



UNIVERSIDADE CATÓLICA PORTUGUESA

Employees' intention to leave their organization: a signal detection theory approach

Margarida Daniela Delgado Guedes



UNIVERSIDADE CATÓLICA PORTUGUESA

Employees' intention to leave their organization: a signal detection theory approach

Final Assignment in the form of Dissertation presented to Catholic University of
Portugal to obtain the Master Degree in Management with specialization in Business
Analytics

by

Margarida Daniela Delgado Guedes

Supervised by

Prof. Dra. Eva Oliveira

Católica Porto Business School
May 2021

Acknowledgements

To my research supervisor, Professor Eva Oliveira, for her precious advice and guidance. Also, to Professor Tiago Paiva for the valuable extra help.

To family, friends and boyfriend for the support during this journey.

Resumo

O turnover representa um grande problema para as organizações. Gera custos elevados tanto para estas como para os colaboradores. Posto isto, é necessário reduzir as taxas deste indicador nas organizações. O primeiro sinal de saída é a intenção da mesma. Para prevenir que isto se concretize, é preciso entender quais as causas dessa intenção. Neste estudo, destacam-se 2 objetivos, usando a teoria de deteção de sinal como princípio: 1) determinar quais as variáveis que atuam como sinais que indicam intenção de saída dos colaboradores e 2) medir o risco incremental desses não discordarem da intenção de saída, quando na presença dessas variáveis. Saber quais as variáveis que permitem prever se os colaboradores têm ou não intenção de saída, é muito útil para as equipas de gestão.

Para fazer esta análise, iniciou-se com uma revisão de literatura que destacou algumas das variáveis mais importantes relacionadas com a intenção de saída por parte dos trabalhadores. Depois dessa identificação, foi elaborado um questionário no qual essas variáveis e a intenção de saída por parte dos inquiridos foram medidas. Com os resultados do questionário, foi feita uma análise, considerando a teoria de deteção de sinal, que mostrou quais as variáveis que, naquela amostra, tiveram um poder discricionário elevado, as variáveis com maior poder para fazer uma divisão entre trabalhadores que discordam da intenção de saída e trabalhadores que não discordam dessa mesma intenção. Para identificar o risco incremental dos colaboradores não discordarem da intenção de saída aquando da presença dessas variáveis, foi feita uma análise odds ratio.

Concluiu-se que, em Portugal, no setor da saúde, este tópico ainda não foi exaustivamente estudado e que são ainda mais escassos estudos que usem a teoria de deteção de sinal para prever a intenção de saída dos trabalhadores. As variáveis que apresentaram maior poder discricionário foram: compromisso afetivo, motivação identificada, clima no trabalho, sofrimento moral e o rendimento mensal.

Compromisso afetivo foi a variável com maior risco incremental de desenvolvimento da não discordância da intenção de saída, quando o nível do mesmo fica abaixo de determinado valor. Assim sendo, estas são as variáveis que os gestores de recursos humanos devem ter em conta para prevenir que os trabalhadores abandonem as organizações.

Palavras-chave: intenção de saída, compromisso organizacional, motivação, sofrimento moral e clima no trabalho

Abstract

Employee turnover represents a big problem for organizations. It generates huge costs for organizations and employees. Therefore, it is imperative to decrease turnover rates. The first sign of turnover is turnover intention. To prevent the actual turnover, it is necessary to know which aspects tend to raise turnover intention. There can be stated two main goals in this study, with signal detection theory as baseline: 1) determine which variables act as signals that determine the presence of employees' turnover intention, 2) understand how much is the incremental risk of employees not disagreeing of turnover intention when some variables are present with a certain value. Knowing which variables allow a prediction of employees' turnover intention is useful for managers.

To do this analysis, a review of literature highlighted some of the most important variables related to turnover. After the variables were identified, a questionnaire was conducted, measuring those variables and turnover intention. With the results from the questionnaire, an analysis was performed, taking into account signal detection theory. This analysis highlighted the variables that, in that sample, showed a higher discretionary power, which variables make a more accurate division between employees who disagree of having turnover intention and employees who do not disagree of that intention. To identify the incremental risk of employees not disagreeing of turnover intentions in the presence of these variables, an odds ratio analysis was also performed.

It was concluded that the study of turnover intention antecedents in healthcare industry in Portugal has not been much explored and that, in these studies, is even rarer to use signal detection theory as a baseline. The variables that showed higher discretionary power were affective commitment, identified motivation, work climate, moral distress and the monthly income that employees receive. Affective commitment is the variable with the higher incremental risk for the development of

the not disagreement of turnover intention when the rank goes lower than a certain value. Therefore, these are the variables that human resource managers might take into account to prevent that employees leave their organizations.

Keywords: turnover intention, organizational commitment, motivation, moral distress, work climate

Table of contents

Acknowledgements	iv
Resumo	vi
Abstract.....	ix
Table of contents	xii
Figure index	xv
Table index.....	xvii
Introduction	19
1 Literature review and hypotheses formulation.....	23
1.1 Motivation, organizational commitment, work climate, moral distress and turnover intention.....	24
1.1.1 Motivation, organizational commitment and turnover intention	24
1.1.2 Work climate, moral distress and turnover intention	28
1.2 Signal detection theory.....	31
1.3 Proposed model	34
2 Method.....	35
2.1 Participants	35
2.2 Instrument and scales.....	35
2.3 Procedure	37
2.4 Statistical procedure and data analysis.....	38
3 Results.....	40
3.1 Area Under the Curve (AUC) / Cut-off values.....	40

3.2 Odds ratio.....	45
4 Discussion	46
4.1 Theoretical implications.....	46
4.2 Managerial implications	49
4.3 Conclusion	51
4.4 Limitations and future research.....	51
5 References	53
6 Appendix.....	69

Figure index

Figure 1: Proposed model.....	34
Figure 2: Values for AUC.....	42
Figure 3: ROC curve for work climate	43
Figure 4: ROC curve for affective commitment.....	43
Figure 5: ROC curve for identified motivation.....	43
Figure 6: ROC curve for moral distress	44
Figure 7: ROC curve for moral distress (suffer)	44
Figure 8: ROC curve for monthly income	44

Table index

Table 1: Possible outcomes	32
Table 2: Sociodemographic sample profile	35
Table 3: Variables' code.....	38
Table 4: Results.....	40

Introduction

Employee voluntary turnover is a big concern for organizations in general and, therefore, it represents a big concern for the healthcare sector. Replacing a nurse might cost between \$11 740 (Wise, 1990) and \$36 567 (Lewin Group, 2009). Examples of these costs are costs related to recruitment, selection, hiring and training the new workers (Galleta et al., 2011). Moreover, it represents the loss of capable and qualified workers. This has problematic results for organizations such as reduction of competitiveness and the decrease in the quality of the services offered to the patients, in the context of healthcare industry.

Retaining qualified healthcare employees is considered a critical factor to ensure hospital care quality (Hwang & Chang, 2009). Identifying risk factors that lead to turnover provide managers with some directions about their course of action (Tuzun, 2007). Taking into account the theory of planned behaviour, the plans are the best predictors of the actions (Ajzen, 1991). In the same vein, the intention to leave is seen as the most accurate predictor of the actual turnover (Kash, Naufal, Cortés, & Johnson, 2010).

Therefore, it becomes very relevant to study which aspects tend to induce turnover, so that managers can use that information to anticipate and prevent the actual turnover.

Past literature has claimed that both individual and organizational factors have implications on turnover intention (Tai, Bame, & Robinson, 1998). However, there is reason to believe that facing stressful work environments has a bigger impact on turnover intentions than individual factors (Coomber & Barribal, 2007). Millete (1994) found that up to half of nurses reported leaving their job due to moral distress. Therefore, the presence of moral distress and how managers deal with this issue has bad outcomes for healthcare organizations (Mitton et al., 2010).

In addition, work climate seems to have impact on both the organizational

and individual factors (Burton, Lauridsen, & Obel, 2004). Work climate is often related to positive or negative work experiences (Schneider, 1980) which is in turn associated to the satisfaction and frustration of psychological needs. In this sense, a positive perceived work climate is essential for individuals' well-being, while negative work climate increases the risk for passivity, ill-being and defensiveness which represents a stronger and more threatening experience than the mere absence of its fulfilment (Vansteenkiste & Ryan, 2013). Within basic psychological need theory, there are three basic psychological needs: autonomy, relatedness, and competence (Deci & Ryan, 2000). In a review on the emerging neuroscience of intrinsic motivation, DI Domenico et al (2017) claims that whereas strong associations between exploratory intrinsic motivations and satisfactions of competence and autonomy have been clearly demonstrated, relatedness is usually seen to play a more distal role in the expression of these intrinsic motivations. The work climate has been considered an important factor to take into account in the strategies of hospital personnel management (Snow, 2002). The work climate that employees are in and how the supervisors deal with them has an impact in their motivation, which in turn, impacts turnover intentions (Deci, Connell, & Ryan, 1989). The quality of motivation is related to the fulfilment of autonomy, competence and relatedness. Motivation and leadership styles have been seen as connected concepts (Evans, 1970). Motivation seems to be shaped by relationships with reference figures, such as leaders (Weinstein & De Haan, 2014). Since this relationship with leaders is important, this is in line with self-determination theory, in what concerns to the need for relatedness, the feeling of connection with the others.

Efforts to improve the organizational climate seems to be a valuable strategy for improving organizational commitment (Bahrami, Barati, Ghoroghchian, Montazer-Alfaraj, & Ezzatabadi, 2016). Research has identified organizational commitment as one of the most important predictors of turnover intention (Meyer, Becker, & Vandenberghe, 2004). Leaders that demonstrate a supportive behaviour towards employees influence the sense of duty of the employees to stay committed to

the organization (Anis, Khan, & Humayoun, 2011; Rynes, 2004).

This study aims to propose a model that enables the monitorization of turnover intention, preventing it in advance. This was proposed in my internship, in the human resources department, since this is a very important field for organizations and the study of it has been limited in Portugal. The variables that seem to predict turnover intention are motivation, organizational commitment, moral distress and work climate. These variables are used to predict the state of disagreeing or not of having turnover intention. The detection of the signals that indicate if employees might have turnover intention or not and measuring them in organizations is important for employers. Measuring them in the organizational context and seeing if they are above/below a certain level, lights a green or a red light, metaphorically, for managers, like a semaphore. It lights up a red light if those variables are in a level that predicts the presence of turnover intention or it turns up a green light otherwise.

The study is structured accordingly. First, the existing literature is examined in the light of turnover intention' antecedents. The literature review is divided in 2 sections. The first one is directed to internal factors (motivation and affective commitment) that might induce turnover intention whereas the second one is directed to external factors (moral distress and work climate). Then, a conceptual model to test which variables are useful to divide employees that disagree/ do not disagree of turnover intention is proposed, and the methodology that enables it is applied. Subsequently, the results are presented and the theoretical/ managerial implications and further directions are outlined.

1 Literature review and hypotheses formulation

Employee turnover is costly for organizations and its members. In fact, the society for human resource management estimated that it costs \$3 500 approximately to replace an employee that cost \$8 per hour. Turnover causes direct and indirect costs. For example, interviewing, hiring, training, compensation and benefits while training employees to obtain a certain level of efficacy, the loss of productivity and the need to use temporary workers in between are considered to be direct costs. These costs tend to be higher when related to high performance employees (Blake, 2006). The indirect costs are those related to the decrease in the efficiency of the employees before those employees leave, as well as the negative effect prior to their leaving on coworkers' engagement (Staw, 1980). In the particular context of health care institutions, the nursing workforce has been having some attention. Hayes reported that, each year, 1/5 nurses leave their job (Hayes et al., 2006) and the costs related to unfilled nurse positions might go up to \$25 000 for each establishment (O'Brien Pallas et al., 2008). Although minimum attention has been given to the effects of turnover on employees, they are also important (Staw, 1980). For employees that develop turnover intention, job changes can be stressful (Brett, 1980). These changes can result in a transitional crisis (Schein, 1978). In fact, job change is a factor that influences both employees and their families since some of the alternatives involve relocating (Munton, 1990).

One of the most accurate predictors of the actual personnel turnover is turnover intention (Homburg, van der Heijden, & Valkenburg, 2013). Turnover intention involves a conscious desire to leave an organization (Alniacik, Cigerim, Akcin, & Bayram, 2011). It is the final cognitive step in the decision-making process when considering leaving a job (Tett & Meyer, 1993) and it can be seen as a personal desire to leave an organization (Elangovan, 2001). It is proposed that this intention derives from psychological factors and working conditions/ workplace events (Moreno-Jiménez, Gálvez-Herrer, Rodríguez-Carvajal, & Vergel, 2012). Therefore, the

study of employee's turnover intention is important to develop human resource strategies of coping aiming to improve the quality of working life of organizational members as well as to reduce the costs of employee turnover (Mowday, 1984). In order to do so, it is important to identify which aspects tend to raise turnover intention, which aspects are its antecedents (Holtom, Mitchell, Lee, & Eberly, 2008).

Taking into account past studies, the antecedents of turnover intentions might be divided into two groups. One group includes the intrinsic/ internal factors, for example, workers' personality dimensions, being employee issues a major contributor to the failure of many organizations (Saeed, 2020). The other group includes external/ extrinsic factors, such as, characteristics of the organization, interpersonal conflicts, alternative job employment, bullying at work, role ambiguity, etc (Ganco, Ziedonis, & Agarwal, 2015). Both types of factors are valued by employees when determining the level of employee job satisfaction therefore, they shall be taken into consideration.

For the purposes of the present study the internal factors are motivation and affective commitment and the external factors are work climate and moral distress.

1.1 Motivation, organizational commitment, work climate, moral distress and turnover intention

1.1.1 Motivation, organizational commitment and turnover intention

Evidence shows that employees are more likely to stay in their organizations when their motivation is high. There are a few distinct types of motivation, such as intrinsic motivation, identified motivation, introjected motivation and extrinsic motivation. Intrinsic motivation is present when employees find joy and interest in performing the tasks required by their jobs. It is seen as the presence of motivation to perform an activity for the pleasure that the task brings in itself (Deci et al., 1989). It

represents the highest quality of motivation (Deci & Ryan, 2008). Extrinsic motivation is described as completing an activity to comply with a demand, avoid punishments or gain external rewards (Deci & Ryan, 1985). It is seen as the most externalised type of extrinsic motivation (Deci & Ryan, 2008). Introjected motivation, a slightly more internalised type of extrinsic motivation, is when an action is regulated by internally punishments or rewards such as feelings of worth, ego and personal status (Deci, Olafsen, & Ryan, 2017). Identified motivation is present when individuals identify themselves with the value and importance of the action. It is the most internalised type of extrinsic motivation (Deci, Eghrari, Patrick, & Leone, 1994). The different types of motivation can be combined into autonomous and controlled motivation. Autonomous motivation includes intrinsic and identified motivation whereas controlled motivation includes introjected and external motivation (Gillet, Gagné, Sauvagère, & Fouquereau, 2013). Self-determination theory states that autonomous motivation reflects the best regulation. This is because when autonomous motivation is present a person behaves with a full sense of choice whereas when controlled motivation is present it tends to be associated with bad outcomes such as turnover intention (Dysdik & Kuvaas, 2008). If employees perceive external rewards as means of control they become less willing to develop the tasks (Kim, 2018).

Self-determination theory states that the quality of individual's motivation relates to work contexts and how it supports basic needs fulfilment (Ryan & Deci, 2000). To feel the joy that intrinsic motivation brings, it is necessary to fulfil three psychological needs such as autonomy, competence and relatedness (Dysvik & Kuvaas, 2010). Self determination theory proposes that when the needs for competence, relatedness and autonomy are being met employees are, more likely, engaged in activities for personal enjoyment (Ryan & Deci, 2006). To fulfil the need for autonomy, employees need to feel that they can perform their tasks when and how they want. Whereas, when employees fulfil the need for competence, they tend to see the tasks as challenges, ways of improvement and feel confident about their expertise to carry out the tasks their jobs demand. The last one is the need of relatedness.

Employees need to feel connected with their co-workers, maintaining high quality interpersonal relationships, with a sense of belonging and connection (Ryan & Deci, 2000). Feeling connected with co-workers might foster a great work climate that helps employees when they face stressful situations, helping them to get through them successfully (Cole, Ibrahim, & Shannon, 2005). According to previous studies, if employees fulfil these needs it reduces the nurses' turnover intention by reducing stress associated with job demands (Boudrias, Trépanier, Foucreault, Peterson, & Fernet, 2020). The need for autonomy was found to be the fundamental one to the emergence of intrinsic motivation (Gagné & Deci, 2005). Humphrey, Nahrgang, and Morgeson (2007) conducted a meta-analysis, where it was stated that perceived job autonomy is positively related to important results such as intrinsic motivation and organizational commitment. In the particular case of the nursing field, it was shown that autonomy and responsibility level perceived by workers in their daily lives, when performing their tasks, is one of the most important factors related to retention strategies (Kramer & Schmalenberg, 2002). Motivation seems to have a negative influence in turnover intention (Dysdik & Kuvaas, 2010).

The theories of motivation and organizational commitment are both seen as energizing forces with implication for the behaviour (Meyer et al., 2004). Motivation is described as a body of energizing forces meanwhile commitment as a force that connects the individual to its behaviours (Galleta et al., 2011).

The retainment of valuable employees seems to be related to their organizational commitment towards the organization that they are in (Qamar, 2017). This is in line with Shore and Tetrick (1991) who considered that committed employees shall stay in the organization even if other opportunities come up, compared to the less committed workers. The concept of commitment was firstly introduced in 1960 and it was explained as a mechanism producing consistent human behaviour (Becker, 1960). This commitment reflects the extent to which employees identify with the organization and match its goals (Meyer & Herscovitch, 2011). Organizational commitment comprises 3 dimensions: normative, affective and

continuance commitment. The normative commitment represents the employees who stay in the organization because they face pressure from others to do so, they ought to. The continuance commitment represents the costs of leaving the organization, employees that continue there because they cannot afford to do otherwise. When an employee stays in the organization because he wants to, because he feels emotionally attached to the organization, he feels affective commitment towards the organization (Meyer & Herscovitch, 2001). Many studies about organizational commitment have shown that employees who are committed to their organizations can aid higher productivity (Riketta, 2002). Previous studies indicate that the affective commitment is the indicator that influences the most the turnover intention (Sjöberg & Sverke, 2000). Results also showed that affective commitment is negatively related to turnover intentions (Allen and Meyer, 1996; Clugston, Howell, & Dorfman, 2000, 2000; Griffeth, Hom, & Gaertner, 2000). Therefore, a lower commitment to the organization tends to lead to a search for other jobs and, ultimately, turnover (Joo & Park, 2010).

Since organizational commitment is an important predictor of turnover intention, no organization is able to perform at peak level if their employees are not committed to the organization (Coetzee, 2005). Without commitment, services will be of bad quality which leads to a bad image of the organizations and poor outcomes.

Thus, the following hypotheses can be stated:

H1: Motivation is a variable that allows the division and classification of the sample into people that disagree of the intention to leave and people that do not disagree of the intention to leave.

H2: Organizational (affective) commitment is a variable that allows the division and classification of the sample into people that disagree of the intention to leave and people that do not disagree of the intention to leave.

1.1.2 Work climate, moral distress and turnover intention

The perceptions of organizational events, practices and procedures, described as the work climate that the employees are in (Patterson et al., 2005), might improve employees' performance and retain valuable employees (Sheidow, Schoenwald, Wagner, Allred, & Burns, 2007). Work climate is associated with employees' organizational commitment (Hart, 2005). A great work climate leads to a stronger attachment to their jobs, since ethical leaders encourage employees to be more committed to their workplaces which tends to increase the willingness to stay in the organization (Loi, Lam, Ngo, & Cheong, 2015).

Leadership characteristics are a dimension used to assess the organizational climate and culture, especially in studies about healthcare contexts (Gershon, Stone, Bakken, & Larson, 2004). Ethical leadership is described as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision making" (Brown, Treviño, & Harrison, 2005). The perception of the leader as both a moral manager and a moral person, with an appropriate conduct through interpersonal relationships, seems to affect turnover intentions (Brown et al., 2005). They do that enhancing employees' intrinsic motivation. Ethical leaders can enhance employees' intrinsic motivation, through fostering their autonomy, relatedness and competence (Shareef & Atan, 2019). Leaders that do that ensure high quality relationships with their subordinates (Deci et al., 2017). Research has demonstrated that the satisfaction of these needs has a crucial role explaining the relationship between work characteristics and employees' functioning (Albrecht, 2015). Subordinates who see their supervisors as ethical are more likely to perceive autonomy and competence since there is an exchange of loyalty between them and the managers (Shareef & Atan, 2018). Therefore, leaders play a significant role in reducing employees' willingness to leave an organization (Shareef & Atan, 2019).

Another issue regarding leadership is that the communication between leaders and employees requires the best communication traits, styles and strategies (Yrle, Hartman, & Galle, 2002). Organizational silence occurs when employees keep their thoughts and opinions and shut themselves away from company decisions. It is the common choice made by organization members (Morrison & Milliken, 2000). Organizations that listen to their employees will have a distinct competitive advantage (Dorgham, 2012). Leaders who are seen as ethical, ensure good relationships with their employees (Hirschler–tim, van Langevelde–s, Endedijk–md, & Kessels–jwm, 2014). When leaders are seen as ethical, with a common goal, not selfish ones, employees feel heard and important. They have the feeling that their values are shared by the organization and the climate that they are in (Kurtessis, Eisenberger, Ford, Buffardi, Stewart, & Adis, 2017). The communication between leaders and employees must be reciprocal (McCabe & Garavan, 2008). Some studies that were conducted got to the conclusion that several forms of mistreatment at work (e.g. bullying, incivility) are significantly predictors of employees' intention to leave their job (Glambek, Matthiesen, Hetland, & Einarsen, 2014; McCormack, Casimir, Djurkovic, & Yang, 2009). When leaders are open to hear their subordinates, their opinion, with patient and free from judgments, it leads to lower turnover intention (Shareef & Atan, 2018). The subordinates of ethical leaders are presumed to develop lower turnover intentions (Brown & Mitchell, 2010).

Since leadership styles that empower employees for open dialog represent higher work satisfaction in the workplace, organizations that build a culture where employees feel that they can speak up what they think and feel with high levels of support, specially from the leader makes them feel more secure within the organization, leading to the elimination of moral distress which is fundamental for decreasing turnover intention rates (de Veer, Francke, Struijs, & Willems, 2013; Deniz, Noyan, & Ertosun, 2013; Robaee, Atashzadeh-Shoorideh, Ashktorab, Baghestani, & Barkhordari-Sharifabad, 2018).

Moral distress is present when an employee is prevented from carrying out an

activity because he considers that it is not ethical, believing that he would be committing a moral offence (Mitton, Peacock, Storch, Smith, & Cornelissen, 2010). The feeling of moral distress was originally defined in nurses (Jameton, 1984). However, it has been evolving by including other healthcare employees (Ulrich, O'donnell, Taylor, Farrar, Danis, & Grady, 2007). Moral distress is present in the health care environment at different levels (Karagozoglu, Yildirim, Ozden, & Çınar, 2017). Healthcare providers may feel some pressure to compel with institutional regulations complicating what they think that is the best for the patient (Lo & Field, 2009). Corley, Elswick, Gorman and Clor (2001) showed that 15% of their sample had left their nursing positions due to moral distress. Several studies concluded that the presence of moral distress leads to turnover, which, ultimately, compromises the quality of the care delivered (Elpern, Covert, & Kleinpell, 2005; Wilkinson, 1988; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002).

Ethical leaders play a significant role in reducing employees' willingness to leave their organizations, decreasing the feeling of moral distress, which makes the work climate better.

Therefore, the following hypotheses can be stated:

H3: Work climate is a variable that allows the division and classification of the sample into people that disagree of the intention to leave and people that do not disagree of the intention to leave.

H4: Moral distress is a variable that allows the division and classification of the sample into people that disagree of the intention to leave and people that do not disagree of the intention to leave.

1.2 Signal detection theory

Employees go through different paths when deciding to quit (Harman, Lee, Mitchell, Felps, & Owens, 2007). As it was seen previously, some paths that lead to turnover occur due to the lack of motivation, affective commitment, a bad work climate and the presence of moral distress. These situations act as signals that employees might report turnover intentions. If there is a misfit between the feelings and employees' standards, they are more likely to leave the organization they are in (Lee, Mitchell, Wise, & Fireman, 1996).

Signal detection theory assumes that most of the decision processes derive from some uncertainty. This theory aims at describing and analysing the decision when uncertainty is present (Green & Swets, 1966). The signal detection theory can be applied in practically every paradigm that involve a dichotomous decision. It is a very important tool used to understand the answer patterns when people need to make a decision (Kellen et al. 2008). The main goals of the signal detection theory are estimating the strength of signals and identify the answer patterns of people (Kellen et al., 2008). This theory analyses how the presence and the intensity of certain events/variables/signals, in this study the ones mentioned before, determine a greater probability of employees developing intention to leave, how reliable those variables are in separating employees that disagree of the intention to leave the organization from the ones that do not disagree.

In the specific case of employees that consider leaving their organizations, every day, they experience daily events (e.g. do the normal tasks of their job, meet colleagues). However, sometimes, they experience conflicts (e.g. a conflict with the supervisor) in the middle of these daily events. Conflicts trigger the employee to leave the organization. Employees take into consideration the whole picture, the conflicts and everyday events, and make the decision to leave the organization or not (Pleskac, Keeney, Merritt, Schmitt, & Oswald, 2011). The same process can be identified in this study. In what concerns to affective commitment, for example, it was seen that a low

affective commitment tends to be associated with the development of turnover intentions (Allen & Meyer, 1996). Therefore, according to the signal detection theory, a low affective commitment towards the organization, as well as low motivation, a bad work climate and the presence of moral distress can be seen as signals that turnover intention is present in employees.

These variables, when above/ below a certain threshold, trigger two possible responses: intention to leave or intention to stay. Since this classification is probabilistic there are 4 possible outcomes:

		Response	
		Do not disagree of intention to leave	Disagree of intention to leave
Signal	Present	Hit	Miss
	Not present	False alarm	Correct rejection

Table 1: Possible outcomes

The frequency of each outcome provides a framework to calculate indices like sensitivity and specificity. These indices highlight the signal capacity (the variables' capacity) to determine employees' response (if employees disagree of the intention to leave or not). The capacity that the signal has to predict the state is called sensitivity. It corresponds to the "hit" outcome. In this study, is when employees have a low affective commitment towards the organization (the signal is present), for example, and, in fact, do not disagree of the intention to leave. On the other hand, not identifying a signal, when the same is not present is called specificity. It corresponds to when employees feel a great work climate (the signal is not present), for example, and, in fact, they disagree of the intention to leave (Obuschowski, 2004).

It is necessary to consider both sensitivity and specificity. The higher both of these measures are, the higher is the predictive capacity of the variables in what comes to employees' response. The variables need to be able to predict both employees' response. To have an accurate prediction of employees' response, it is necessary to

choose the variables that allow the prediction and separation of groups of employees that disagree of the intention to leave and employees that do not disagree, the variables with a better performance.

Receiver operating characteristics (ROC) analysis is a valuable technique for selecting variables based on their performance. A ROC curve plots values for sensitivity (y axis) versus 1-specificity (x axis). It represents the trade-offs between sensitivity and specificity for different decision thresholds (Swets, Dawes, & Monahan, 2000; Egan, 1975). Based on this trade off it is necessary to choose the optimal decision threshold. The point (0,0) corresponds to the decision threshold where a variable classifies all tests as the absence of the signal, as all employees disagree of the intention to leave. On the other hand, the point (1,1), corresponds to the decision threshold where all tests are classified with the presence of the signal, where all employees do not disagree of the intention to leave. The diagonal that connects these points is called the chance diagonal. This ROC curve represents a variable that is not able to distinguish employees that disagree of the intention to leave and the ones that do not. The closer that a ROC curve gets to the upper left corner, the bigger is the area under the curve (AUC) of the ROC. The area under the ROC curve measures variables' performance. This parameter gives an idea of how well the model makes this employees' intention distinction (Srinivasan, 1999). When the variable under study, affective commitment for example, does not allow this distinction, the AUC will be equal to 0,5, and the ROC curve is the chance diagonal. When the AUC is equal to 1, the variable affective commitment allows a perfect distinction and the ROC curve reaches the upper left corner (Zhou, McClish, & Obuchowski, 2009).

1.3 Proposed model

According to the review of literature, motivation, affective commitment, work climate and moral distress are variables that seem to be related to employees' turnover intention. The capacity of these variables to predict if employees report turnover intention or not will be tested. Therefore, the following model is proposed.

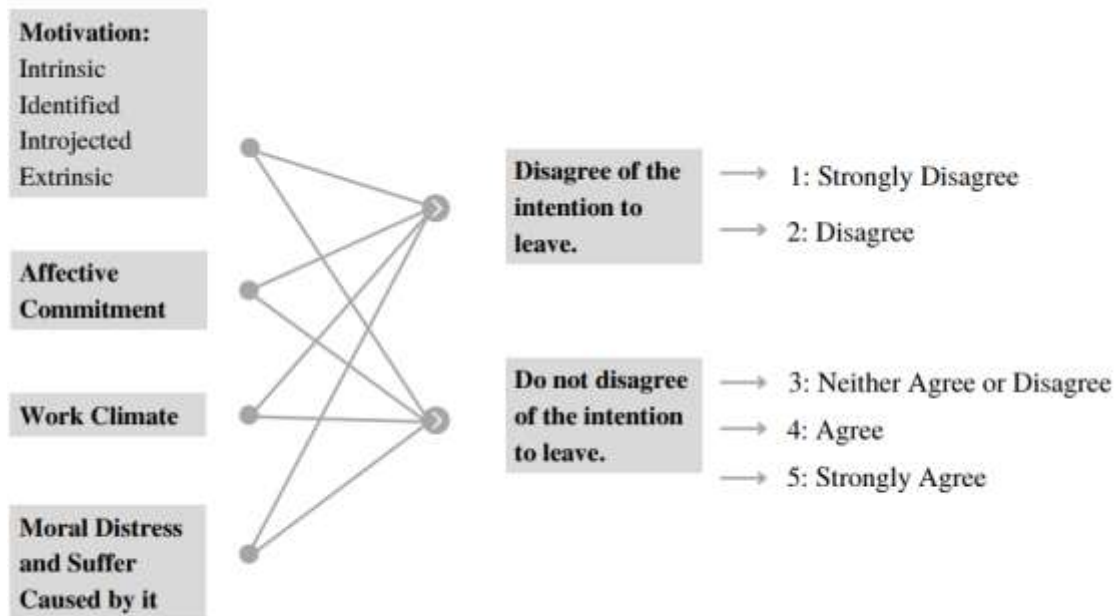


Figure 1: Proposed model

2 Method

2.1 Participants

A total of 222 people answered the questionnaire. Participants were excluded (n=116) if they did not complete the questionnaire (n=102) and if they did not belong to the human health and social support activities sector (n=14). The final sample was comprised of 106 participants. The average age of the sample is 36 years old and the average work tenure of participants' current job is 10 years.

	Frequency	%		Frequency	%
<u>Sex</u>			<u>Monthly income</u>		
Female	91	85,8%	< €650	2	1,9%
Male	12	11,3%	€650-€1000	38	35,8%
Didn't answer	3	2,8%	€1000-€1500	48	45,3%
<u>Marital status</u>			€1500-€2000	9	8,5%
Married or cohabiting unmarried couples	56	52,8%	€2000-€3000	3	2,8%
Single, divorced or widow	47	44,3%	€3000-€5000	2	1,9%
Didn't answer	3	2,8%	> €5000	1	0,9%
<u>Shifts</u>			Didn't answer	3	2,8%
Different schedule	56	52,8%	<u>Intention to leave</u>		
Always the same schedule	50	47,2%	Do not disagree	32	30,2%
			Disagree	74	69,8%

Table 2: Sociodemographic sample profile

2.2 Instrument and scales

Work climate, moral distress, affective commitment, motivation and turnover intention were translated from english to portuguese, adapted to the human health sector and administrated in portuguese. The following measures were used:

- Work climate: 6 items/statements adapted from Deci and Ryan (2000) assessing employees experience with the immediate supervisor, the perception that employees have about the liberty, trust and confidence that leaders have in them. (e.g. "I feel understood by my manager"). Participants responded to each statement using a 7-point Likert scale ranging from 1 (not at all) to 7 (completely). The measure revealed very good internal consistency (Cronbach's $\alpha = 0,93$).
- Moral Distress: 8 items/statements adapted from Epstein, Whitehead, Prompahakul, Thacker and Hamric (2019) related to the relation of the employees with the leader and the organizational climate. Respondents were asked to indicate how frequently they have experienced each situation (e.g. "Fear retribution if I speak up") from 0 (never) to 4 (very frequently) and to rank how distressing those situations are, from 0 (none) to 4 (very distressing). The measure revealed a very good internal consistency (Cronbach's $\alpha = 0,86$).
- Affective commitment: 8 items/statements adapted from Meyer and Allen (1990). The items (e.g. "I do not feel 'emotionally attached' to this organization") were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measure revealed good internal consistency (Cronbach's $\alpha = 0,821$).
- Motivation: 12 items / statements adapted from Gagne et al. (2014). The statements (e.g. "Because its aligned with my personal values") were measured on a 7-point Likert scale from 1 (not at all) to 7 (completely). Since motivation is a multidimensional scale, the 12 statements englobe the 4 types of motivation: intrinsic, identified, introjected and extrinsic motivation, each of them with 3 statements associated. The measure revealed a good internal consistency (Cronbach's $\alpha = 0,76$).
- Turnover intention: 5 items / statements adapted from Kuvaas (2008). Those items (e.g. "I often think about quitting my present job") were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The

measure revealed a very good internal consistency (Cronbach's $\alpha = 0,91$).

- Sociodemographic variables → The respondents were asked to report their age, gender, marital status and profession. Formal education, work tenure and monthly income was also reported by respondents. They were also asked if they worked by shifts, with a dichotomous variable (yes or no), their economic activity sector and the gender and position of the immediate supervisor in the organization from middle manager to administrator/ manager. Respondents who work in the human health and social support activities sector were asked if their sector was private or public and if the hospital was specialized or general. They were also asked if they exercised leadership positions with a dichotomous variable (yes or no), and if they did, how many people were reporting to them. Respondents gave their opinion about how satisfied they are with the Human Resources Management practices in their organization, from 1 (totally unsatisfied) to 7 (totally satisfied) and what they feel towards their job, according to their perception of hourly pressure.

2.3 Procedure

This survey was directed to the workers of the healthcare sector in Portugal. The survey was created in Qualtrics XM and a link was made available. The recruitment of the participants was done via facebook platform, through a post, in january 2021 and some personal contacts. For those that work in the health care industry the contact was made with a private message in facebook or whatsapp and were asked to participate in it and to share with as many colleagues as they could. This study was conducted ethically and according to the best research practises, using confidentiality and informed consent as core principles. All the participants were fully informed that the aim of the survey was to understand the organizational conditions that favour the employees' intention to leave the organization and every participant' consent to participate was obtained.

2.4 Statistical procedure and data analysis

Data had to be prepared to use ROC analysis. The variables, age and work tenure were transformed to months. The other variables were coded as shown below:

Variable	Code
Sex	
Male	0
Female	1
Shifts	
Always the same schedule	0
Different schedule	1
Marital status	
Single, divorced or widowers	0
Married or cohabiting unmarried couples	1
Monthly income	
< €650	0
€650 - €1 000	1
€1 000 - €1 500	2
€1 500 - €2 000	3
€2 000 - €3 000	4
€3 000 - €5 000	5
> €5 000	6
Perception about hourly pressure	
I feel that my job does not require anything	0
I feel that my job requires the minimum effort to keep the situation under control	1
I feel active in my job but I still have free time to conclude tasks that are less essential	2
I feel that my job is demanding, however, I can manage it with moderated effort	3
I feel moderated pressure in my job but I can manage it	4
I feel that I am always busy but still capable of concluding it	5
My job requires extreme effort and concentration to make sure that everything is done	6
In my job, the level of requirement and effort is very high, I feel that I struggle to keep up with everything	7
My job is very demanding because I have to deal with complex/ multiple problems, and even with lots of effort, it is not controllable	8

Table 3: Variables' code

Economic activity sector variable was eliminated since only respondents that belonged to the human health and social support activities sector were examined. Profession, formal education and position of the immediate supervisor, sector, if the hospital was general or specialized, if they exercised leadership positions and how many people were reporting to them were also eliminated since few people answered these questions.

Averages were calculated using the individual responses to each statement for the variables: turnover intention, affective commitment, work climate, intrinsic, extrinsic, identified and introjected motivation, moral distress and the suffer that the items of moral distress cause.

Respondents that strongly disagree/ disagree of having turnover intention (averages of individual responses to each statement between 0 and 2,99) were coded as 0. Respondents that neither agree or disagree/ agree /strongly agree of having intention to leave (averages of individual responses to each statement between 3 and 5) were coded as 1.

After this preparation, the ROC analysis was conducted to each one of the variables theorized as relevant in turnover intention determination, having turnover intention (0= disagree of the intention to leave, 1= do not disagree of the intention to leave) as the outcome. The variables with an AUC higher than 0,65 were the only ones that were further analysed since the discriminatory power of the others was not high. The decision threshold (cut off values) was identified in the point, in the correspondent ROC curve, closer to the upper left corner, to the (0,1) point, allowing a balance between sensitivity and specificity. The values for the AUC, cut off points, sensitivity and specificity were reported. To the significant ROC curves an odds ratio analysis was performed.

3 Results

3.1 Area Under the Curve (AUC) / Cut-off values

The results of the ROC analysis are displayed in the table 3.

Variable	AUC	P-value	Cut-off value	Sensitivity	Specificity
Affective commitment	0,765	0,000	3,440	0,750	0,622
Work climate	0,703	0,001	4,250	0,594	0,770
Intrinsic motivation	0,623	0,044	-	-	-
Introjected motivation	0,632	0,031	-	-	-
Identified motivation	0,687	0,002	4,500	0,625	0,703
Extrinsic motivation	0,501	0,986	-	-	-
Moral distress	0,720	0,001	1,690	0,714	0,697
Suffer caused by moral distress	0,671	0,009	1,815	0,714	0,652
Age	0,636	0,033	-	-	-
Work tenure	0,576	0,233	-	-	-
HR practices	0,644	0,024	-	-	-
Marital status	0,596	0,134	-	-	-
Monthly income	0,685	0,004	1,500	0,621	0,704
Hourly pressure	0,587	0,157	-	-	-
Sex	0,509	0,886	-	-	-
Shifts	0,605	0,092	-	-	-

Table 4: Results

Taking into account the area under the curve, the variables that are better in separating employees that disagree of the intention to leave from employees that do not are: affective commitment, work climate, identified motivation, moral distress and the suffering that it causes and, in the control variables, the monthly income. These variables are the ones with an AUC bigger that 0,65.

The AUC for affective commitment is 0,765. Affective commitment allows for the classification of the intention to leave above the chance level (AUC= 0,765, p-value=

0,000). A cut-off value of 3,440 classifies the intention to leave with a sensitivity of 0,750 and a specificity of 0,622. This means that the test classifies 76,5% of the sample, in the disagreement or not of having intention to leave, correctly. The AUC for work climate is 0,703. Work climate allows for the classification of the intention to leave above the chance level (AUC= 0,703, p-value= 0,001). A cut-off value of 4,250 classifies the intention to leave with a sensitivity of 0,594 and a specificity of 0,770. This means that taking into account this variable it predicts 70,3% of the sample correctly, in the disagreement or not of having intention to leave. The variable identified motivation has an AUC of 0,687. Identified motivation allows for the classification of the intention to leave above the chance level (AUC= 0,687, p-value= 0,002). A cut-off value of 4,500 classifies the intention to leave with a sensitivity of 0,625 and a specificity of 0,703. Measuring this variable, allows the correct prediction of 68,7% of the sample, in the disagreement or not of having intention to leave. Moral distress and the suffering that it causes have power making this prediction. Moral distress allows for the classification of the intention to leave above the chance level (AUC= 0,720, p-value= 0,001). A cut-off value of 1,690 classifies the intention to leave with a sensitivity of 0,714 and a specificity of 0,697. The presence or not of moral distress felt by employees predicts correctly 72,0% of the sample meanwhile the suffering that it causes predicts 67,1% of the sample. The suffer caused by the presence of moral distress allows for the classification of the intention to leave above the chance level (AUC= 0,671, p-value= 0,009). A cut-off value of 1,815 classifies the intention to leave with a sensitivity of 0,714 and a specificity of 0,652. The monthly income that employees receive predicts correctly 68,5% of the sample, in the respondent's disagreement or not of having intention to leave. It allows for the classification of the intention to leave above the chance level (AUC= 0,685, p-value= 0,004). A cut-off value of 1,500 classifies the intention to leave with a sensitivity of 0,621 and a specificity of 0,704.

All of these variables appear to be significant (p-value inferior to 0,05). There are other variables that are significant, however, considering the standard error of the AUC, it comes to values that are too low in their power to predict employees'

response, if they disagree or not of having intention to leave their organizations.

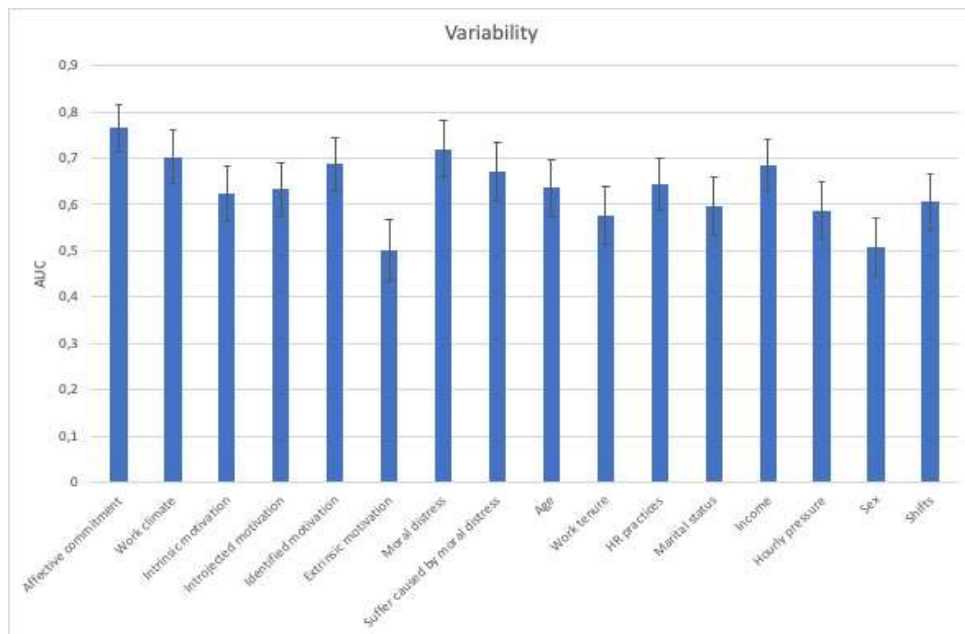


Figure 2: Values for AUC

When measuring the affective commitment of the employees of the organization, a value of the average of its items equal to or lower than 3,440 classifies correctly 75,0% of the people that do not disagree of the intention to leave. A value of affective commitment higher than 3,440 classifies correctly 62,2% of the employees that disagree of the intention to leave. The measure of work climate is also very important. A value for this variable equal to or lower than 4,250 classifies correctly 59,4% of the people that do not disagree of the intention to leave whereas a value higher than 4,250 classifies correctly 77,0% of the workers that disagree of having intention to leave. When it comes to identified motivation, a value for it lower than or equal to 4,500 classifies correctly 62,5% of the employees that do not disagree of the intention to leave. A value higher than 4,500 classifies correctly 70,3% of the people that disagree of the intention to leave.

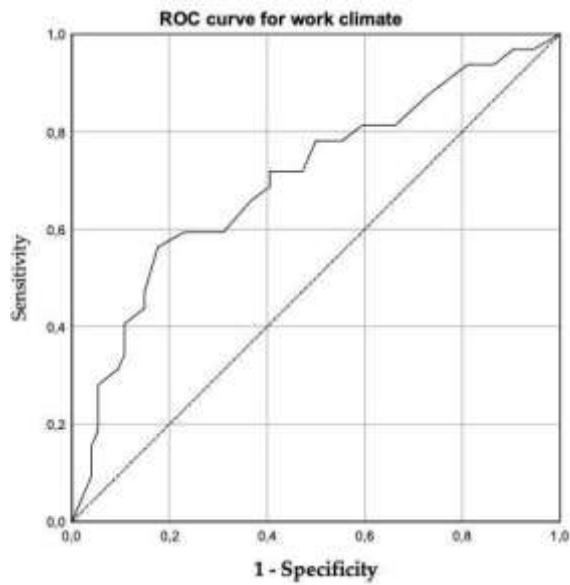


Figure 3: ROC curve for work climate

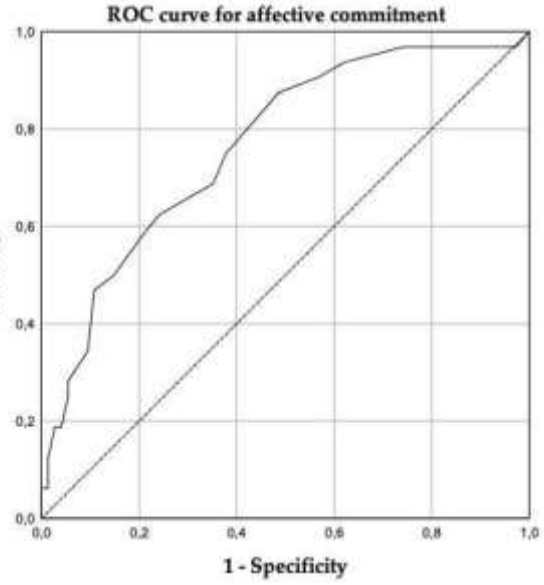


Figure 4: ROC curve for affective commitment

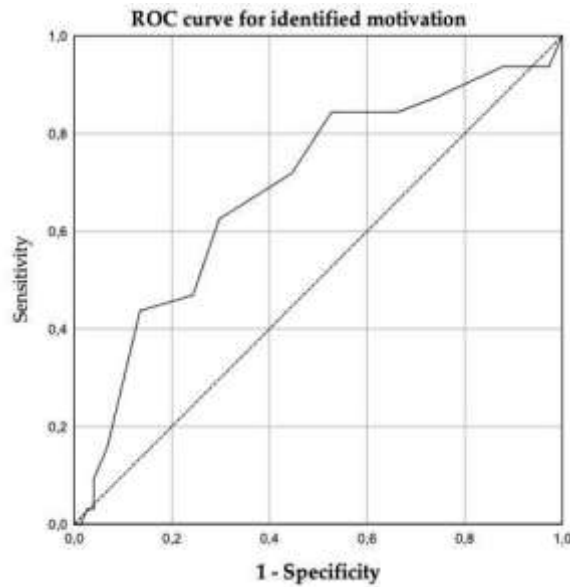


Figure 5: ROC curve for identified motivation

Moral distress and the suffering that employees go through when they feel morally distressed provides a similar analysis. A value of moral distress equal to or higher than 1,690 classifies correctly 71,4% of the employees that do not disagree of the intention to leave while a value for moral distress lower that 1,690 classifies correctly 69,7% that disagree of the intention to leave. A value equal to or higher than 1,815 for the suffering caused by the previous variable classifies correctly 71,4% of the workers that do not disagree of the intention to leave. However, a value lower than 1,815 classifies correctly 65,2% of the employees that disagree of the intention to leave.

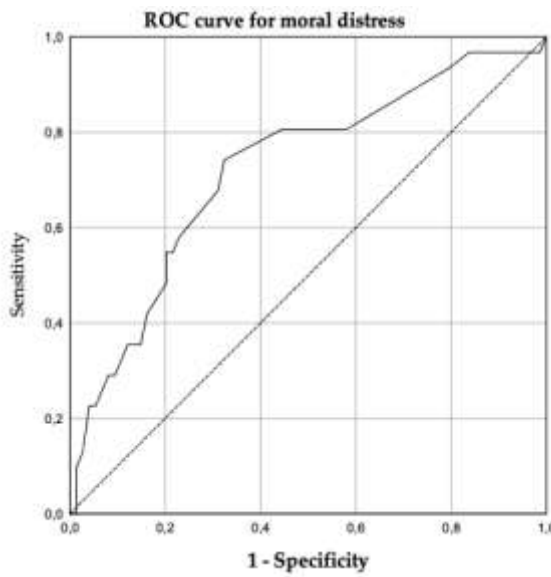


Figure 6: ROC curve for moral distress

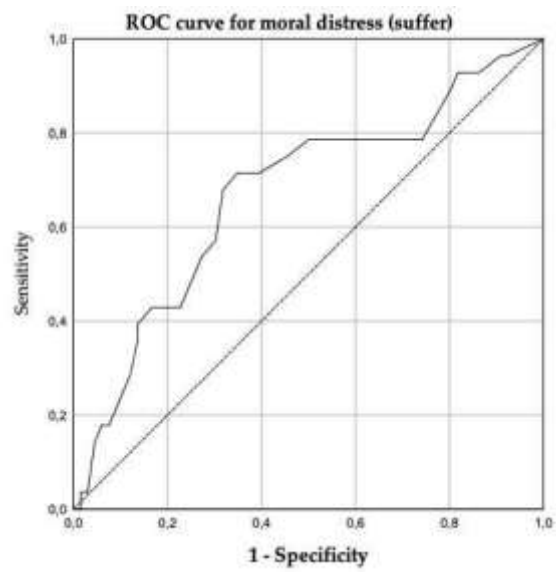


Figure 7: ROC curve for moral distress (suffer)

The last variable, in this study, that has the power needed to this analysis is monthly income. A monthly income lower than 1 000€ classifies correctly 62,1% of the employees that do not disagree of the intention to leave meanwhile, a monthly income superior to 1 000€ classifies correctly 70,4% of the workers that disagree of the intention to leave.

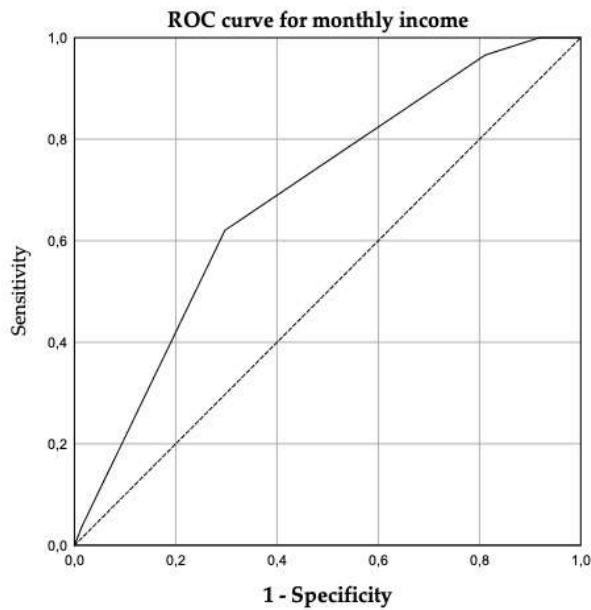


Figure 8: ROC curve for monthly income

3.2 Odds ratio

Analysing the results of the odds ratio it is evidenced that employees that report increased affective commitment are less probable to do not disagree of the intention to leave (odds ratio = 2,49), specifically, participants with scores in affective commitment higher than 3,44 are 2,49 times more likely to disagree of the intention to leave than participants with affective commitment lower or equal to 3,44.

When it comes to work climate employees that report a better sense of work climate are less probable to do not disagree of the intention to leave (odds ratio = 1,90), specifically, participants with scores in work climate higher than 4,25 are 1,90 times more likely to disagree of the intention to leave than participants with a sense of work climate lower or equal to 4,25.

In what concerns to identified motivation, employees that report increased identified motivation are less probable to do not disagree of the intention to leave (odds ratio = 1,87), specifically, employees with scores in identified motivation higher than 4,50 are 1,87 times more likely to disagree of the intention to leave than participants with identified motivation lower or equal to 4,50.

When the moral distress felt by employees increases, they are more probable to do not disagree of the intention to leave (odds ratio = 2,02), specifically, employees with scores in moral distress lower than 1,69 are 2,02 times more likely to disagree of the intention to leave than participants with moral distress higher than or equal to 1,69. When the suffer that moral distress causes to employees increases, they are more probable to do not disagree of the intention to leave (odds ratio = 2,28), specifically, employees with scores in suffer caused by moral distress lower than 1,82 are 2,28 times more likely to disagree of the intention to leave than participants with moral distress higher than or equal to 1,82.

Employees whose monthly income is less than 1 000€, are 1,85 times (odds ratio= 1,85) more likely to do not disagree of the intention to leave than the ones with a monthly income higher than 1 000€.

4 Discussion

4.1 Theoretical implications

The present study set out to explore the antecedents of turnover intentions in the healthcare sector. Preliminary studies shed some light on this topic, showing that motivation, organizational commitment, work climate and moral distress and the suffer that derives from it had a big impact on employees' turnover intention. Given that and with the aim of answering the proposed research question a discussion is subsequently presented.

Considering the relationship between motivation and turnover intention, it was taken into account the intrinsic, identified, introjected and extrinsic motivation, in this study. The results indicate that intrinsic, introjected and extrinsic motivation did not have a high discretionary power in dividing the groups of employees that disagree of the intention to leave and the ones that do not. Identified motivation was the only type of motivation that more accurately showed to do this separation. This is line with previous findings that state that motivation has a negative relationship with turnover intentions (Dysdik & Kuvaas, 2010). However, this result was a little bit different than expected since intrinsic motivation is seen as the highest quality of motivation and the one that influences the most turnover intentions (Deci & Ryan, 2008). Therefore, intrinsic motivation was the one that was expected to have a higher discretionary power in dividing the two groups of employees and not a dimension of extrinsic motivation, even though it is the most internalised one.

There is evidence that extrinsic motivation significantly and negatively affects turnover intentions (Kuvaas, Buch, Weibel, Dysvik, & Nerstad, 2017; Miao, Rhee, & Jun, 2020). However, when people are controlled by external factors they tend to show less inherent interest in their tasks (Ryan & Conell, 1989). In the same vein, inherent task interest is a characteristic of autonomous forms of motivation (intrinsic and

identified motivation). Extrinsic forms of regulation such as extrinsic and introjected motivation do not represent spontaneous people' interest in activities and, ultimately, in their jobs (Brickell & Chatzisarantis, 2007). Despite of this, in this study, extrinsic and introjected motivation were not strong enough variables to divide employees that did have turnover intentions from the ones that did. Considering all of this, Hypothesis 1 is partially supported since identified motivation, is a variable that allows the division and classification of the sample into people that disagree of the intention to leave and people that do not disagree of it. Additionally, people that report high identified motivation are less likely to report turnover intentions than employees with low identified motivation.

When it comes to organizational commitment, this variable is seen as one of the most significant predictors of turnover intention (Meyer et al., 2004). Also, a component of this variable, affective commitment, was indicated as the one with the biggest influence on turnover intentions (Sjöberg and Sverke, 2000) and the only significant predictor of turnover intentions compared to normative and continuance commitment (Gautam, Van Dick, & Wagner, 2001). This is in line with this study that concluded that affective commitment was the variable with the higher discretionary power, among all the others. It classifies correctly 76,5% of the employees, in the disagreement or not of having intention to leave the organization. Similarly to identified motivation, the higher the affective commitment towards the organizations that employees are in the less likely they are to report turnover intentions. Therefore, Hypothesis 2 is supported.

Both moral distress and the work climate that employees are in, have a good discretionary power dividing the groups mentioned before. Moral distress and work climate classify correctly 72% and 70,3%, respectively, of the employees in the disagreement or not of having turnover intentions. This is in line with previous studies that asserted that leaders, which can improve work climate, have a big influence in employees' willingness to stay or leave their organization (Shareef & Atan, 2019; Gershon, Stone, Bakken, & Larson, 2004; Brown et al., 2005) and that this ethical

leadership reduces the incidence of moral distress which, in turn, also decreases turnover intentions (de Veer, Francke, Struijs, & Willems, 2013; Elpern, Covert, & Kleinpell, 2005; Wilkinson, 1988; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). In this study, Hypotheses 3 and 4 are also supported.

Monthly income was found to be a variable that can do the distinction between employees that disagree of the intention to leave and employees that do not disagree of it and, therefore, it is correlated with turnover intention. It classifies correctly 68,5% of the sample. This is in line with previous studies that state that there is a statistically significant relationship between income and turnover intentions (Xu, 2008). However, monthly income can be seen as an external reward which would lead to the increase of extrinsic motivation (Deci & Ryan, 1985). Therefore, these results are curious since extrinsic motivation did not show a high power in dividing the 2 groups of employees whereas monthly income did.

Previous findings suggested that age was negatively statistically significant related to turnover intentions (Hayes, 2015; Werbel & Bedeian, 1989). However, in this study, age did not show a high power in separating employees that disagree of the intention to leave and employees that do not. Also, gender and work tenure did not show a great discretionary power. This is in line with previous findings that suggest that there is not a significant relationship between gender (Xu, 2008) and work tenure and turnover intentions (Hayes, 2015). However, this is not consistent since other studies reported that females are significantly less likely to state an intention to quit (Moynihan & Landuyt, 2008) and that professionals with lower work tenure are less likely to leave (Smart, 1990).

Therefore, the variables affective commitment, identified motivation, moral distress, work climate that employees are in and income allow the division of employees that disagree of the intention to leave and employees that do not.

4.2 Managerial implications

One of managers' main goals is to decrease employees' turnover rates. Since turnover intention is the best predictor of the actual turnover (Kash et al., 2010), it becomes very important to get to know the turnover intention rates of employees. Knowing turnover intention rates helps to prevent future costs for organizations and employees, that result from employees' turnover. Furthermore, if these rates reveal high it might imply that the quality of life at work is not very good, which also represents "costs" for employees.

These rates help organizations understanding if their situation, regarding employees' turnover intention, is good (equals to green in a semaphore) or if they have reasons to worry, about the employees leaving, and need to develop some retention strategies (equals to red in a semaphore), in order to avoid the actual turnover. These strategies are helpful since employees view human resources practices as commitment and attention to them which makes them reciprocate with positive attitudes (Guest, 1999). Human resources practices influence organizational performance decreasing turnover and increasing organizations' productivity. These practises have the power to increase employees' commitment and motivation (Huselid, 1995). Therefore, leaders play an important role in delivering competitive advantage since a source of it is the effective human resources management strategy implementation (Barney, 2001). Supportive management strategies induce stronger feelings of duty towards the organizations (Shore & Wayne, 1993).

This analysis revealed which variables are useful to predict employees' turnover intention. These variables are affective commitment, identified motivation, moral distress, the work climate that employees are in and the monthly income. Therefore, managers should measure these variables within "their" organizations. After measuring these variables for each employee, if the rank goes below or higher than a certain value, indicated in the previous section, managers should develop retention strategies.

Monthly income is the only variable, in this study, that is known by managers in advance and does not need to be measured. Accordingly, managers should consider that monthly incomes superior to 1 000€ might be a good retention strategy. On the other hand, affective commitment, identified motivation, moral distress and work climate need, firstly, to be measured.

If turnover intention rates seem high due to lack of affective commitment or identified motivation, the development of retention strategies might be not very clear for managers since these variables seem very personal. On the other hand, if it is due to moral distress or the work climate that employees are in, finding retention strategies might seem a little bit easier, in this study, since these variables were oriented to the perception that employees have about their leaders and how they deal with employees and the climate that it origins.

However, all of them can be improved by management practices since relationships between leaders and members is important to prevent employees' intention to quit (Rynes, 2004). Moreover, all these variables act in a common, interconnected framework that can be used comprehensively for managers' intervention.

To improve employees' identified motivation, employees need to identify themselves with the values of their actions (Deci et al., 1994). If employees feel that they are committing a moral offense when executing their tasks, they will less likely identify themselves with the tasks and become more willing to develop moral distress (Mitton et al., 2010). Leaders who are seen as ethical can decrease employees' feeling of moral distress (Gershon et al., 2004). Leaders should implement a supportive environment where employees feel free to speak up and where their opinions and the way they prefer to do things is significant. Employees need to feel secure within the organization and that the goal of the leader is a common goal, that there is a 2-way communication (Brown et al., 2005). When leaders behave like this, employees feel a sense of duty to stay committed to the organizations and the work climate also improves (Anis et al., 2011; Deniz et al., 2013). Leaders do this foster the fulfilment of

employees' needs for autonomy, competence and relatedness (Shareef & Atan, 2019). Employees who see their leaders as ethical are more likely to perceive autonomy and competence (Shareef & Atan, 2018) and feeling connected/ related to co-workers helps employees going through difficult situations which also improves work climate (Cole et al., 2005).

4.3 Conclusion

In essence, this study demonstrates which variables allow a division/ prediction of employees that disagree of the intention to leave and the ones that do not disagree of this intention. It was concluded that employees' turnover intentions are very sensitive to variables such as: identified motivation, affective commitment, moral distress, the work climate that employees are in and the monthly income that employees receive. These findings provide a framework for managers to identify turnover intentions rates in advance, being able to act against it before the actual turnover happens. On this topic, this research advances theoretical and managerial knowledge, also contributing to the study of a subject not exhaustively examined in the light of literature.

4.4 Limitations and future research

This study is original in the healthcare sector in Portugal in the sense that it aims at representing a semaphore for organizations in terms of their employee turnover, using signal detection theory. However, it may be bound by limitations.

The use of turnover intention as a proxy for the actual turnover can limit the validity of the results. Also, participants' turnover intention responses are divided in 2 groups. One group corresponds to participants that do not have intention to leave (disagree/ strongly disagree). However, the other group includes people with turnover intention and people that neither agree nor disagree of it. To make a more accurate prediction of employees that intend to leave the organization it would be better to include participants that neither agree nor disagree of the intention to leave

the organization with participants that disagree/ strongly disagree of it. The sample must be widely spread to be better generalized. A higher number of responses would improve the reliance of the insights gained. It would also be interesting to broad it to other sectors, apart from healthcare sector, and other countries, apart from Portugal. It would be interesting to measure the variables, that seem to the division between employees that disagree of the intention to leave and the ones that do not, in advance and to measure the actual turnover after a while. It is also recommended to include other variables in the questionnaire that might further explain employees' intention to leave the organizations. Taking into account the scarcity of research regarding this method with the purpose of preventing employee turnover, this calls for the development of the study topic.

5 References

- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Jama*, 288(16), 1987-1993.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Albrecht, S. L. (2015). Challenge demands, hindrance demands, and psychological need satisfaction. *Journal of Personnel Psychology*.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of occupational psychology*, 63(1), 1-18.
- Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of vocational behavior*, 49(3), 252-276.
- Alniacik, U., Cigerim, E., Akcin, K., & Bayram, O. (2011). Independent and joint effects of perceived corporate reputation, affective commitment and job satisfaction on turnover intentions. *Procedia-Social and Behavioral Sciences*, 24, 1177-1189.
- Anis, A., Khan, M. A., & Humayoun, A. A. (2011). Impact of organizational commitment on job satisfaction and employee retention in pharmaceutical industry. *African journal of business management*, 5(17), 7316-7324.

- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: a motivational basis of performance and well-being in two work settings 1. *Journal of applied social psychology*, 34(10), 2045-2068.
- Bahrami, M. A., Barati, O., Ghoroghchian, M. S., Montazer-Alfaraj, R., & Ezzatabadi, M. R. (2016). Role of organizational climate in organizational commitment: The case of teaching hospitals. *Osong public health and research perspectives*, 7(2), 96-100.
- Barney, J. B. (2001). Is the resource-based “view” a useful perspective for strategic management research? Yes. *Academy of management review*, 26(1), 41-56.
- Becker, H. S. (1960). Notes on the concept of commitment. *American journal of Sociology*, 66(1), 32-40.
- Blake, R. (2006). Employee retention: What employee turnover really costs your company. July, 24, 2006.
- Boudrias, V., Trépanier, S. G., Foucreault, A., Peterson, C., & Fernet, C. (2020). Investigating the role of psychological need satisfaction as a moderator in the relationship between job demands and turnover intention among nurses. *Employee Relations: The International Journal*.
- Brett, J. M. (1980). The effect of transfer on employees and their families. In *Current concerns in occupational stress*. wiley.
- Brickell, T. A., & Chatzisarantis, N. L. (2007). Using self-determination theory to examine the motivational correlates and predictive utility of spontaneous

exercise implementation intentions. *Psychology of Sport and exercise*, 8(5), 758-770.

Brown, M. E., & Mitchell, M. S. (2010). Ethical and unethical leadership: Exploring new avenues for future research. *Business Ethics Quarterly*, 583-616.

Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational behavior and human decision processes*, 97(2), 117-134.

Burton, R. M., Lauridsen, J., & Obel, B. (2004). The impact of organizational climate and strategic fit on firm performance. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management*, 43(1), 67-82.

Clugston, M., Howell, J. P., & Dorfman, P. W. (2000). Does cultural socialization predict multiple bases and foci of commitment?. *Journal of management*, 26(1), 5-30.

Coetzee, M. (2006). The fairness of affirmative action: An organisational justice perspective (Doctoral dissertation, University of Pretoria).

Cole, D. C., Ibrahim, S., & Shannon, H. S. (2005). Predictors of work-related repetitive strain injuries in a population cohort. *American Journal of Public Health*, 95(7), 1233-1237.

Coomber, B., & Barriball, K. L. (2007). Impact of job satisfaction components on intent to leave and turnover for hospital-based nurses: a review of the research

literature. *International journal of nursing studies*, 44(2), 297-314.

Corley, M. C., Elswick, R. K., Gorman, M., & Clor, T. (2001). Development and evaluation of a moral distress scale. *Journal of advanced nursing*, 33(2), 250-256.

de Veer, A. J., Francke, A. L., Struijs, A., & Willems, D. L. (2013). Determinants of moral distress in daily nursing practice: A cross sectional correlational questionnaire survey. *International journal of nursing studies*, 50(1), 100-108.

Deci, E. L., & Ryan, R. M. (1985). *Motivation and self-determination in human behavior*. NY: Plenum Publishing Co

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268.

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian psychology/Psychologie canadienne*, 49(1), 14.

Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of applied psychology*, 74(4), 580.

Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of personality*, 62(1), 119-142.

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational*

Psychology and Organizational Behavior, 4, 19-43.

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 19-43.

Deniz, N., Noyan, A., & Ertosun, Ö. G. (2013). The relationship between employee silence and organizational commitment in a private healthcare company. *Procedia-Social and Behavioral Sciences*, 99, 691-700.

Di Domenico, S. I., & Ryan, R. M. (2017). The emerging neuroscience of intrinsic motivation: A new frontier in self-determination research. *Frontiers in human neuroscience*, 11, 145.

Dorgham, S. R. (2012). Relationship between organization work climate & staff nurses organizational commitment. *Commitment*, 14, 17.

Dysvik, A., & Kuvaas, B. (2008). The relationship between perceived training opportunities, work motivation and employee outcomes. *International Journal of Training and Development*, 12(3), 138-157.

Dysvik, A., & Kuvaas, B. (2010). Exploring the relative and combined influence of mastery-approach goals and work intrinsic motivation on employee turnover intention. *Personnel review*.

Egan, J. P. (1975). *Signal Detection Theory and ROC Analysis* "Academic Press. New York.

Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational

support and employee diligence, commitment, and innovation. *Journal of applied psychology*, 75(1), 51.

Elangovan, A. R. (2001). Causal ordering of stress, satisfaction and commitment, and intention to quit: a structural equations analysis. *Leadership & Organization Development Journal*.

Elpern, E. H., Covert, B., & Kleinpell, R. (2005). Moral distress of staff nurses in a medical intensive care unit. *American Journal of Critical Care*, 14(6), 523-530.

Epstein, E. G., Whitehead, P. B., Prompahakul, C., Thacker, L. R., & Hamric, A. B. (2019). Enhancing understanding of moral distress: the measure of moral distress for health care professionals. *AJOB empirical bioethics*, 10(2), 113-124.

Evans, M. G. (1970). Leadership and motivation: A core concept. *Academy of management journal*, 13(1), 91-102.

Felix, D. (2017). *Biography of an idea: John Maynard Keynes and the general theory of employment, interest and money*. Routledge.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational behavior*, 26(4), 331-362.

Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Van den Broeck, A., Aspel, A. K., ... & Westbye, C. (2015). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, 24(2), 178-196.

Galletta, M., Portoghese, I., & Battistelli, A. (2011). Intrinsic motivation, job autonomy

and turnover intention in the Italian healthcare: The mediating role of affective commitment.

Ganco, M., Ziedonis, R. H., & Agarwal, R. (2015). More stars stay, but the brightest ones still leave: Job hopping in the shadow of patent enforcement. *Strategic Management Journal*, 36(5), 659-685.

Gautam, T., Van Dick, R., & Wagner, U. (2001). Organizational commitment in Nepalese settings. *Asian Journal of Social Psychology*, 4(3), 239-248.

Gershon, R. R., Stone, P. W., Bakken, S., & Larson, E. (2004). Measurement of organizational culture and climate in healthcare. *JONA: The Journal of Nursing Administration*, 34(1), 33-40.

Gillet, N., Gagné, M., Sauvagère, S., & Fouquereau, E. (2013). The role of supervisor autonomy support, organizational support, and autonomous and controlled motivation in predicting employees' satisfaction and turnover intentions. *European Journal of Work and Organizational Psychology*, 22(4), 450-460.

Glabek, M., Matthiesen, S. B., Hetland, J., & Einarsen, S. (2014). Workplace bullying as an antecedent to job insecurity and intention to leave: a 6-month prospective study. *Human Resource Management Journal*, 24(3), 255-268.

Green, D. M., & Swets, J. A. (1966). *Signal detection theory and psychophysics* (Vol. 1). New York: Wiley.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of management*, 26(3), 463-488.

- Guest, D. E. (1999). Human resource management-the workers' verdict. *Human resource management journal*, 9(3), 5-25.
- Hall, D. T. (1979). Career Dynamics: Matching Individual and Organizational Needs; Self-Assessment and Career Development; Teacher's Manual for Self-Assessment and Career Development. *The Journal of Applied Behavioral Science*, 15(2), 233-238.
- Harman, W. S., Lee, T. W., Mitchell, T. R., Felps, W., & Owens, B. P. (2007). The psychology of voluntary employee turnover. *Current Directions in Psychological Science*, 16(1), 51-54.
- Hart, S. E. (2005). Hospital ethical climates and registered nurses' turnover intentions. *Journal of Nursing Scholarship*, 37(2), 173-177.
- Hayes, L. J., O'Brien-Pallas, L., Duffield, C., Shamian, J., Buchan, J., Hughes, F., ... & Stone, P. W. (2006). Nurse turnover: a literature review. *International journal of nursing studies*, 43(2), 237-263.
- Hayes, T. M. (2015). Demographic characteristics predicting employee turnover intentions.
- Hirschler-tim, T., van Langevelde-s, S., Endedijk-md, M., & Kessels-jwm, J. (2014). Supporting intrinsic motivation of knowledge workers in teams.
- Holtom, B. C., Mitchell, T. R., Lee, T. W., & Eberly, M. B. (2008). 5 turnover and retention research: a glance at the past, a closer review of the present, and a venture into the future. *Academy of Management annals*, 2(1), 231-274.

- Homburg, V., van der Heijden, B., & Valkenburg, L. (2013). Why do nurses change jobs? An empirical study on determinants of specific nurses' post-exit destinations. *Journal of nursing management*, 21(6), 817-826.
- Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: a meta-analytic summary and theoretical extension of the work design literature. *Journal of applied psychology*, 92(5), 1332.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of management journal*, 38(3), 635-672.
- Hwang, J. I., & Chang, H. (2009). Work climate perception and turnover intention among Korean hospital staff. *International Nursing Review*, 56(1), 73-80.
- Jameton, A. (1984). *Nursing practice: The ethical issues*.
- Joo, B. K. B., & Park, S. (2010). Career satisfaction, organizational commitment, and turnover intention. *Leadership & Organization Development Journal*.
- Karagozoglu, S., Yildirim, G., Ozden, D., & Çınar, Z. (2017). Moral distress in Turkish intensive care nurses. *Nursing Ethics*, 24(2), 209-224.
- Kash, B. A., Naufal, G. S., Cortés, L., & Johnson, C. E. (2010). Exploring factors associated with turnover among registered nurse (RN) supervisors in nursing homes. *Journal of Applied Gerontology*, 29(1), 107-127.

- Kim, J. (2018). The contrary effects of intrinsic and extrinsic motivations on burnout and turnover intention in the public sector. *International journal of manpower*.
- Kramer, M., & Schmalenberg, C. E. (2003). Magnet hospital staff nurses describe clinical autonomy. *Nursing outlook*, 51(1), 13-19.
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of management*, 43(6), 1854-1884.
- Kuvaas, B., Buch, R., Weibel, A., Dysvik, A., & Nerstad, C. G. (2017). Do intrinsic and extrinsic motivation relate differently to employee outcomes?. *Journal of Economic Psychology*, 61, 244-258.
- Kuvaas, B. (2008). An exploration of how the employee–organization relationship affects the linkage between perception of developmental human resource practices and employee outcomes. *Journal of Management studies*, 45(1), 1-25.
- Lee, T. W., Mitchell, T. R., Wise, L., & Fireman, S. (1996). An unfolding model of voluntary employee turnover. *Academy of Management journal*, 39(1), 5-36.
- Lewin Group (2009) Evaluation of The Robert Wood Johnson Wisdom at Work: Retaining Experienced Nurses Research Initiative. Robert Wood Johnson Foundation, Princeton, NJ, USA
- Lo, B., & Field, M. J. (2009). Committee on Conflict of Interest in Medical Research, Education, and Practice Board on Health Sciences Policy.
- Loi, R., Lam, L. W., Ngo, H. Y., & Cheong, S. I. (2015). Exchange mechanisms between

ethical leadership and affective commitment. *Journal of Managerial Psychology*.

McCabe, T. J., & Garavan, T. N. (2008). A study of the drivers of commitment amongst nurses. *Journal of European Industrial Training*.

McCormack, D., Casimir, G., Djurkovic, N., & Yang, L. (2009). Workplace bullying and intention to leave among schoolteachers in China: the mediating effect of affective commitment 1. *Journal of Applied Social Psychology*, 39(9), 2106-2127.

Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Sage publications.

Meyer, J. P., & Herscovitch, L. (2001). Commitment in the workplace: Toward a general model. *Human resource management review*, 11(3), 299-326.

Meyer, J. P., Becker, T. E., & Vandenberghe, C. (2004). Employee commitment and motivation: a conceptual analysis and integrative model. *Journal of applied psychology*, 89(6), 991.

Miao, S., Rhee, J., & Jun, I. (2020). How much does extrinsic motivation or intrinsic motivation affect job engagement or turnover intention? A comparison study in China. *Sustainability*, 12(9), 3630.

Millette, B. E. (1994). Using Gilligan's framework to analyze nurses' stories of moral choices. *Western Journal of Nursing Research*, 16(6), 660-674.

Mitton, C., Peacock, S., Storch, J., Smith, N., & Cornelissen, E. (2010). Moral distress among healthcare managers: conditions, consequences and potential responses. *Healthcare Policy*, 6(2), 99.

- Moreno-Jiménez, B., Gálvez-Herrer, M., Rodríguez-Carvajal, R., & Vergel, A. I. S. (2012). A study of physicians' intention to quit: The role of burnout, commitment and difficult doctor-patient interactions. *Psicothema*, 24(2), 263-270.
- Morrison, E. W., & Milliken, F. J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *Academy of Management Review*, 25(4), 706-725.
- Mowday, R. T. (1984). Strategies for adapting to high rates of employee turnover. *Human Resource Management*, 23(4), 365-380.
- Moynihan, D. P., & Landuyt, N. (2008). Explaining turnover intention in state government: Examining the roles of gender, life cycle, and loyalty. *Review of Public Personnel Administration*, 28(2), 120-143.
- Munton, A. G. (1990). Job relocation, stress and the family. *Journal of Organizational Behavior*, 401-406.
- Patterson, M. G., West, M. A., Shackleton, V. J., Dawson, J. F., Lawthom, R., Maitlis, S., ... & Wallace, A. M. (2005). Validating the organizational climate measure: links to managerial practices, productivity and innovation. *Journal of Organizational Behavior*, 26(4), 379-408.
- Pleskac, T. J., Keeney, J., Merritt, S. M., Schmitt, N., & Oswald, F. L. (2011). A detection model of college withdrawal. *Organizational Behavior and Human Decision Processes*, 115(1), 85-98.

- Robaee, N., Atashzadeh-Shoorideh, F., Ashktorab, T., Baghestani, A., & Barkhordari-Sharifabad, M. (2018). Perceived organizational support and moral distress among nurses. *BMC nursing*, 17(1), 1-7.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: examining reasons for acting in two domains. *Journal of personality and social psychology*, 57(5), 749.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68.
- Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will?. *Journal of personality*, 74(6), 1557-1586.
- Rynes, S. L. (2004). Where do we go from here?: Imagining new roles for human resources.
- Saeed, M. (2020). Mediation effect of psychological contract between personality dimensions and turnover intention. *Journal of Economics, Finance and Administrative Science*.
- Saleem, S., & Qamar, B. (2017). An investigation of the antecedents of turnover intentions and job hopping behavior. *South Asian Journal of Business Studies*.
- Schneider, B. (1980). The service organization: climate is crucial. *Organizational dynamics*, 9(2), 52-65.

- Schwandt, D., & Marquardt, M. J. (1999). *Organizational learning*. CRC Press.
- Shareef, R. A., & Atan, T. (2019). The influence of ethical leadership on academic employees' organizational citizenship behavior and turnover intention: Mediating role of intrinsic motivation. *Management Decision*.
- Sheidow, A. J., Schoenwald, S. K., Wagner, H. R., Allred, C. A., & Burns, B. J. (2007). Predictors of workforce turnover in a transported treatment program. *Administration and Policy in Mental Health and Mental Health Services Research*, 34(1), 45-56.
- Shore, L. M., & Tetrick, L. E. (1991). A construct validity study of the survey of perceived organizational support. *Journal of applied psychology*, 76(5), 637.
- Shore, L. M., & Wayne, S. J. (1993). Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support. *Journal of applied psychology*, 78(5), 774.
- Sjöberg, A., & Sverke, M. (2000). The interactive effect of job involvement and organizational commitment on job turnover revisited: A note on the mediating role of turnover intention. *Scandinavian Journal of Psychology*, 41(3), 247-252.
- Smart, J. C. (1990). A causal model of faculty turnover intentions. *Research in higher education*, 31(5), 405-424.
- Snow, J. L. (2002). Enhancing work climate to improve performance and retain valued employees. *JONA: The Journal of Nursing Administration*, 32(7/8), 393-397.
- Srinivasan, A. (1999). Note on the location of optimal classifiers in n-dimensional ROC

space.

Staw, B. M. (1980). The consequences of turnover. *Journal of occupational Behaviour*, 253-273.

Stolberg, H. O., Norman, G., & Trop, I. (2004). Fundamentals of clinical research for radiologists. *AJR*, 183, 1539-1544.

Swets, J. A., Dawes, R. M., & Monahan, J. (2000). Better decisions through science. *Scientific American*, 283(4), 82-87.

Tai, T. W. C., Bame, S. I., & Robinson, C. D. (1998). Review of nursing turnover research, 1977–1996. *Social science & medicine*, 47(12), 1905-1924.

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel psychology*, 46(2), 259-293.

Tuzun, I. K. (2007). Antecedents of turnover intention toward a service provider. *The Business Review*, 8(2), 128-135.

Ulrich, C., O'donnell, P., Taylor, C., Farrar, A., Danis, M., & Grady, C. (2007). Ethical climate, ethics stress, and the job satisfaction of nurses and social workers in the United States. *Social science & medicine*, 65(8), 1708-1719.

Van der Kellen, D., Nunes, L. D., & Garcia-Marques, L. (2008). Sensibilidade e bom senso: Princípios fundamentais da teoria de detecção de sinal na investigação em Psicologia. *Laboratório de Psicologia*, 6(1), 75-91.

- Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of psychotherapy integration*, 23(3), 263.
- Weinstein, N., & DeHaan, C. R. (2014). On the mutuality of human motivation and relationships. In *Human Motivation and Interpersonal Relationships* (pp. 3-25). Springer, Dordrecht.
- Werbel, J. D., & Bedeian, A. G. (1989). Intended turnover as a function of age and job performance. *Journal of Organizational Behavior*, 275-281.
- Wilkinson, J. M. (1987, April). Moral distress in nursing practice: experience and effect. In *Nursing forum* (Vol. 23, No. 1, pp. 16-29). Oxford, UK: Blackwell Publishing Ltd.
- Wise, L. C. (1990). Tracking turnover. *Nursing economic*, 8(1), 45-51.
- Xu, Y. J. (2008). Gender disparity in STEM disciplines: A study of faculty attrition and turnover intentions. *Research in higher education*, 49(7), 607-624.
- Yrle, A. C., Hartman, S., & Galle, W. P. (2002). An investigation of relationships between communication style and leader-member exchange. *Journal of Communication Management*.
- Zhou, X. H., McClish, D. K., & Obuchowski, N. A. (2009). *Statistical methods in diagnostic medicine* (Vol. 569). John Wiley & Sons.

6 Appendix

Appendix I – Survey

Este estudo faz parte de uma tese de mestrado em gestão de Recursos Humanos, na Católica Porto Business School. Neste estudo procuramos conhecer as condições organizacionais que favorecem a retenção dos colaboradores em organizações no setor da saúde. Assim, procuramos recolher informação sobre **as suas perceções relativas à organização para a qual trabalha e na qual exerce a sua actividade principal** (isto é, aquela organização na qual trabalhou mais horas no último ano). Este estudo é composto por seis questionários e uma caracterização sócio-demográfica. O seu preenchimento deverá demorar **10 min**. A sua participação é fundamental para compreendermos o fenómeno em estudo. A sua identidade não será conhecida pelo investigador que analisará os resultados do inquérito. Os resultados, quando divulgados, serão apresentados para a amostra inquirida. Garantimos, assim, o anonimato e a confidencialidade.

Declaro que li e compreendi a informação que consta neste documento e que fui devidamente informado/a e esclarecido/a acerca dos objetivos deste estudo, bem como das condições da sua realização. Como tal, declaro que aceito participar nesta investigação e que autorizo o tratamento anónimo dos dados agora recolhidos. Mais declaro que autorizo a divulgação dos dados de modo agregado em publicações científicas.

Aceito participar

Tenha em atenção a organização para a qual trabalha e na qual exerce a sua actividade principal (isto é, aquela organização na qual trabalhou mais horas no último ano). As seguintes afirmações referem-se à possibilidade de abandonar o seu emprego atual. Numa escala de 1 a 5, em que 1 significa "**discordo totalmente**" e 5 significa "**concordo totalmente**", escolha o que melhor corresponde à sua situação, para cada afirmação.

	1. Discordo totalmente	2-Discordo	3-Nem concordo nem discordo	4-Concordo	5-Concordo totalmente
Provavelmente, vou procurar um novo emprego durante o próximo ano	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Há a possibilidade de me demitir nos próximos 12 meses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vou começar a procurar, ativamente, um novo emprego, nos próximos 3 anos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Não sinto que tenha futuro na organização onde me encontro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Penso em despedir-me, do meu emprego atual, frequentemente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Tenha em atenção a organização para a qual trabalha e na qual exerce a sua actividade principal (isto é, aquela organização na qual trabalhou mais horas no último ano). As frases seguintes **descrevem o que poderá sentir em relação à sua organização**. Pense no quanto cada afirmação se relaciona com o que sente, assinalando o respetivo número de 1 a 5, sendo 1 significa "**discordo totalmente**" e 5 significa "**concordo totalmente**".

	1- Discordo totalmente	2-Discordo	3-Não concordo nem discordo	4-Concordo	5-Concordo totalmente
Não sinto um forte sentido de pertença à minha organização	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Não me sinto emocionalmente ligado/a à minha organização	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gosto de conversar sobre a minha organização com pessoas de fora	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Não sinto que faça parte da família da organização na qual trabalho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ficar o resto da minha carreira nesta organização, far-me-ia muito feliz	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Esta organização significa muito para mim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto os problemas da organização como sendo meus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Penso que poderia, facilmente, ficar atraído/a por outra organização como estou por esta

Tenha em atenção a organização para a qual trabalha e na qual exerce a sua actividade principal (isto é, aquela organização na qual trabalhou mais horas no último ano). As frases seguintes dizem respeito à **percepção acerca da sua chefia** (isto é, aquela pessoa a quem reporta diretamente). Numa escala de 1 a 7 em que **1** significa "**discordo totalmente**" e **7** significa "**concordo totalmente**", refira o seu nível de concordância sobre o modo como a sua chefia direta o/a faz sentir.

	1- Discordo totalmente	2	3	4- Neutro	5	6	7- Concordo totalmente
Sinto que a minha chefia me dá liberdade de escolha	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto que a minha chefia me compreende	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A minha chefia demonstra confiança na minha habilidade para executar bem as tarefas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A minha chefia encoraja-me a fazer perguntas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A minha chefia tem em conta a maneira como eu gosto de fazer as tarefas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A minha chefia tenta entender a maneira como eu vejo as coisas antes de sugerir uma nova maneira de as fazer

Tenha em atenção a organização para a qual trabalha e na qual exerce a sua actividade principal (isto é, aquela organização na qual trabalhou mais horas no último ano). Tendo em conta a escala que se segue, refira **as razões que o/a levam a colocar esforço no seu trabalho**. Para cada afirmação, numa escala de 1 a 7 em que 1 significa "não, de todo" e 7 significa "totalmente", escolha o que melhor corresponde à sua situação.

	1- Não, de todo	2- Muito pouco	3- Pouco	4- Moderadamente	5- Bastante	6- Muito	7- Totalmente
Porque eu gosto muito do meu trabalho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque eu me divirto a fazer o meu trabalho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pelos momentos de prazer que este trabalho me proporciona	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Escolhi este trabalho porque me permite alcançar os meus objetivos de vida	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque este trabalho contribui para a realização os meus planos de carreira	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Porque está de acordo com os meus valores pessoais	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque eu tenho de ser o melhor no meu trabalho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque o meu trabalho é a minha vida e eu não quero falhar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque a minha reputação depende do meu trabalho	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque este trabalho me proporciona um certo nível de vida	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Porque este trabalho me permite ganhar muito dinheiro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu só faço este trabalho pelo dinheiro	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Tenha em atenção a organização para a qual trabalha e na qual exerce a sua actividade principal (isto é, aquela organização na qual trabalhou mais horas no último ano). Sofrimento moral ocorre quando os profissionais não conseguem executar o que consideram eticamente apropriado. Se já passou pelas situações descritas em baixo, elas podem, ou não, ter-lhe causado sofrimento moral. Para cada uma das situações descritas, por favor, indique:

(1) a frequência com que as vivenciou, sendo que **0** significa "**Nunca**" e **4** significa "**Muito frequentemente**".

(2) o nível de sofrimento que estas experiências lhe causaram, sendo que **0** significa "**Nenhum**" e **4** significa "**Muito sofrimento**".

Se nunca tiver vivenciado algumas das situações descritas (Frequência de 0 "Nunca aconteceu no meu local de trabalho") tente imaginar o nível de sofrimento que essa situação lhe causaria.

	Frequência				Nível de sofrimento					
	0 - Nunca aconteceu no meu trabalho	1	2	3	4- Acontece muito frequentemente no meu trabalho	0- Nenhum	1	2	3	4- Muito sofrimento
Sinto-me pressionado a executar ordens que eu considero desnecessárias ou inapropriadas	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Testemunho situações de violação de um padrão de prática ou código de ética e não me sinto suficientemente apoiado para as relatar.	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Trabalho com colegas que considero não estarem à altura das tarefas que têm de executar.	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Identifico falhas na execução das tarefas devido a falta de comunicação entre colegas de trabalho.	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Tenho que realizar mais tarefas do que aquelas que consigo realizar em condições normais e de segurança	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Temo repercussões se falar	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Sinto-me inseguro/intimidado pelos meus colegas	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>
Trabalho num contexto em que as diferentes hierarquias de poder comprometem a qualidade das tarefas executadas	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>				<input type="radio"/>

Idade

Antiguidade: Há quantos anos e meses está na organização na qual exerce a sua actividade principal, aproximadamente? Exemplo 1 - 0 anos e 11 meses; Exemplo 2 - 1 ano e 1 mês.

Trabalho por turnos:

- Sim
- Não

Qual dos itens abaixo descreve melhor o que sente em relação ao seu trabalho?

- Sinto que o meu trabalho não exige nada
- Sinto que o meu trabalho requer esforço mínimo para manter o controlo da situação
- Sinto-me ativo no meu trabalho mas ainda com tempo livre para concluir trabalhos menos essenciais
- Sinto que o meu trabalho é exigente, mas consigo gerir com esforço moderado
- Sinto pressão moderada no meu trabalho, mas consigo gerir
- Sinto-me sempre muito ocupado, mas ainda assim capaz de fazer o trabalho
- O meu trabalho requer esforço e concentração extremos, necessários para garantir que tudo seja feito
- No meu trabalho o nível de exigência e esforço é muito elevado, sinto que luto para acompanhar tudo
- O meu trabalho é muito exigente pois tenho de lidar com problemas complexos ou múltiplos e ainda com nível de esforço muito alto, é incontrolável

Tendo em atenção a Organização na qual exerce a sua atividade principal posicione-se quanto à satisfação com as práticas de Gestão de Recursos Humanos. Para tal considere a escala de 1 - Estou totalmente insatisfeito a 7 - Estou totalmente satisfeito. Considere como práticas de GRH: os processos de recrutamento (externo e interno), os processos de socialização dos colaboradores, as recompensas financeiras e não financeiras, os aumentos salariais, as progressões e promoções, a formação profissional, o sistema de avaliação de desempenho, a auscultação de clima organizacional e o acolhimento de sugestões, a comunicação interna e acesso à informação.

- Estou totalmente insatisfeito/a.
 - Estou bastante insatisfeito/a.
 - Estou insatisfeito/a.
 - Estou satisfeito/a em parte.
 - Estou satisfeito/a.
 - Estou bastante satisfeito/a.
 - Estou totalmente satisfeito/a.
-

Sexo biológico

- Masculino
 - Feminino
 - Prefiro não dizer
-

Sector da Atividade Económica da organização na qual exerce a sua actividade principal

- Agricultura, produção animal, caça, floresta e pesca
- Indústrias extractivas
- Indústrias transformadoras
- Electricidade, gás, vapor, água quente e fria e ar frio
- Captação, tratamento e distribuição de água; saneamento, gestão de resíduos e despoluição
- Construção
- Comércio por grosso e a retalho; reparação de veículos automóveis e motociclos
- Transportes e armazenagem
- Alojamento, restauração e similares
- Actividades de informação e de comunicação
- Actividades financeiras e de seguros
- Actividades imobiliárias
- Actividades de consultoria, científicas, técnicas e similares
- Actividades administrativas e dos serviços de apoio
- Administração Pública e Defesa; Segurança Social Obrigatória
- Educação
- Actividades de saúde humana e apoio social
- Actividades artísticas, de espectáculos, desportivas e recreativas
- Outras actividades de serviços
- Actividades das famílias empregadoras de pessoal doméstico e actividades de produção das famílias para uso próprio

Actividades dos organismos internacionais e outras instituições extra-territoriais

Profissão

Ocupa funções de chefia na organização na qual exerce a sua actividade principal?

Sim

Não

Quantas pessoas tem a reportar directamente a si?

Qual a posição da sua chefia na hierarquia da organização?

Chefia Intermédia

Chefe de Divisão

Director de Departamento/Área

Director Geral

Administrador/Gerente

Outra _____

A sua chefia é do sexo

- Masculino
 - Feminino
-

Exerce a sua actividade principal numa organização do setor

- Privado
 - Público
-

Exerce a sua atividade principal num hospital

- Especializado (Hospital em que predomina um número de camas adstritas a determinada valência ou que presta assistência apenas ou especialmente a utentes de um determinado grupo etário)
 - Geral (Hospital que integra diversas valências)
-

Habilitações literárias

- Ensino Básico (1º ao 9º ano)
 - Ensino Secundário (10º ao 12º ano)
 - Licenciatura
 - Mestrado
 - Doutoramento
-

Estado civil

- Solteiro
 - Casado
 - Divorciado
 - Viúvo
 - União de Facto
-

Rendimento mensal, que decorre da sua actividade principal

- <€650
- €650-€1000
- €1000-€1500
- €1500-€2000
- €2000-€3000
- €3000-€5000
- >€5000