00 | 5.2141 | 1.01686 |

Table A3

Item #2 Empowering Leadership Questionnaire Frequency from Serrenho (2021)

| My Leader.. "Works as hard as he/she can" | Frequency | Valid Percent | Cumulative Percent |
|---|-----------|---------------|--------------------|
| Totally Disagree | 3 | 2.65% | 2.65% |
| Disagree | 5 | 4.42% | 7.08% |
| Indiferent | 27 | 23.89% | 30.97% |
| Agree | 43 | 38.05% | 69.03% |
| Totally Agree | 35 | 30.97% | 100.00% |

| | | | |
|-------|-----|------|--|
| Total | 113 | 100% | |
|-------|-----|------|--|

Table A4

Item #4 Empowering Leadership Questionnaire Frequency from Serrenho (2021)

| My Leader.. Sets a good example by the way he/she behaves | Frequency | Valid Percent | Cumulative Percent |
|--|-----------|---------------|--------------------|
| Totally Disagree | 2 | 1.77% | 1.77% |
| Disagree | 13 | 11.50% | 13.27% |
| Indiferent | 30 | 26.55% | 39.82% |
| Agree | 39 | 34.51% | 74.34% |
| Totally Agree | 29 | 25.66% | 100% |
| Total | 113 | 100 | |

Table A5

Item #32 Empowering Leadership Questionnaire Frequency from Serrenho (2021)

| My Leader.. Takes the time to discuss work group members' concerns patiently | Frequency | Valid Percent | Cumulative Percent |
|---|-----------|---------------|--------------------|
| Totally Disagree | 7 | 6.19% | 6.19% |
| Disagree | 21 | 18.58% | 24.78% |
| Indiferent | 26 | 23.01% | 47.79% |

| | | | |
|---------------|-----|--------|--------|
| Agree | 39 | 34.51% | 82.30% |
| Totally Agree | 20 | 18% | 100% |
| Total | 113 | 1 | |

Table A6

Item #1 Psychological Empowerment Instrument Frequency from Serrenho (2021)

| "I am confident about my ability to do my job " | | | | |
|--|--------------------------------|-----------|---------------|--------------------|
| | | Frequency | Valid Percent | Cumulative Percent |
| | Neither agree/Neither disagree | 2 | 1.83% | 1.83% |
| | Agree | 25 | 22.94% | 24.77% |
| | Strongly Agree | 47 | 43.12% | 67.89% |
| | Completely Agree | 35 | 32.11% | 100.00% |
| | Total | 109 | 100.00% | |
| Missing | System | 4 | | |
| Total | | 113 | | |

Table A7

Item #6 Psychological Empowerment Instrument Frequency from Serrenho (2021)

"My impact on what happens in my department is large"

| | | Frequency | Valid Percent | Cumulative Percent |
|---------|--------------------------------|-----------|---------------|--------------------|
| | Completely Disagree | 2 | 1.83% | 1.83% |
| | Strongly Disagree | 1 | 0.92% | 2.75% |
| | Disagree | 7 | 6.42% | 9.17% |
| | Neither agree/Neither disagree | 24 | 22.02% | 31.19% |
| | Agree | 40 | 36.70% | 67.89% |
| | Strongly Agree | 27 | 24.77% | 92.66% |
| | Completely Agree | 8 | 7.34% | 100.00% |
| | Total | 109 | 100.00% | |
| Missing | System | 4 | | |
| Total | | 113 | | |

Global results

Table A8

Analysis of the necessary conditions for the outcome variable presence of meaning (fs_Meaning) and absence of meaning (~fs_Meaning)

| Outcome variable: Conditions tested: | fs_Meaning Consistency | fs_Meaning Coverage | Outcome variable: Conditions tested: | ~fs_Meaning Consistency | ~fs_Meaning Coverage |
|---|---------------------------|------------------------|---|----------------------------|-------------------------|
| fs_Age | 0.4977 | 0.9510 | fs_Age | 0.7284 | 0.1693 |
| ~fs_Age | 0.5652 | 0.9448 | ~fs_Age | 0.7893 | 0.1605 |

| | | | | | |
|-------------|--------|--------|-------------|--------|--------|
| fs_Lead | 0.7944 | 0.9468 | fs_Lead | 0.7783 | 0.1128 |
| ~fs_Lead | 0.2556 | 0.9046 | ~fs_Lead | 0.6328 | 0.2724 |
| fs_Coach | 0.7761 | 0.9577 | fs_Coach | 0.6971 | 0.1046 |
| ~fs_Coach | 0.2744 | 0.8817 | ~fs_Coach | 0.7183 | 0.2807 |
| fs_Inf | 0.7439 | 0.9580 | fs_Inf | 0.7174 | 0.1124 |
| ~fs_Inf | 0.3108 | 0.9004 | ~fs_Inf | 0.7318 | 0.2579 |
| fs_Concern | 0.7813 | 0.9579 | fs_Concern | 0.7132 | 0.1063 |
| ~fs_Concern | 0.2710 | 0.8860 | ~fs_Concern | 0.7174 | 0.2852 |
| fs_Dec | 0.7740 | 0.9566 | fs_Dec | 0.7005 | 0.1053 |
| ~fs_Dec | 0.2761 | 0.8834 | ~fs_Dec | 0.7115 | 0.2769 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A9

Analysis of the necessary conditions for the outcome variable presence of competence (fs_Comp)

| Outcome variable: | fs_Compotence | |
|--------------------------|----------------------|----------|
| Conditions tested: | Consistency | Coverage |
| fs_Age | 0.4933 | 0.9849 |
| ~fs_Age | 0.5660 | 0.9886 |
| fs_Lead | 0.7835 | 0.9757 |
| ~fs_Lead | 0.2622 | 0.9698 |
| fs_Coach | 0.7572 | 0.9764 |
| ~fs_Coach | 0.2889 | 0.9699 |
| fs_Inf | 0.7256 | 0.9764 |
| ~fs_Inf | 0.3208 | 0.9714 |
| fs_Concern | 0.7642 | 0.9789 |
| ~fs_Concern | 0.2833 | 0.9677 |
| fs_Dec | 0.7577 | 0.9785 |
| ~fs_Dec | 0.2857 | 0.9552 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A10

Analysis of the necessary conditions for the outcome variable presence of self-determination (fs_Selfd) and absence of self-determination (~fs_Selfd)

| Outcome | variable: | fs_Selfd | Outcome | variable: | ~fs_Selfd |
|----------------|------------------|-----------------|----------------|------------------|------------------|
| Conditions | tested: | | Conditions | tested: | |
| | Consistency | Coverage | | Consistency | Coverage |
| fs_Age | 0.5138 | 0.8911 | fs_Age | 0.7663 | 0.3134 |
| ~fs_Age | 0.6041 | 0.9164 | ~fs_Age | 0.7337 | 0.2625 |
| fs_Lead | 0.8305 | 0.8983 | fs_Lead | 0.7428 | 0.1895 |
| ~fs_Lead | 0.2507 | 0.8052 | ~fs_Lead | 0.6014 | 0.4556 |
| fs_Coach | 0.8161 | 0.9140 | fs_Coach | 0.6702 | 0.1770 |
| ~fs_Coach | 0.2652 | 0.7732 | ~fs_Coach | 0.6745 | 0.4638 |
| fs_Inf | 0.7817 | 0.9137 | fs_Inf | 0.6764 | 0.1865 |
| ~fs_Inf | 0.3040 | 0.7993 | ~fs_Inf | 0.6870 | 0.4261 |
| fs_Concern | 0.8186 | 0.9108 | fs_Concern | 0.6928 | 0.1818 |
| ~fs_Concern | 0.2646 | 0.7851 | ~fs_Concern | 0.6601 | 0.4618 |
| fs_Dec | 0.8136 | 0.9126 | fs_Dec | 0.6615 | 0.1750 |
| ~fs_Dec | 0.2645 | 0.7682 | ~fs_Dec | 0.6697 | 0.4587 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A11

Analysis of the necessary conditions for the outcome variable presence of impact (fs_Impact) and absence of impact (~fs_Impact)

| Outcome | variable: | fs_Impact | Outcome | variable: | ~fs_Impact |
|----------------|------------------|------------------|----------------|------------------|-------------------|
|----------------|------------------|------------------|----------------|------------------|-------------------|

| Conditions | tested: | | Conditions | tested: | |
|-------------|-------------|----------|-------------|-------------|----------|
| | Consistency | Coverage | | Consistency | Coverage |
| fs_Age | 0.5152 | 0.8775 | fs_Age | 0.7574 | 0.3333 |
| ~fs_Age | 0.6085 | 0.9066 | ~fs_Age | 0.7216 | 0.2778 |
| fs_Lead | 0.8356 | 0.8877 | fs_Lead | 0.8016 | 0.2200 |
| ~fs_Lead | 0.2658 | 0.8383 | ~fs_Lead | 0.5907 | 0.4814 |
| fs_Coach | 0.8084 | 0.8891 | fs_Coach | 0.7337 | 0.2085 |
| ~fs_Coach | 0.2804 | 0.8030 | ~fs_Coach | 0.6099 | 0.4512 |
| fs_Inf | 0.7726 | 0.8868 | fs_Inf | 0.7462 | 0.2213 |
| ~fs_Inf | 0.3216 | 0.8307 | ~fs_Inf | 0.6184 | 0.4126 |
| fs_Concern | 0.8124 | 0.8877 | fs_Concern | 0.7663 | 0.2163 |
| ~fs_Concern | 0.2828 | 0.8241 | ~fs_Concern | 0.6023 | 0.4534 |
| fs_Dec | 0.8007 | 0.8821 | fs_Dec | 0.7270 | 0.2069 |
| ~fs_Dec | 0.2801 | 0.7988 | ~fs_Dec | 0.5858 | 0.4317 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Gender results

Table A12

Analysis of the necessary conditions for the outcome variable presence of meaning (fs_Meaning) and absence of meaning (~fs_Meaning) for women

| Outcome Conditions | variable: tested: | fs_Meaning | | Outcome Conditions | variable: tested: | ~fs_Meaning | |
|-----------------------|----------------------|-------------|----------|-----------------------|----------------------|-------------|----------|
| | | Consistency | Coverage | | | Consistency | Coverage |
| fs_Age | 0.5144 | 0.9506 | | fs_Age | 0.7762 | 0.1723 | |
| ~fs_Age | 0.5521 | 0.9536 | | ~fs_Age | 0.7776 | 0.1613 | |
| fs_Lead | 0.7689 | 0.9675 | | fs_Lead | 0.6758 | 0.1021 | |
| ~fs_Lead | 0.2864 | 0.8803 | | ~fs_Lead | 0.7848 | 0.2897 | |
| fs_Coach | 0.7834 | 0.9597 | | fs_Coach | 0.6858 | 0.1009 | |

| | | | | | |
|-------------|--------|--------|-------------|--------|--------|
| ~fs_Coach | 0.2661 | 0.8758 | ~fs_Coach | 0.7260 | 0.2870 |
| fs_Inf | 0.7467 | 0.9608 | fs_Inf | 0.6901 | 0.1067 |
| ~fs_Inf | 0.3057 | 0.8915 | ~fs_Inf | 0.7461 | 0.2613 |
| fs_Concern | 0.7863 | 0.9568 | fs_Concern | 0.6958 | 0.1017 |
| ~fs_Concern | 0.2618 | 0.8775 | ~fs_Concern | 0.7044 | 0.2837 |
| fs_Dec | 0.7824 | 0.9560 | fs_Dec | 0.6844 | 0.1004 |
| ~fs_Dec | 0.2638 | 0.8744 | ~fs_Dec | 0.7001 | 0.2787 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A13

Analysis of the necessary conditions for the outcome variable presence of meaning (fs_Meaning) for men

| Outcome variable: | fs_Meaning | |
|--------------------------|-------------------|----------|
| Conditions tested: | Consistency | Coverage |
| fs_Age | 0.4907 | 0.9510 |
| ~fs_Age | 0.5665 | 0.9319 |
| fs_Lead | 0.8322 | 0.9198 |
| ~fs_Lead | 0.2100 | 0.9580 |
| fs_Coach | 0.7653 | 0.9547 |
| ~fs_Coach | 0.2868 | 0.8899 |
| fs_Inf | 0.7397 | 0.9539 |
| ~fs_Inf | 0.3183 | 0.9135 |
| fs_Concern | 0.7739 | 0.9595 |
| ~fs_Concern | 0.2848 | 0.8977 |
| fs_Dec | 0.7617 | 0.9576 |
| ~fs_Dec | 0.2943 | 0.8958 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing

concern/interacting with the team; Dec= participative decision-making

Table A14

Analysis of the necessary conditions for the outcome variable presence of competence (fs_Compotence) for women

| Outcome | variable: | fs_Compotence |
|----------------|------------------|----------------------|
| Conditions | tested: | |
| | Consistency | Coverage |
| fs_Age | 0.5093 | 0.9780 |
| ~fs_Age | 0.5499 | 0.9869 |
| fs_Lead | 0.7456 | 0.9748 |
| ~fs_Lead | 0.3051 | 0.9746 |
| fs_Coach | 0.7637 | 0.9721 |
| ~fs_Coach | 0.2821 | 0.9648 |
| fs_Inf | 0.7257 | 0.9703 |
| ~fs_Inf | 0.3196 | 0.9683 |
| fs_Concern | 0.7705 | 0.9742 |
| ~fs_Concern | 0.2779 | 0.9682 |
| fs_Dec | 0.7677 | 0.9747 |
| ~fs_Dec | 0.2774 | 0.9555 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A15

Analysis of the necessary conditions for the outcome variable presence of competence (fs_Compotence) for men

| Outcome | variable: | fs_Compotence |
|----------------|------------------|----------------------|
| Conditions | tested: | |

| | Consistency | Coverage |
|-------------|-------------|----------|
| fs_Age | 0.4858 | 0.9921 |
| ~fs_Age | 0.5721 | 0.9916 |
| fs_Lead | 0.8388 | 0.9768 |
| ~fs_Lead | 0.1995 | 0.9592 |
| fs_Coach | 0.7476 | 0.9828 |
| ~fs_Coach | 0.2989 | 0.9770 |
| fs_Inf | 0.7253 | 0.9855 |
| ~fs_Inf | 0.3227 | 0.9758 |
| fs_Concern | 0.7549 | 0.9861 |
| ~fs_Concern | 0.2912 | 0.9670 |
| fs_Dec | 0.7430 | 0.9843 |
| ~fs_Dec | 0.2977 | 0.9549 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A16

Analysis of the necessary conditions for the outcome variable presence of self-determination (fs_Selfd) and absence of self-determination (~fs_Selfd) for women

| Outcome | variable: | fs_Selfd | Outcome | variable: | ~fs_Selfd |
|----------------|------------------|-----------------|----------------|------------------|------------------|
| Conditions | tested: | | Conditions | tested: | |
| | Consistency | Coverage | | Consistency | Coverage |
| fs_Age | 0.5210 | 0.8538 | fs_Age | 0.7696 | 0.3318 |
| ~fs_Age | 0.5923 | 0.9071 | ~fs_Age | 0.6610 | 0.2664 |
| fs_Lead | 0.8037 | 0.8968 | fs_Lead | 0.6994 | 0.2053 |
| ~fs_Lead | 0.2878 | 0.7844 | ~fs_Lead | 0.6484 | 0.4650 |
| fs_Coach | 0.8300 | 0.9016 | fs_Coach | 0.6477 | 0.1851 |
| ~fs_Coach | 0.2499 | 0.7294 | ~fs_Coach | 0.6558 | 0.5037 |
| fs_Inf | 0.7872 | 0.8982 | fs_Inf | 0.6440 | 0.1933 |
| ~fs_Inf | 0.2930 | 0.7578 | ~fs_Inf | 0.6610 | 0.4497 |

| | | | | | |
|-------------|--------|--------|-------------|--------|--------|
| fs_Concern | 0.8321 | 0.8979 | fs_Concern | 0.6699 | 0.1902 |
| ~fs_Concern | 0.2495 | 0.7418 | ~fs_Concern | 0.6403 | 0.5009 |
| fs_Dec | 0.8263 | 0.8953 | fs_Dec | 0.6499 | 0.1853 |
| ~fs_Dec | 0.2482 | 0.7293 | ~fs_Dec | 0.6329 | 0.4894 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A17

Analysis of the necessary conditions for the outcome variable absence of self-determination

(~fs_Selfd) for men

| Outcome | variable: | ~fs_Selfd |
|----------------|------------------|------------------|
| Conditions | tested: | |
| | Consistency | Coverage |
| fs_Age | 0.7824 | 0.2812 |
| ~fs_Age | 0.8444 | 0.2576 |
| fs_Lead | 0.8237 | 0.1688 |
| ~fs_Lead | 0.5138 | 0.4347 |
| fs_Coach | 0.7121 | 0.1648 |
| ~fs_Coach | 0.7094 | 0.4081 |
| fs_Inf | 0.7369 | 0.1762 |
| ~fs_Inf | 0.7355 | 0.3915 |
| fs_Concern | 0.7355 | 0.1691 |
| ~fs_Concern | 0.6970 | 0.4074 |
| fs_Dec | 0.6832 | 0.1593 |
| ~fs_Dec | 0.7383 | 0.4168 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A18

Analysis of the necessary conditions for the outcome variable presence of impact (fs_Impact) and absence of impact (~fs_Impact) for women

| Outcome | variable: | fs_Impact | Outcome | variable: | ~fs_Impact |
|-------------|-------------|-----------|-------------|-------------|------------|
| Conditions | tested: | | Conditions | tested: | |
| | Consistency | Coverage | | Consistency | Coverage |
| fs_Age | 0.5194 | 0.8338 | fs_Age | 0.7767 | 0.3611 |
| ~fs_Age | 0.6020 | 0.9030 | ~fs_Age | 0.6425 | 0.2792 |
| fs_Lead | 0.8127 | 0.8881 | fs_Lead | 0.7849 | 0.2485 |
| ~fs_Lead | 0.3123 | 0.8337 | ~fs_Lead | 0.6466 | 0.5000 |
| fs_Coach | 0.8167 | 0.8689 | fs_Coach | 0.7397 | 0.2280 |
| ~fs_Coach | 0.2744 | 0.7845 | ~fs_Coach | 0.5747 | 0.4759 |
| fs_Inf | 0.7734 | 0.8643 | fs_Inf | 0.7466 | 0.2417 |
| ~fs_Inf | 0.3214 | 0.8141 | ~fs_Inf | 0.5808 | 0.4261 |
| fs_Concern | 0.8264 | 0.8733 | fs_Concern | 0.7637 | 0.2338 |
| ~fs_Concern | 0.2750 | 0.8007 | ~fs_Concern | 0.5863 | 0.4945 |
| fs_Dec | 0.8113 | 0.8610 | fs_Dec | 0.7356 | 0.2262 |
| ~fs_Dec | 0.2708 | 0.7796 | ~fs_Dec | 0.5479 | 0.4569 |

Note. Cut-off for consistency: 0.85; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Table A19

Analysis of the sufficient conditions for the outcome variable impact for women- Intermediate solution

| | raw coverage | unique coverage | consistency |
|-----------------------------------|--------------|-----------------|-------------|
| fs_Age*fs_Lead*fs_Dec | 0.3827 | 0.0202 | 0.9319 |
| fs_Age*fs_Coach*fs_Concern*fs_Dec | 0.3784 | 0.0145 | 0.9221 |
| fs_Coach*fs_Inf*fs_Concern*fs_Dec | 0.7188 | 0.3831 | 0.8952 |
| solution coverage: 0.7817 | | | |

solution consistency: 0.8965

Note. Cut-off for solution consistency: 0.90; ~ means absence of the respective condition

Specific Note. Lead= leading by example; Coach= coaching; Inf= informing; Concern= showing concern/interacting with the team; Dec= participative decision-making

Appendix B

Research Protocol from Serrenho (2021)

Liderança e Trabalho

O objetivo deste estudo é estudar a relação entre características da liderança e outros aspetos do trabalho e daqueles(as) que o realizam. A informação recolhida destina-se a uma dissertação de mestrado na Universidade de Évora (autora e orientadores identificados abaixo).

A sua participação é voluntária, podendo desistir a qualquer momento, se assim o entender. Todas as respostas individuais serão confidenciais e anónimas. Apenas a equipa de investigação terá acesso às mesmas, que serão tratadas estatisticamente. Os resultados globais (agrupados) serão utilizados na dissertação e serão apresentados à empresa um breve relatório como fonte de informação. Todos os respondentes terão igualmente acesso à informação sobre os resultados globais, caso solicitem os mesmos por email. Pode solicitar esclarecimentos adicionais no seguinte email ou telemóvel:

Rita Serrenho Email: rita_bps@hotmail.com Tlm: 926072342

Andreia Dionísio (orientadora)

Nuno Rebelo dos Santos (orientador)

Paulo Silva (orientador)

Muito obrigada desde já pela sua participação!

Ao responder, assumimos que compreendeu os procedimentos descritos e que esclareceu eventuais dúvidas.

Instruções de Preenchimento

O questionário está dividido em 4 grupos, cada um dos quais com uma breve instrução de preenchimento. O primeiro grupo é constituído por três questões relacionadas com a sua última avaliação de desempenho. O segundo e terceiro grupos são constituídos por uma única questão cada, ao qual se segue um conjunto de preposições relacionadas, sendo 38 preposições no caso do primeiro grupo e 16 preposições no caso do segundo. O quarto grupo é constituído por 7 questões diretas para a caracterização do respondente. É previsto que as respostas a todas as questões não tomem mais que 15 minutos.

Não existem respostas certas ou erradas, sendo válidas na medida em que expressam realmente o seu ponto de vista. Solicitamos que responda a todas as afirmações, pois a ausência de respostas a algumas questões pode comprometer a inclusão do seu questionário no estudo.

Para responder deve seleccionar com o cursor a sua opção de resposta a cada uma das preposições/questões. Caso se engane pode seleccionar a nova opção de resposta. Se, em qualquer momento, pretender abandonar o questionário, para retomar mais tarde a resposta, pode fazê-lo ao seleccionar a opção "continuar mais tarde".

Grupo I – Avaliação de Desempenho

Neste primeiro grupo solicitamos que responda a três questões sobre a sua última avaliação de desempenho.

- 1. Indique, por favor, qual foi a avaliação que obteve na sua última avaliação de**

desempenho.

2. Indique, por favor, qual a escala de avaliação de desempenho utilizada na sua organização.

3. Indique, por favor, qual o período a que corresponde a avaliação de desempenho indicada na primeira pergunta.

Grupo II – Liderança

Pretendemos que nos dê a sua visão sobre o modo como o seu superior hierárquico direto exerce a sua função. O “superior hierárquico direto” é aquela pessoa hierarquicamente acima que diretamente coordena e/ou supervisiona o seu trabalho, e a quem mais frequentemente reporta. **Ao responder a estas questões deverá responder considerando o “superior hierárquico direto” a que reportou durante o período de avaliação de desempenho a que se referiu no grupo de questões anterior.**

A expressão “grupo de trabalho” significa o departamento, equipa, secção ou outra designação para a unidade orgânica onde se enquadra o seu trabalho como equipa.

Para cada afirmação classifique a frequência com que, ao exercer as suas funções, o modo de agir do seu superior hierárquico direto corresponde à afirmação colocada, de acordo com a legenda:

Legenda: 1 – Nunca (nunca se comporta assim); 2 – Raramente; 3 – Algumas vezes; 4 – Muitas vezes; 5 – Sempre (sempre se comporta assim)

| O/A meu/minha superior(a) hierárquico(a)/supervisor(a)/coordenador(a)/chefe de secção: | | | | | |
|---|---|---|---|---|---|
| 1. Estabelece elevados padrões de desempenho pelo seu próprio comportamento | 1 | 2 | 3 | 4 | 5 |
| 2. Trabalha tanto quanto pode | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|--|---|---|---|---|---|
| 3. Trabalha tão duro como qualquer pessoa no meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 4. Dá um bom exemplo pela forma como ele/ela se comporta | 1 | 2 | 3 | 4 | 5 |
| 5. Lidera pelo exemplo | 1 | 2 | 3 | 4 | 5 |
| 6. Incentiva os membros do grupo a expressar ideias / sugestões | 1 | 2 | 3 | 4 | 5 |
| 7. Escuta as ideias e sugestões do meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 8. Utiliza as sugestões do meu grupo de trabalho para tomar decisões que nos afetam | 1 | 2 | 3 | 4 | 5 |
| 9. Dá a todos os membros do grupo a oportunidade de expressar as suas opiniões | 1 | 2 | 3 | 4 | 5 |
| 10. Tem em conta as ideias do meu grupo de trabalho quando não concorda com elas | 1 | 2 | 3 | 4 | 5 |
| 11. Toma decisões que são baseadas apenas nas suas próprias ideias | 1 | 2 | 3 | 4 | 5 |
| 12. Ajuda-nos a ver áreas em que precisamos de mais formação | 1 | 2 | 3 | 4 | 5 |
| 13. Sugere formas de melhorar o desempenho do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 14. Incentiva os membros do grupo de trabalho a resolver em conjunto os problemas | 1 | 2 | 3 | 4 | 5 |
| 15. Incentiva os membros do grupo de trabalho a trocar informações entre si | 1 | 2 | 3 | 4 | 5 |
| 16. Ajuda os membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 17. Explica aos membros do grupo de trabalho como resolver problemas por si próprios | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 18. Presta atenção aos esforços do meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 19. Informa o meu grupo de trabalho quando fazemos algo bem feito | 1 | 2 | 3 | 4 | 5 |
| 20. Apoia os esforços do meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 21. Ajuda o meu grupo e trabalho a focar-se nos nossos objetivos | 1 | 2 | 3 | 4 | 5 |
| 22. Ajuda a desenvolver boas relações entre os membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 23. Explica as decisões da organização | 1 | 2 | 3 | 4 | 5 |
| 24. Explica os objetivos da organização | 1 | 2 | 3 | 4 | 5 |
| 25. Explica como o meu grupo de trabalho se encaixa na organização | 1 | 2 | 3 | 4 | 5 |
| 26. Explica ao meu grupo de trabalho o propósito das políticas da organização | 1 | 2 | 3 | 4 | 5 |
| 27. Explica ao meu grupo de trabalho as regras e as expectativas | 1 | 2 | 3 | 4 | 5 |
| 28. Explica as suas decisões e ações ao meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 29. Preocupa-se com os problemas pessoais dos membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 30. Mostra preocupação pelo bem-estar dos membros do grupo | 1 | 2 | 3 | 4 | 5 |
| 31. Trata como iguais os membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 32. Toma o tempo necessário a discutir as preocupações dos membros do grupo de trabalho com paciência | 1 | 2 | 3 | 4 | 5 |
| 33. Demonstra preocupação pelo sucesso dos membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 34. Mantém o contacto com o meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 35. Entende-se bem com os membros do meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 36. Dá respostas honestas e justas aos membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 37. Sabe que trabalho está a ser feito no meu grupo de trabalho | 1 | 2 | 3 | 4 | 5 |
| 38. Encontra tempo para conversar com os membros do grupo de trabalho | 1 | 2 | 3 | 4 | 5 |

Grupo II - Empoderamento

O seguinte conjunto de questões diz respeito à forma como sente/percebe o seu trabalho. **Deverá responder a estas questões pensando na forma como se sentiu durante o período em que decorreu a sua última avaliação de desempenho.**

Não existem respostas certas ou erradas, sendo importante que para cada afirmação diga se concorda mais ou menos conforme a seguinte legenda:

Legenda: A. Discordo Plenamente; B. Discordo Fortemente; C. Discordo; D. Nem Discordo/Nem Concordo; E. Concordo; F. Concordo Fortemente; G. Concordo Plenamente

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| 1. Estou confiante das minhas capacidades em realizar o meu trabalho | A | B | C | D | E | F | G |
| 2. O trabalho que faço é importante para mim | A | B | C | D | E | F | G |
| 3. Tenho autonomia suficiente para determinar como faço o meu trabalho | A | B | C | D | E | F | G |
| 4. O meu impacto naquilo que acontece no meu serviço é grande | A | B | C | D | E | F | G |

| | | | | | | | |
|--|---|---|---|---|---|---|---|
| 5. As minhas atividades profissionais são, pessoalmente, importantes para mim | A | B | C | D | E | F | G |
| 6. Tenho um grande controlo sobre o que acontece no meu serviço | A | B | C | D | E | F | G |
| 7. Posso decidir por mim mesmo como proceder para fazer o meu trabalho | A | B | C | D | E | F | G |
| 8. Preocupo-me realmente com aquilo que faço no meu trabalho | A | B | C | D | E | F | G |
| 9. O meu trabalho está perfeitamente dentro do âmbito das minhas competências | A | B | C | D | E | F | G |
| 10. Tenho boas condições para exercer o meu trabalho de forma independente e livre | A | B | C | D | E | F | G |
| 11. Domino as competências necessárias para o meu trabalho | A | B | C | D | E | F | G |
| 12. A minha opinião é relevante na tomada de decisões no meu serviço | A | B | C | D | E | F | G |
| 13. O trabalho que faço tem significado para mim | A | B | C | D | E | F | G |
| 14. Tenho uma influência significativa sobre o que acontece no meu serviço | A | B | C | D | E | F | G |
| 15. Estou confiante das minhas capacidades para realizar as minhas atividades laborais | A | B | C | D | E | F | G |
| 16. Tenho a possibilidade de utilizar a iniciativa pessoal na execução do meu trabalho | A | B | C | D | E | F | G |

Grupo III – Informações gerais

Neste último grupo é-lhe solicitado que complete este questionário acerca dos seus dados sociodemográficos para fins exclusivamente estatísticos e que serão tratados de forma confidencial.

1. Sexo:

- Feminino
- Masculino
- Outro

2. Ano de nascimento: _____

3. Habilitações literárias

- Não completou 1º Ciclo do Ensino Básico ou 4ª Classe
- 1º Ciclo do Ensino Básico ou 4ª Classe
- 2º Ciclo do Ensino Básico ou 6º Ano
- 3º Ciclo do Ensino Básico ou 9º Ano
- Ensino Secundário (12º Ano)
- Bacharelato
- Licenciatura em curso
- Licenciatura concluída (pós Bolonha)

- Pós-Graduação/ Mestrado (pós Bolonha) ou Licenciatura (pré Bolonha)
- Mestrado (pré Bolonha)
- Doutoramento

4. Função Desempenhada/Categoria Profissional:

5. Tempo de Trabalho na Função Atual:

6. Tempo de Trabalho na Organização:

7. Que tipo de contrato tem com a organização:

- Prestador de serviços (recibos verdes)
- Contrato a termo (certo ou incerto)
- Contrato sem termo/efetivo

Muito obrigada pela sua colaboração!