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PSYCHOLOGICAL TRAITS AND WORKPLACE INFORMAL LEARNING STRATEGIES: THE MEDIATING ROLE OF INTRINSIC MOTIVATION

Tese no âmbito do Doutoramento em Gestão de Empresas orientada pelo Professor Doutor João Pedro Dias Fontes da Costa e pelo Professor Doutor Filipe Jorge Fernandes Coelho e apresentada à Faculdade de Economia da Universidade de Coimbra

Outubro de 2020

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Outubro de 2020

Dedicatory

To my father, Carmelo Santoro (*in memoriam*).

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Epigraph

Aprender é a única coisa de que a mente nunca se cansa, nunca tem medo e nunca se arrepende.

Leonardo da Vinci

Abstract

This study developed three models to address the relationship between stable individual differences and workplace informal learning. Model 1 innovates by addressing the relationship between regulatory focus and informal learning strategies in the workplace. Model 2 adds value to the literature by examining cognitive styles as antecedents to workplace informal learning strategies. The relationship between goal orientations and informal work-based learning strategies, addressed in Model 3, also adds value to the organizational literature. Intrinsic motivation is considered as a mediating variable in the relationships presented in this research. The study used structural equation modeling to examine the relationships between the constructs of the research models. The proposed hypotheses were tested on a sample of 244 bank managers from all major Brazilian regions. Overall, the results suggest that psychological traits (regulatory focus, cognitive styles and goal orientations) are related to informal learning strategies used by the surveyed managers. In the first study (Chapter 2), results show that promotion orientation of regulatory focus has an effect on both cognitive and behavioral learning strategies, as well as an indirect effect through the mediating variable intrinsic motivation on informal behavioral learning strategies. In the second study (Chapter 3), knowing cognitive style has an effect on both cognitive and behavioral learning strategies. Planning and creating cognitive styles, in turn, have effects on informal behavioral learning strategies. In this second study, intrinsic motivation mediates the relationship between cognitive styles and informal learning strategies. In the third study (Chapter 4), mastery goal orientation, for example, has an effect on both cognitive and behavioral learning strategies, in addition to having an effect on intrinsic motivation. In this third study, there are no indirect effects of goal orientations on informal learning strategies through intrinsic motivation, since the direct effects of intrinsic motivation on informal learning strategies are not significant. This doctoral thesis demonstrates, for the first time, that individual differences in regulatory focus, cognitive styles and goal orientations are related to workplace informal learning, in addition to considering that these constructs are mediated by intrinsic motivation, complementing previous research and offering new insights for discussion in the organizational field. The results from this thesis suggest a set of implications for Business Managers. Training, development and corporate education programs can be created and improved based on the identification of the relationships between employees' psychological traits and their

preferred learning strategies. Finally, the psychological traits considered in this study and related to workplace informal learning strategies can be considered in recruitment and selection processes, task performance, internal communication, team building and conflict management, guiding companies on how to develop their Human Resources policies.

KEYWORDS: Regulatory focus. Cognitive styles. Goal orientations. Learning strategies in the workplace. Intrinsic motivation.

Resumo

Este estudo desenvolveu três modelos para abordar a relação entre diferenças individuais estáveis e a aprendizagem informal no local de trabalho. O Modelo 1 inova ao abordar a relação entre o foco regulatório e as estratégias de aprendizagem informal baseadas no trabalho. O Modelo 2 agrega valor à literatura, examinando os estilos cognitivos como antecedentes das estratégias de aprendizagem informal em contexto profissional. A relação entre as orientações de objetivo e as estratégias de aprendizagem informal no trabalho, abordada no Modelo 3, também agrega valor à literatura organizacional. A motivação intrínseca é considerada como uma variável mediadora nas relações apresentadas. O estudo usou modelos de equações estruturais para examinar as relações entre os construtos dos modelos de pesquisa. As hipóteses propostas foram testadas em uma amostra de 244 gestores de instituições financeiras bancárias de todas as grandes regiões brasileiras. Em linhas gerais, os resultados sugerem que os traços psicológicos (foco regulatório, estilos cognitivos e orientações de objetivo) estão relacionados com as estratégias de aprendizagem informal usadas pelos gestores pesquisados. No primeiro estudo (Capítulo 2), os resultados mostram que a orientação de promoção do foco regulatório tem efeito tanto nas estratégias de aprendizagem cognitivas quanto nas comportamentais, assim como efeito indireto por meio da variável mediadora motivação intrínseca nas estratégias de aprendizagem informal comportamentais. No segundo estudo (Capítulo 3), o estilo cognitivo conhecimento exerce efeito tanto nas estratégias de aprendizagem cognitivas quanto nas comportamentais. Os estilos cognitivos planejamento e criação, por sua vez, têm efeitos nas estratégias de aprendizagem informal comportamentais. Neste segundo estudo, a motivação intrínseca medeia a relação entre os estilos cognitivos e as estratégias de aprendizagem informal. No terceiro estudo (Capítulo 4), a orientação de objetivo domínio, por exemplo, tem efeito tanto nas estratégias de aprendizagem cognitivas quanto nas comportamentais, além de exercer efeito na motivação intrínseca. Neste terceiro estudo, não há efeitos indiretos das orientações de objetivo nas estratégias de aprendizagem informal por meio da motivação intrínseca, pois os efeitos diretos da motivação intrínseca nas estratégias de aprendizagem informal não são significantes. Esta tese de doutoramento demonstra, pela primeira vez, que as diferenças individuais foco regulatório, estilos cognitivos e orientações de objetivo têm relação com a aprendizagem informal no local de trabalho, além de considerar que esses construtos são mediados pela motivação intrínseca, complementando os estudos anteriores e oferecendo

novos *insights* para a discussão no campo organizacional. Os resultados obtidos com esta tese sugerem um conjunto de implicações para a Gestão de Empresas. Programas de treinamento, desenvolvimento e educação corporativa podem ser criados e aprimorados com base na identificação das relações entre os traços psicológicos de seus empregados e as suas estratégias de aprendizagem preferidas. Finalmente, os traços psicológicos considerados neste estudo e relacionados às estratégias de aprendizagem informal no trabalho podem ser considerados em processos de recrutamento e seleção, desempenho de tarefas, comunicação interna, formação de equipes e gerenciamento de conflitos, guiando as empresas sobre como desenvolver suas políticas de recursos humanos.

PALAVRAS-CHAVE: Foco regulatório. Estilos cognitivos. Orientações de objetivo. Estratégias de aprendizagem no local de trabalho. Motivação intrínseca.

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List of Abbreviations

CA – Cronbach's alpha

CCS – Creating Cognitive Style

CR – Composite Reliability

D. Effect – Direct Effect

Df – Degrees of freedom

ILSBeh – Informal Behavioral Learning Strategies

ILSCog – Informal Cognitive Learning Strategies

Ind. Effect – Indirect Effect

IntMot – Intrinsic Motivation

KCS – Knowing Cognitive Style

MastG – Mastery Goal Orientation

PCS – Planning Cognitive Style

PerfAppG – Performance-Approach Goal Orientation

PerfAvG – Performance-Avoidance Goal Orientation

RFPrev – Regulatory Focus of Prevention

RFProm – Regulatory Focus of Promotion

Stand. Loading – Standardized Loading

List of Acronyms

AMOS – Analysis of Movement Structures

AVE – Average Variance Extracted

CET – Cognitive Evaluation Theory

CFA – Confirmatory Factor Analysis

CFI – Comparative Fixed Index

CMV – Common Method Variance

CoSI – Cognitive Style Indicator

HRD – Human Resources Department

HRM – Human Resources Management

IFI – Incremental Fit Index

IQ – Intelligence Quotient

KAI – Kirton Adaptation-Innovation Inventory

RMSEA – Root Mean Square Error of Approximation

SDT – Self-Determination Theory

SEM – Structural Equation Modeling

SPSS – Statistical Package for the Social Sciences

TD&E – Training, Development and Education

TLI – Tucker-Louis Index

VI – Verbalizer-Imager

WA – Wholist-Analytical

Chapter 1 – Introduction

1.1 Preamble

1.1.1 About this Thesis

The **main purpose** of this doctoral thesis is to examine whether the individual differences in regulatory focus, cognitive styles and goal orientations have an effect on managers' informal learning strategies in the workplace, an issue that has not been addressed previously.

Thus, this thesis aims to elucidate some gaps in the organizational literature. First, studies on the antecedents of workplace informal learning, particularly involving its strategies, are scarce. Second, learning approaches are extensively studied in educational settings, however there is little research on informal learning strategies used in the workplace (Kyndt, Dochy, & Nijs, 2009). Notwithstanding, we note that there has been a growing interest in issues related to both learning in organizations and personal characteristics in recent years (e.g., Jeong et al., 2018; Johnson et al., 2015; Kuhn, 2014; Wallace et al., 2016).

Studies that take psychological traits into account as antecedents of informal learning strategies in the workplace are quite relevant to the Human Resources Management, since companies can make use of these findings to define their Human Resources policies. Hence, this doctoral thesis, when considering the aforementioned gaps, aims to provide an overview of theories, empirical work and practical implications for managers, with the purpose of promoting learning in the workplace based on the understanding of the relationship between individual psychological characteristics and their effects on learning behavior in the workplace by investigating three research models.

The text is structured as follows. Chapter 2 presents the first study of this thesis, which addresses the relationship between regulatory focus and informal learning strategies. The regulatory focus, which suggests how individuals approach pleasure and avoid pain, is a psychological trait that can be considered one of the antecedents of informal learning. Chapter 3, which refers to the second study in this thesis, presents the relationship between cognitive styles and informal learning strategies. Cognitive styles are linked to many cognitive functions, such as perception, learning, intelligence and creativity, that is, they are a potential antecedent of informal learning strategies in the workplace. Chapter 4, in turn, presents the relationship between goal orientations and informal learning strategies. Goal

orientations are stable personality traits that consider individual attributes such as intelligence, personality and skills in relation to situations of achievement. Intrinsic motivation, which is seen as a critical factor for learning processes, is considered as a mediating variable in the three studies presented.

1.2 The Conceptual Frameworks Investigated in this Work

In this section, the general conceptual model and the three hypothesized models of this research are presented. The general conceptual model (Figure 1) presents the psychological traits (regulatory focus, cognitive styles and goal orientations) and their relationships with informal learning strategies. Intrinsic motivation is the mediating variable between these constructs.

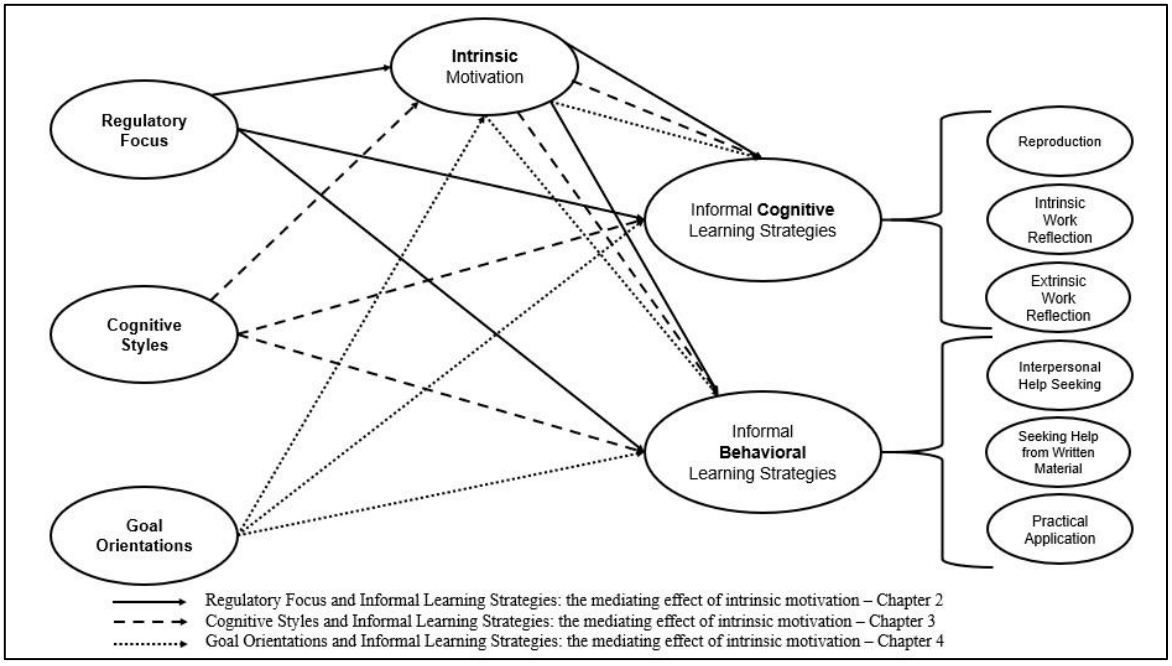

Figure 1: Psychological Traits and Workplace Informal Learning Strategies Conceptual Framework

The psychological traits (regulatory focus, cognitive styles and goal orientations) represent the independent variables in the general conceptual model, which influence the cognitive and behavioral informal learning strategies (dependent variables).

Holman, Epitropaki and Fernie (2001) validated a scale of informal learning strategies in a professional context. The results obtained by Holman et al. (2001) resulted in two dimensions: 1) Cognitive Learning Strategies; and 2) Behavioral Learning Strategies. The first dimension is subdivided into three categories: a) Reproduction; b) Intrinsic Work Reflection; and c) Extrinsic Work Reflection, as well as the second dimension: d) Interpersonal Help Seeking; e) Seeking Help from Written Material; and f) Practical Application.

The conceptual framework of the relationship between psychological traits (regulatory focus, cognitive styles and goal orientations) and informal learning strategies in the workplace addresses the following research questions:

Research question 1: What is the relationship between regulatory focus and workplace informal learning strategies?

Research question 2: What is the relationship between cognitive styles and workplace informal learning strategies?

Research question 3: What is the relationship between goal orientations and workplace informal learning strategies?

Research question 4: Does intrinsic motivation mediate the relationship between psychological traits (regulatory focus, cognitive styles and goal orientations) and workplace informal learning strategies?

The conceptual framework of psychological traits and informal learning strategies in the workplace comprises a relatively high number of constructs, which is why three hypothesized models were developed and tested (Chapters 2 to 4). Each model has a psychological trait as an independent variable, while informal learning strategies are common in the three models as a dependent variable, with intrinsic motivation as a mediating variable.

The first hypothesized model (Chapter 2) discusses the relationship between regulatory focus and informal learning strategies. The regulatory focus theory indicates that individuals approach pleasure and avoid pain in different ways (Higgins, 1997, 1998, 2006). These individual differences are represented by two orientations that regulate the way in which people pursue their goals: a promotion orientation and a prevention orientation (Higgins, 1997). According to Lanaj, Chang and Johnson (2012), both promotion and prevention orientations influence strategies that are used by individuals to achieve goals and overcome the barriers that hinder the achievement of these goals. The contribution to the literature of this model lies in the fact that it relates, for the first time, regulatory focus with informal work-based learning, examining the mediating effects of intrinsic motivation.

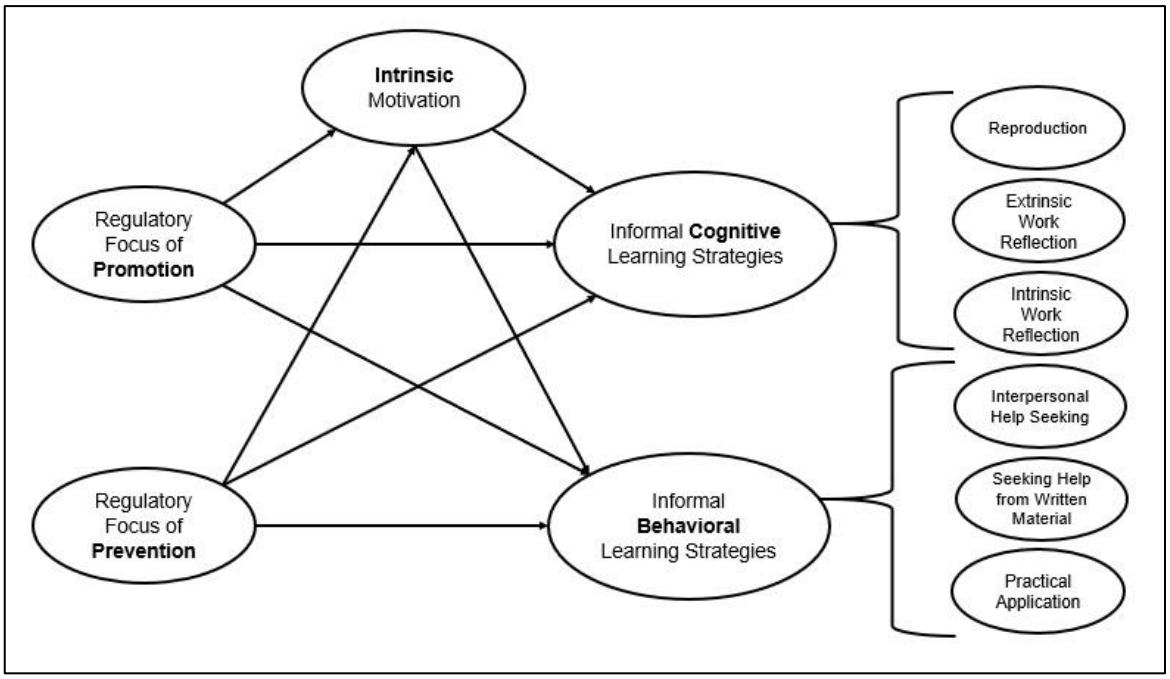

Figure 2: Model 1 – Regulatory Focus and Informal Learning Strategies in the Workplace

The second hypothesized model (Chapter 3) examines the relationship between cognitive styles and informal learning strategies. Cognitive styles represent the way in which individuals perceive, think, learn, solve problems and relate to other people (Witkin et al., 1977). According to Cools and Van den Broeck (2007), cognitive styles can be identified using a three-dimensional model, namely: knowing cognitive style, planning cognitive style and creating cognitive style. For Messick (1976), cognitive styles can organize strategies, operations and tendencies for complex processes, such as learning. The contribution to the literature of this model is to understand the influence of individual's cognitive difference in the use of informal learning strategies, evaluating the mediating effects of intrinsic motivation.

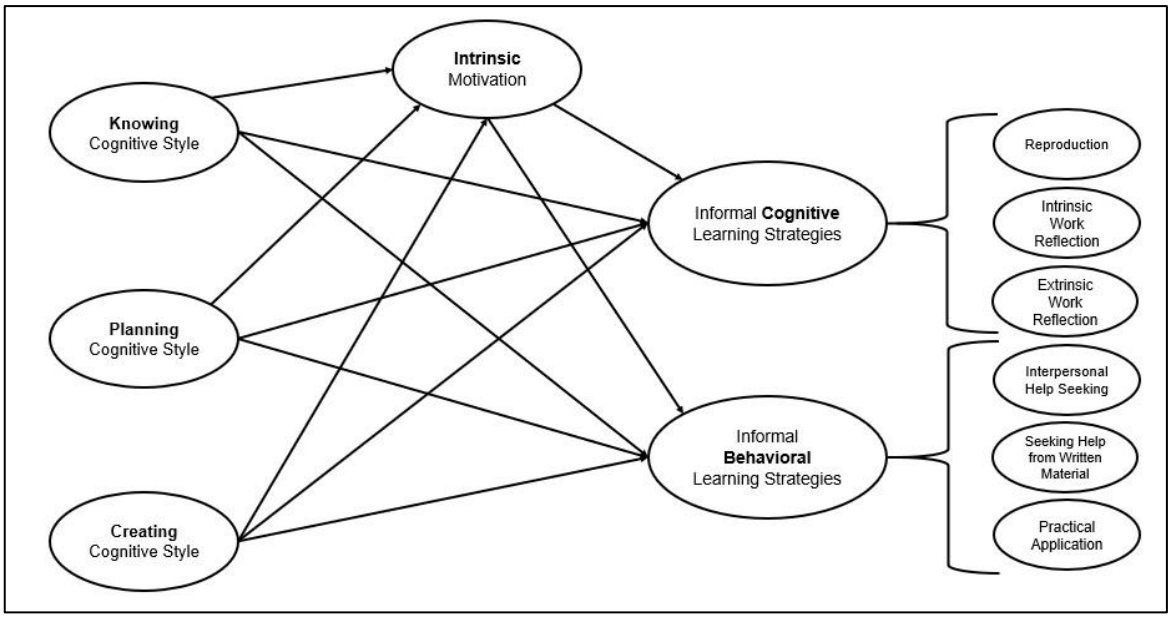

Figure 3: Model 2 – Cognitive Styles and Informal Learning Strategies in the Workplace

The third hypothesized model (Chapter 4) investigates the relationship between goal orientations and informal learning strategies. Goal orientations are related to the way in which individuals approach, interpret and respond to situations of achievement, as well as influence people's behaviors (Dweck, 1999; Van Yperen, 2003). Elliot and Church (1997) established a hierarchical model for goal orientations, classifying them in three dimensions: performance-approach goal orientation, mastery goal orientation and performance-avoidance goal orientation. For Chadwick and Raver (2015), goal orientations can influence the way in which individuals approach individual learning processes. The contribution to the literature of this model is to examine, for the first time, the influence of goal orientations on informal learning strategies in professional contexts, complementing previous studies focused on educational environments, and evaluating the mediating effects of intrinsic motivation.

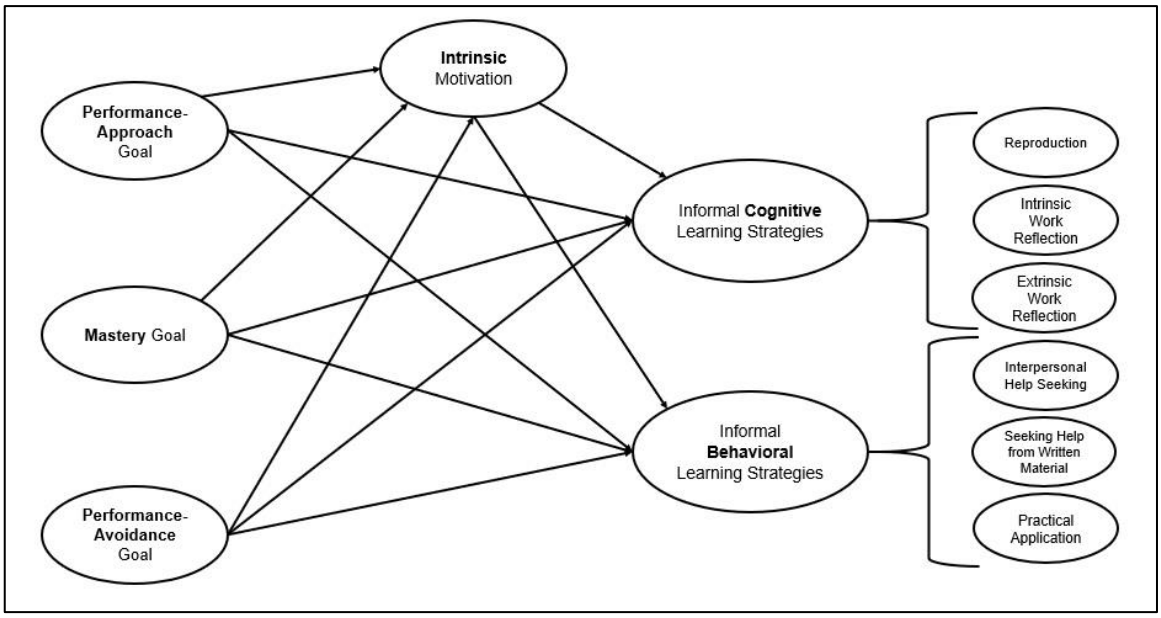

Figure 4: Model 3 – Goal Orientations and Informal Learning Strategies in the Workplace

In addition to the contributions to the literature cited previously, this doctoral thesis also offers relevant contributions to management practice, suggesting a set of recommendations to promote work-related learning, drawing managers' attention to the individual psychological differences of their employees, which sustains Human Resource policies that support long-term organizational success.

1.3 Methodology

In this section, the analysis technique as well as the sample and data collection are presented. The studies presented from Chapters 2 to 4 also cover the topics discussed here.

1.3.1 Analysis Technique

In this doctoral thesis, we used a quantitative analysis to support the three studies. We developed a structured questionnaire for data collection. When a researcher defines a model with hypotheses to be tested and can use or adapt measurement scales from the literature, we believe that the use of questionnaires can be an adequate instrument for quantitative analysis.

For Dörnyei and Taguchi (2010), questionnaires have become one of the most popular and used research instruments in the social sciences. According to Brown (2001, p. 6), "questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers." One of the main advantages of using questionnaires is their efficiency in relation to the researcher's time and effort and financial resources, that is, in addition to being a research instrument that allows information collection from a large number of respondents in a rapid manner, the cost-benefit of questionnaires must be taken into account (Dörnyei & Taguchi, 2010). Another advantage is related to the reduction of the bias of the interviewer's effects, which increases the consistency and reliability of the results (Dörnyei & Taguchi, 2010).

The questionnaire indicators were translated into Portuguese by the authors of this work. The main challenge in translating a questionnaire is to produce an approximate translation of the original text so that the two versions can be considered equivalent; on the other hand, there is also a need to produce texts that are natural in the target language, similar to the words that people would actually use (Dörnyei & Taguchi, 2010). Thus, a certified translator, who is an English professor in São Paulo, was selected by the authors to back-translate the target language version into the source language (retroversion). The two versions (translated and retroverted) were compared and, due to the fact that the back-translated version corresponded with the source language version, there was an indication that both instruments

were asking the same questions (Dörnyei & Taguchi, 2010), which ensured face validity, the degree to which a method appears to measure what it actually intends to measure.

1.3.2 Sample and Data Collection

In order to collect the data for the study, we had the collaboration of two of the largest retail banks in the Brazilian market, which together account for 32% of the market share nowadays. We contacted the general management of the banks, both situated in Brasília, federal capital of Brazil, through telephone calls and electronic messages (e-mails), and the bank directors were responsible for sending the questionnaire to their bank managers throughout Brazil. At first, we had 664 questionnaires answered by the managers. The fine-tuning procedure yielded 244 usable questionnaires. The profile of the managers of both banks participating in this research is quite similar (Chapters 2, 3 and 4 offer a more detailed information about the sample characterization). Data collection took place between May and August 2018.

We subsequently present the three studies that were developed in this thesis in the following chapters.

Chapter 2 – The Relationship between Regulatory Focus and Workplace Informal Learning Strategies: The Mediating Role of Intrinsic Motivation

Abstract

Regulatory focus is a psychological trait that can be considered one of the antecedents of learning strategies in the workplace. This study has as general objective to analyze whether regulatory focus has an effect on managers' informal learning strategies, an issue that hasn't been addressed previously. In addition, this paper examines the mediating role of intrinsic motivation in the relationship between these two constructs. The type of methodology used was the quantitative research with a structured questionnaire for the data collection. The study used the structural equation modeling to evaluate the causal links of the constructs described in this research model. The proposed hypotheses were tested on a sample of 244 bank managers from all Brazilian regions. The results show that promotion orientation has a direct positive effect on cognitive and behavioral learning strategies as well as an indirect positive effect through the mediating variable intrinsic motivation on informal behavioral learning strategies. Prevention orientation, in turn, did not show direct significant effects on cognitive and behavioral learning strategies, but exerts an indirect negative effect through intrinsic motivation on informal behavioral learning strategies.

Keywords: Regulatory focus. Learning strategies in the workplace. Intrinsic motivation.

2.1 Introduction

Learning is an important aspect of organizational life since it helps members of a company adapt to changing environments, fuels innovation and growth, and fosters the development of competitive advantage. Companies generally provide more attention and resources to formal learning environments, which are formed by qualification courses, training, development programs, and other initiatives (Marsick & Watkins, 2015). Therefore, learning in organizations is usually associated with training and development processes; however, there are other ways to promote the development of skills that are not formal learning actions. Informal learning strategies at work can be understood as practices that people use to help acquire knowledge in a given professional context (Holman, Epitropaki, & Fernie, 2001).

Cerasoli et al. (2018) point out that in situations in which there are limitations on formal learning opportunities or in a context in which formal learning is not a feasible option – due to budgetary or logistical constraints – promoting and supporting informal learning seems to be a less resource-intensive means for developing relevant knowledge and skills. Researchers (Cerasoli et al., 2018; Jeong et al., 2018) have recently examined some antecedents, such as personal and situational factors, as well as outcomes, such as attitudes, knowledge/skill acquisition, performance of informal learning in professional contexts, which highlights the importance of this issue for current organizational studies.

In this paper, regulatory focus, a psychological trait, is considered a variable that can explain the use of learning strategies at work. A trait indicates a dimension of individual differences and patterns of thought, feeling, and behavior (McCrae & John, 1992). Learning is seen as a continuous cycle in which a person has a learning experience, analyzes this experience, concludes from it and plans the next step (Vince, 1998). The preferences of a person for one or more of the stages of the learning cycle translate into strengths and weaknesses of learning style (Jackson & Lawty-Jones, 1996).

Regulatory focus is a potential antecedent of learning strategies at work since this theory proved to be helpful for understanding self-regulation and individuals need to control their cognition and behavior in order to accomplish their goals. Regulatory focus has been considered as a personal attribute and may therefore represent strategic inclinations for certain behavioral outcomes (Higgins, 1997, 1998; Lanaj, Chang, & Johnson, 2012).

In the relationship between regulatory focus and informal learning strategies, we considered intrinsic motivation as a mediating variable, as regulatory focus may be a too abstract construct to influence directly informal learning strategies. This is consistent with a hierarchical approach to the effects of psychological traits on human behavior (Mowen & Spears, 1999). When a person is intrinsically motivated, he or she acts for pleasure or challenge (Ryan & Deci, 2000a), and this has been considered a critical factor influencing the learning process and self-development (Deci & Ryan, 1985; Ryan & Stiller, 1991). The nature of motivation can be influenced by regulatory focus, since self-determined motivations are the basis for employees to be committed to some professional purpose, reflecting autonomous propensities to engage in goal-directed behaviors (Johnson, Chang, & Yang, 2010).

Despite intense interest in informal learning in the workplace, the study of its antecedents is scarce, namely in what concerns to personal characteristics. Learning approaches have been extensively studied in teaching environments, but little attention has been given to this concept in the domains of informal learning strategies in a professional setting (Kyndt, Dochy, & Nijs, 2009).

Therefore, this study, supported by the regulatory focus theory (Higgins, 1997, 1998) and by the empirical investigation on learning strategies in the workplace (e.g., Holman et al., 2001), aims to contribute to an agenda for future theory building, research, and practice based on the following questions: Can a psychological trait, such as regulatory focus, have an effect on managers' informal work-learning strategies? And does intrinsic motivation mediate this relationship? In pursuing the influence of regulatory focus on managers' learning strategies at work, we draw on a sample of managers from Brazilian banking institutions.

2.2 Literature Review

2.2.1 Informal Learning Strategies in the Workplace

According to Jacobs and Park (2009, p. 134), workplace learning is "the process used by individuals to participate in training programs, education and development courses, or some type of experiential learning activity for the purpose of acquiring the competence necessary to meet current and future work requirements". There are two forms of learning that are relevant for understanding how the Human Resources Department (HRD) can develop the competences of its workforce (Marsick & Watkins, 2015).

The first one concerns formal learning, which is understood to be highly structured and typically based on formal educational or professional environments, such as classrooms or training programs (Manuti et al., 2015). The second one refers to informal learning, which is defined as learning that is not deliberately planned and happens outside a formal learning environment (Manuti et al., 2015).

For Brandi and Iannone (2017), learning strategies at work encompass policies, systems and practices that are used in continuous inclusion (recruitment) and staff development (retention of talented professionals). According to Brandi and Iannone (2017), learning strategies in the workplace were basically formal in the past, covering the pre-professional development through professional training, education and certification; however, nowadays, workplace learning has started to include activities that are mainly informal and practice based through orientation programs, job training and exchange of tasks and knowledge exchange of online networks and practice.

Informal learning is characterized by Marsick and Watkins (2015) through its contrast to formal learning. For the authors, formal learning is institutionally sponsored, classroom-based, and highly structured learning, whereas informal learning can be encouraged by an organization or it can occur in an environment not highly conducive to learning. Incidental learning, in turn, is embedded in informal learning, which can happen in formal institutions but it is not typically classroom-based or extremely structured; in addition, learners have control of learning in their hands (Marsick & Watkins, 2015; Watkins & Marsick, 1992).

Marsick and Watkins (2015) and Watkins and Marsick (1992) argue that individuals may or may not learn when they are at work, in the classroom, looking at others, or participating in structured or unstructured conversations. The factors required for learning are fundamentally action and reflection, and not just having the learning experience (Watkins & Marsick, 1992). According to the authors, when there is reflection on the experience, people become aware that, in fact, they are learning, which means a degree of intentionality. Informal and incidental learning occur with less conscious reflection – informal learning encompasses some degree of intentional reflection, and incidental learning encompasses little or no reflection, and learning is therefore incorporated into its actions (Watkins & Marsick, 1992).We focused on informal learning, more specifically, this research is focused on informal learning strategies in the workplace, which have deserved less attention from research in work settings (Kyndt et al., 2009).

Informal learning strategies constitute an individual learning process that is highly integrated into daily work activities, providing tacit and implicit knowledge, which can be deliberate, conscious, planned or spontaneous, or unconscious, unplanned and unintentional, and resulting in the improvement of knowledge and skills (Jeong et al., 2018). This process of individual learning integrated into daily tasks at work creates what Cerasoli et al. (2018) call informal learning behavior. Informal learning behavior is characterized by non-curricular and highly experiential learning, which occurs outside the contexts of formal learning in the workplace, through strategies such as observation, questioning, practice, among others (Sambrook, 2005). Thus, informal learning behavior is self-initiated, intrinsically directed, individually controlled, and directed towards the attainment of goals set by the individual rather than by an instructor or an organization (Cerasoli et al., 2018).

The study of Warr and Bunce (1995) has become a milestone in studies on informal learning strategies. The authors conceptualize informal learning strategies as information processing activities, used by those who learn at the moment of codification, in order to promote and facilitate the acquisition, storage and subsequent retrieval of the information learned. According to Holman et al. (2001), informal learning strategies at work can be understood as practices that people use to help obtain knowledge in a certain professional situation.

The elucidation of what the learning strategies at work are can also be linked to manifest activities, namely behavioral and unobservable processes, such as cognitive and affective processes, which present variation between individuals and learning environments and are

relevant to develop and improve the processes of human learning at work (Warr & Downing, 2000).

The categories previously developed by Warr and Allan (1998) in a conceptual and empirical research were used by Warr and Downing (2000). The study revealed nine learning strategies that were divided into three categories: cognitive, behavioral and self-regulatory.

Cognitive learning strategies were classified into three categories: 1) Reproduction; 2) Organization; and 3) Elaboration, which represent, respectively, procedures performed by means of continuous repetition without reflection; procedures that give rise to mental structures and interrelate elements for learning; and procedures that establish mental connections between content to be learned and existing knowledge (Warr & Downing, 2000).

Warr and Downing (2000) then classified learning strategies related to behavior in: 1) Interpersonal help-seeking (search for assistance from others through proactive behavior); 2) Written help-seeking (obtaining information through manuals or systems instead of people); and 3) Practical application (increase of knowledge through the practical accomplishment of an activity). Regarding self-regulatory learning strategies, the authors classified them as: 1) Emotional control (procedures to reduce anxiety and avoid concentration failures); 2) Motivation control (procedures to increase motivation and attention); and 3) Comprehension monitoring (procedures for assessing whether learning goals are being met and modifying behavior, if necessary).

Other scholars also identified key learning strategies in the workplace. Clarke (2004) and Crouse, Doyle and Young (2011), for example, identified the following informal learning activities: performing new tasks; team work; observation of co-workers; trial and error; reading, searching and surfing the internet; reflection on action; mentoring; job rotation; observation of work activities; and networking. De Groot et al. (2012) emphasized critical-reflexive work behaviors for effective informal learning, highlighting learning from mistakes, challenging thinking, feedback, and outcome evaluation. These strategies indicate that informal learning occurs in a variety of ways, involving individual cognitive processes as well as socio-cognitive interactions (Clarke, 2004).

An example of empirical research of the learning strategies is the study by Holman et al. (2001). The authors validated a scale of learning strategies in a work context, having as participants of their research call center employees of a British bank. The results found by

Holman et al. (2001) gave rise to the categories listed below, the first three of which refer to cognitive learning strategies, and the last three constitute behavioral strategies: 1) Reproduction: mental repetition of information, without reflection on its meaning; 2) Intrinsic work reflection: reflection on the existing connections between the component parts of the work; 3) Extrinsic work reflection: reflection on the connections between work and the different characteristics of the organization; 4) Interpersonal help seeking: active search for help from other people; 5) Seeking help from written material: research and localization of information in documents, manuals, books and other non-social sources; 6) Practical application: attempt to put into practice your own knowledge as you learn.

In addition, Holman et al. (2012) examined whether employee learning strategies are a mechanism by which job configuration affects the employee innovation process. The authors tested whether work-based learning strategies mediate the relationship between job configuration characteristics, such as job control and demand problems, and key components of the innovation process, such as the generation, promotion, and implementation of ideas. Holman et al. (2012) confirmed the mediating role of informal learning strategies in the relation between the configuration of work and the generation of ideas. The effects of job control on the generation of ideas were mediated by work-based learning strategies and the effects of demand problems on the generation of ideas were partially mediated by work-based learning strategies.

Some authors have also sought to relate informal learning strategies to certain psychological antecedents. Noe, Tews and Marand (2013), for example, found significant links between informal learning and the Big Five personality traits, among which extraversion, openness to experience and agreeableness showing the highest positive correlations. The five great dimensions of personality (agreeableness, conscientiousness, emotional stability, extraversion and openness to experience) have emerged as the dominant framework for investigating the role of personality in work attitudes and behavior (Barrick & Mount, 1991; Hurtz & Donovan, 2000). Noe et al. (2013) state that the group formed by extraversion, openness to experience and agreeableness seems to empirically describe individuals who embrace learning opportunities. Other scholars, for example, Bakker, Demerouti and ten Brummelhuis (2012) and Orvis and Leffler (2011) demonstrated that psychological traits such as conscientiousness, emotional stability, extraversion and openness to experience have important influences on learning contexts. The authors reported that conscientiousness, extraversion and openness to experience are positively related to motivation to learn,

proficiency in training, self-perception of the ability to learn, participation in active learning and self-development activities.

As for the learning strategies used by managers, Enos, Kehrhahn and Bell (2003) examined the extent to which these professionals engage in activities related to informal learning. According to the authors, informal learning for managers is a continuous cycle of challenging experiences, action and reflection, as well as a social process. For Dealtry (2002), a successful learning strategy leads to a new awareness of personal and organizational relationships. Learning is a transition in personal advancement, traversing the main stages of development, from an assessment of what is learned to being able to manage the learning process itself, as well as its consequences (Dealtry, 2002).

2.2.2 Regulatory Focus

The regulatory focus theory (Higgins, 1997, 1998, 2006) suggests that individuals differ in how they approach pleasure and avoid pain. This theory proved to be useful for understanding self-regulation, which is crucial for adaptive functioning, since people need to regulate their cognition and behavior to achieve a particular goal (Lanaj et al., 2012).

Differences between individuals, according to the regulatory focus theory, are manifested in two distinct motivational orientations that regulate how people pursue their goals: the focus on promotion and the focus on prevention (Higgins, 1997). Self-regulation, through a focus on promotion, regulates the needs of nutrition and involves the pursuit of ideals through advancement and achievement. This focus causes behaviors designed to bring people closer to the desired end-states (Lanaj et al., 2012). The individuals with the focus of promotion are more sensitive to the presence and absence of positive results (gains and non-gains), are motivated by the approach and oriented towards the pursuit of achievement and growth (Higgins et al., 1994).

In contrast, self-regulation, through a prevention focus, regulates security needs and involves the fulfillment of obligations through vigilant and responsible behavior. This focus leads people to avoid conditions that push them away from desired end-states (Lanaj et al., 2012). Individuals who have the focus of prevention are more sensitive to the presence and absence of negative results (losses and non-losses), and have a strive for safety and vigilance (Higgins et al., 1994).

Regulatory focus operates independently on three levels of motivational abstraction: systemic, strategic and tactical (Scholer & Higgins, 2008). The systemic level maps more closely the preference for final states or outcomes; the strategic level emphasizes a general preference for the means; and the level of tactical motivational abstraction focuses on situationally specific means (Johnson et al., 2015).

The systemic level of regulatory focus is related to comprehensive individual goals and preferences for final states or outcomes (Higgins, 1997). Much of the work prior to the final outcome operationalizes regulatory focus as an orientation at this level, which serves as a general point of reference by which people view their world (Johnson et al., 2015). People have general goal preferences classified by pleasure and pain that tend to be consistent across different situations, and regulatory focus at the strategic level addresses the general means used to pursue goals (Higgins, 1997). People may seek desired results using anxiety strategies associated with the promotion focus or seek desired outcomes using surveillance strategies associated with the prevention focus (Johnson et al., 2015). The next level in the hierarchy is the self-regulatory tactics used by individuals in specific situations during the effort to achieve goals (Scholer & Higgins, 2008). The tactical level differs from the strategic level because it is the implementation of the strategy in a given context, that is, the tactic promotes the strategy (Scholer & Higgins, 2008).

Yoon, Sarial-Abi and Gürhan-Canli (2012) argue that in situations with a high information load, people seek knowledge that is consistent with their regulatory focus orientation, as they selectively process information more easily accessible at first. As a result, individuals with a focus on promotion rely on positive information when they are overloaded with information in general because too few cognitive resources are available to process information that is not aligned. The same holds true for negative information and the focus of prevention (Yoon et al., 2012). This implies that regulatory adjustment can influence decision-making processes in highly dynamic and stressful organizational contexts (Johnson et al., 2015).

Therefore, because regulatory focus can shape the way in which people perceive their environment and respond emotionally to it, it is likely that the focus of promotion and prevention will have an influence on employees' perceptions about their work and company, for example job satisfaction and organizational commitment, as well as their behavior (Markovits et al., 2008).

Lanaj et al. (2012) argue that the focus of promotion and prevention appear to be important variables that influence self-regulation and behavior at work. Because regulatory focus represents motivational constructs, it can function as channels through which individual differences affect work behaviors (Scholer & Higgins, 2008). Researchers in the area of personality argue that motivational constructs are the primary mechanism by which personality affects work behaviors (Barrick & Mount, 2005; Judge & Ilies, 2002). A theoretical integration between the regulatory focus theory and personality research is especially important when one considers that self-regulatory processes are in part a reflection of stable individual differences (Hoyle, 2010; Scholer & Higgins, 2010). Scholer and Higgins (2010) argue that understanding how people self-regulate is essential to understanding personality on its own.

On the one hand, Lanaj et al. (2012) suspect that regulatory focus represents, in part, the strategic expressions of personality traits, since certain personality traits predict strategies aimed at modifying behavioral results, and that regulatory focus represents strategic inclinations for certain behavioral outcomes. The authors postulate that personality traits are distant influences that affect behavior through the emergence of general promotion and prevention orientations at strategic and tactical levels. The study by Lanaj et al. (2012) revealed that target learning orientation, a temperament approach, is positively related to the focus of promotion. This suggests that the focus of promotion can facilitate learning by directing behavior towards the achievement of new knowledge, especially in the domain of work tasks (Lanaj et al., 2012). According to Higgins (1997), a strategy of enthusiasm involves maximizing gains, avoiding the loss of opportunities, which makes the needs for growth and fulfillment flourish. Meeting such needs requires strategic innovations to identify and exploit learning and development opportunities (Lin & Johnson, 2015).

On the other hand, Epitropaki et al. (2017), Kark and Van Dijk (2007) and Kuhn (2014) believe that both individual differences and situational factors determine regulatory focus; therefore, people differ in their chronic tendency to focus on aspirations or safety issues, but all are able to adopt either of the two regulatory foci. Specific situations may cause one regulatory focus to prevail over the other, and this can be experimentally manipulated (Epitropaki et al., 2017). Task instructions that emphasize earnings or ask employees to think about their hopes and ideas may induce a focus of promotion, while those that emphasize losses or ask employees to think about their duties and obligations may induce a focus of prevention (Kuhn, 2014).

In the field of leadership, Kark and Dijk (2007) and Kark, Dijk and Vashi (2018) propose that regulatory focus plays two important roles: first, the more chronic component of the regulatory (promotion and prevention) foci, together with the situational regulatory focus, may partially determine leadership behavior (e.g., leadership style); and second, leaders, through manipulation of the work context, can affect the situational factors of regulatory focus, shaping the focus of promotion or prevention of their subordinates and affecting their motivations.

Kark and Dijk (2007) point out that the difference between chronic outbreaks of promotion and prevention can bring out the profile of values of a leader. More specifically, leaders who have security, tradition, and compliance values tend to have a chronic focus of prevention, while leaders who hold values of self-direction and stimulation tend to have a chronic focus of promotion (Kark & Dijk, 2007; Kark et al., 2018).

The regulatory focus theory influences a broad area of organizational research, providing a basis for evaluating goal-directed self-regulation (Johnson et al., 2015). Regulatory focus has both traits and stable qualities; and therefore, in an organizational context, employees are predisposed to adopt specific self-regulation strategies, but strategies can also be shaped by transitional states and situational signs (Lin & Johnson, 2015). We decided to focus this research on the perspective of regulatory focus as a psychological trait due to the fact that certain personality traits may predict strategies that are guided to change behavioral results, and that regulatory focus represents strategic propensity for certain behavioral outcomes.

2.2.3 Intrinsic Motivation

The model we propose considers the mediating effect of intrinsic motivation. Mowen and Spears (1999) mention a hierarchical model in which the basic personality traits are combined within a specific context for performance in order to produce surface traits or permanent dispositions, inclinations or tendencies towards behavior within the context. Thus, basic traits may be too detached from concrete settings to exert only direct effects (Brown et al., 2002).

The inherent tendency to seek out novelty and challenges, to extend and exercise one's capacity, to explore, and to learn is called intrinsic motivation, and, perhaps, no single phenomenon reflects the potential of human nature as much as it (Ryan & Deci, 2000b).

Intrinsic motivation describes a natural inclination toward assimilation, mastery, competence, spontaneous interest, and exploration that is essential to cognitive and social development (Ryan, 1995). Amabile (1993) adopted the definition that intrinsic motivation refers to individuals who seek enjoyment, interest, satisfaction of curiosity, self-expression, or personal challenge in the work.

Social psychologists and personality psychologists (Deci & Ryan, 1985) consider many of these characteristics, especially autonomy and competence, to be intrinsic motivations, since, according to them, intrinsic motivation arises when individuals feel self-determined and competent in their work. However, self-determination and competence cannot work to produce intrinsic motivation unless the target task is interesting to some degree and consequently such interest may arise from the variety of skills, identity, and significance of the task (Deci, 1975).

Extrinsic motivation works in opposition to intrinsic motivation according to the prevailing psychological view (Deci & Ryan, 1985; Hackman & Oldham, 1976; Lepper, Greene, & Nisbett, 1973; Lepper & Greene, 1978; Ryan & Deci, 2000b). The self-determination theory, according to Ryan and Deci (2000b), for example, emphasizes the role of autonomy over one's actions as an influence on effort, happiness, and subjective well-being. The self-determination theory proposes a continuum in which intrinsic and extrinsic motivations exist on opposite sides, although it recognizes that both sources of motivation can occur simultaneously and influence behavior and well-being (Ryan & Deci, 2000b).

Intrinsic motivation is unique as employees are motivated without external rewards or recognition, functioning as one of the most powerful drivers of employees' attitudes and performance (Deci & Ryan, 2004). Amabile et al. (1994) suggest that intrinsic motivation is the motivation to engage in work primarily on its own, because the work itself is interesting, engaging, or, in some way, satisfactory, while extrinsic motivation is the motivation to work primarily in response to something apart from the work itself, as a reward or recognition, or as a response to what people say.

Thus, Amabile et al. (1994) base the definitions of intrinsic and extrinsic motivation on the individual's perceptions about the task (interesting, challenging) and their reasons for engaging in it. If the reasons have to do with the task as a means to the exercise of positive skills, experience or self-expression, then the individual is intrinsically motivated. If the reasons have to do with the task as a means to some external end, then the individual is extrinsically motivated (Amabile et al., 1994). Therefore, intrinsic motivators are an

endogenous part of a worker's involvement in their activity, arising from the individual's feelings about this activity and are necessarily linked to the work itself (Amabile, 1993).

2.3 Research Model and Hypotheses

The model hypothesized, based on the theoretical background presented previously, is depicted in the following figure:

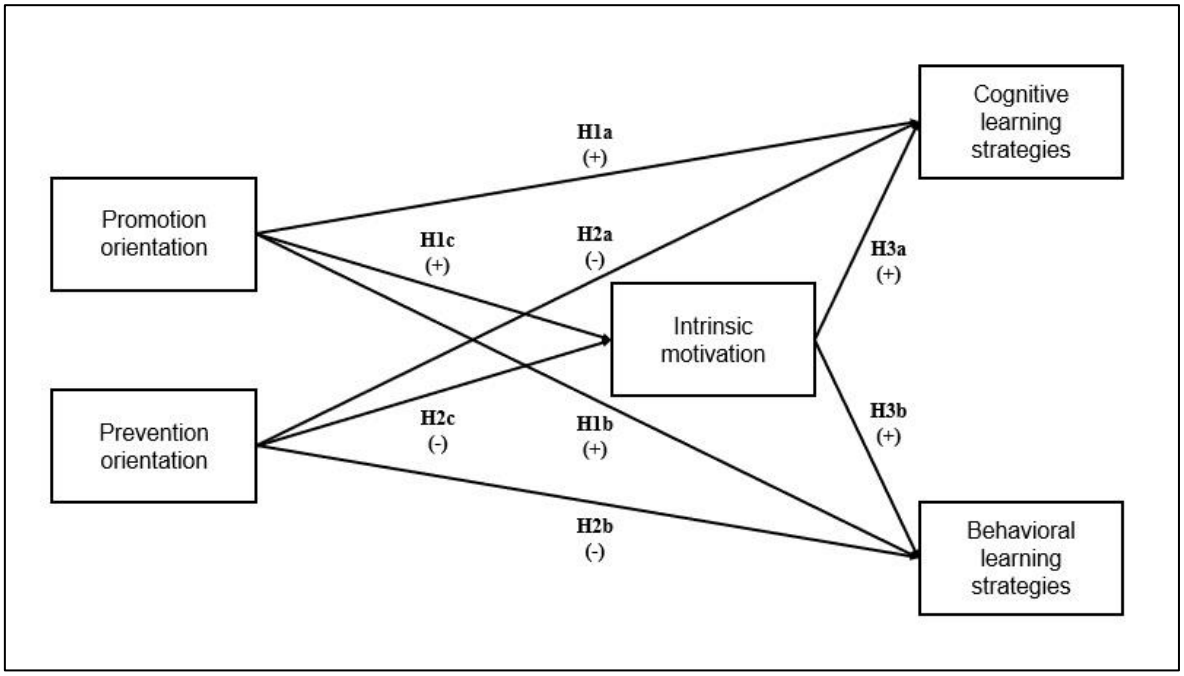

Figure 5: Model – Regulatory Focus and Informal Learning Strategies in the Workplace

Regulatory focus and informal learning strategies. As discussed in this literature review, self-regulation refers to the process by which people seek to align themselves (e.g., their behaviors and self-conceptions) with appropriate goals or standards (Brockner & Higgins, 2001). Zimmerman (2013) refers to self-regulation as individuals who proactively define motivating goals, monitor their learning, select learning strategies and adjust them according to the feedback received. Higgins (1997, 1998) developed regulatory focus theory and proposed that people have two basic systems of self-regulation: one regulates rewards and focuses individuals on promotion goals, while the other regulates punishment and concentrates on prevention goals. According to Higgins (1997, 1998), each regulatory focus has different consequences for the perception, decision making and emotions as well as for the behavior and performance of individuals.

Individuals who operate primarily in the focus of promotion are more concerned with achievement and aspiration, tend to be sensitive to the presence or absence of rewards, use

the approach as a goal-setting strategy, are more creative in work and are more willing to take risks and experience emotions that range from joy and happiness to discouragement (Brockner & Higgins, 2001). In contrast, individuals who operate primarily in the focus of prevention are more concerned with duties and obligations, tend to be sensitive to the presence or absence of punishments, use prevention as a goal-setting strategy, and experience emotions ranging from agitation or anxiety to calm (Brockner & Higgins, 2001).

Gorman et al. (2012) highlighted some consequences of regulatory focus, such as job satisfaction, commitment, task performance, organizational citizenship behavior and leader-member exchange. According to the authors, individuals with a higher level of promotion focus are more likely to seek positive ways to improve aspects of their jobs, for example, whereas individuals with a stronger prevention focus are expected to focus on negative aspects of their jobs in order to avoid negative outcomes. Promotion focus emphasizes a capacity to obtain positive outcomes, thus promotion focus is positively related to task performance; in contrast, high levels of prevention focus may inhibit individuals from developing ways to improve their work performance (Gorman et al., 2012).

Regulatory focus is particularly important in performance domains because the focus of promotion and prevention influences the strategies that are used to achieve performance goals and overcome obstacles that impede the achievement of these goals (Lanaj et al., 2012). In a meta-analysis of regulatory focus, Lanaj et al. (2012) found that the orientation towards learning goals, a temperament approach, is positively related to the focus of promotion. This suggests that the promotion focus can facilitate learning by directing the behavior towards obtaining new knowledge, especially in the domain of the work tasks.

Bell and Kozlowski (2008), based on their study, described a comprehensive examination of cognitive, motivational, and emotional processes underlying active learning approaches. According to the authors, the active learning approach has typically been conceptualized in contrast to more passive approaches to learning. The active learning approach gives people control over their own learning, that is, the learner takes primary responsibility for important learning decisions, both by choosing learning activities and by monitoring and judging their progress. In contrast, passive approaches to learning focus on limiting learner control and the instructional system (e.g., instructor, computer programs), taking primary responsibility for learning decisions (Bell & Kozlowski, 2008). Thus, the underlying distinction is internal regulation versus external regulation of learning (Iran-Nejad, 1990).

For Bell and Kozlowski (2008), the active learning approach involves an inductive learning process in which individuals must explore a task to infer rules, principles and strategies for effective performance; on the other hand, more passive approaches to learning assume that people acquire knowledge by transmission from some external source. Bell and Kozlowski (2008) examined several examples related to the active learning approach and derived three central elements that define these interventions: exploration, training frame and emotion control. In addition, the researchers deducted that these three elements should be aligned with learners' cognitive, motivational, and emotional self-regulation processes. Bell and Kozlowski (2008) concluded that the elements of exploration, training frame and emotion control, as well as the characteristics of self-regulation of learners, exert effects on active learning, performance and adaptability. In addition, researchers' findings revealed that individual differences, such as trait domain orientation, demonstrated significant relationships with self-regulation processes.

Other authors such as Friedman and Förster (2001) and Wallace and Chen (2006) concluded that employees with a high level of promotion focus are more likely to engage in exploratory behavior, since they are open to new experiences that have the potential of rewards. In this way, promotion-focused employees see these behaviors as an opportunity for experimentation and personal growth efforts, which means they are more likely to exhibit ever-increasing vitality and learning levels (Spreitzer et al., 2005). Exploration increases learning levels because new ideas and strategies that employees find expand their repository of knowledge and skills that can be applied in the workplace (Wallace et al., 2016).

Engaging in the development and refinement of work routines to increase effectiveness is an indicative of behaviors that contribute to job prosperity (Spreitzer et al., 2005). Employees with a regulatory focus of prevention will not engage in the exploratory behaviors required to grow and learn at work because they perceive that the risks and potential of negative outcomes outweigh the expectations of rewards for performance and personal development (Wallace et al., 2016). Therefore, we expect that promotion orientation is positively related to informal cognitive and behavioral learning strategies and prevention orientation is negatively related to both informal cognitive and behavioral learning strategies:

H1a: Promotion orientation is positively related to informal cognitive learning strategies.

H1b: Promotion orientation is positively related to informal behavioral learning strategies.

H2a: Prevention orientation is negatively related to informal cognitive learning strategies.

H2b: Prevention orientation is negatively related to informal behavioral learning strategies.

Regulatory focus and intrinsic motivation. Higgins (1997, 1998) states that people have two basic systems of self-regulation: a system that regulates prevention of punishment and that focuses people on a prevention goal; and another system that regulates rewards and concentrates people on a promotion goal.

For Higgins (2000), in addition to preventing punishment, the regulatory focus of prevention is likely to have minimal goals associated, a short-term perspective, sensitivity to social pressures, and concern with maintenance goals, conservation and preservation of the *status quo*. On the other hand, the regulatory focus of promotion, apart from involving rewards, is associated with maximal goals, a long-term perspective, intrinsic needs and concern for development, change and ideals (Higgins, 2000). Consequently, when people are operating under a regulatory focus of prevention (situational regulatory focus), they are sensitive to punishments that may result from underperformance. In contrast, when people are operating under a regulatory focus of promotion (situational regulatory focus), they are sensitive to rewards that can be obtained from superior performance (Van-Dijk & Kluger, 2004).

In this context, Higgins (2000) argues that the congruence or adjustment between the preponderant focus of regulation and the outcome increases motivation. Van-Dijk and Kluger (2004) argue that the concept of congruence is that the regulatory focus of prevention is activated when it recognizes a negative outcome, since a negative result is consistent with its purpose – to avoid punishment. And, similarly, a regulatory focus of promotion is activated when it recognizes a positive outcome, since a positive outcome is consistent with its purpose – that of approaching rewards (Van-Dijk & Kluger, 2004).

According to Johnson et al. (2010), regulatory focus influences the nature of motivation, whether the goal benefits from avoiding negative consequences or by doing something positive. Gorman et al. (2012) state that individuals with higher levels of promotion focus are more committed to their organizations and exhibit organizational citizenship behaviors, that is, behaviors that are not explicitly required in a formal job description but contribute to effective organizational performance, due to the fact that they are more intrinsically motivated than individuals with a stronger prevention focus.

Self-determined motivations are the basis for a commitment that employees have with some goal associated with their work, reflecting autonomous propensities to engage in goal-directed behaviors, as they are considered important in themselves (Johnson et al., 2010). Action based on self-determined motivations produces favorable levels of achievement in the domains of performance, since people generally make a greater effort when they are intrinsically motivated (Deci & Ryan, 1985). Thus, we expect that the regulatory focus of promotion is positively related to intrinsic motivation, whereas the regulatory focus of prevention is negatively related to intrinsic motivation:

H1c: Promotion orientation is positively related to intrinsic motivation.

H2c: Prevention orientation is negatively related to intrinsic motivation.

Intrinsic motivation and informal learning strategies. Intrinsic motivation, which is defined as the performance of an activity by its inherent satisfactions, and not by some isolated consequence, indicates that a person acts by amusement or challenge rather than by stimuli, pressures, or rewards (Ryan & Deci, 2000a). For Ryan and Stiller (1991), intrinsic motivation is known as a critical factor influencing the learning process. In this way, intrinsic motivation is an important motivator that affects learning, adaptation and skills, and it is necessary for human development (Deci & Ryan, 1985). According to Deci and Ryan (1985), intrinsic motivation would be a powerful source of behavior when a person has the opportunity to decide their behaviors autonomously.

The meaning of autonomy as opposed to control for the maintenance of intrinsic motivation was observed in classroom learning studies (Deci, Nezlek, & Sheinman, 1981; Ryan & Grolnick, 1986), which showed that teachers who support autonomy – in contrast to control – catalyze in their students a greater intrinsic motivation, curiosity and the desire for challenge. Students who are over-controlled, in turn, not only lose initiative, but also learn less, particularly when learning is complex or demands conceptual and creative processing (Ryan & Grolnick, 1986).

Bringing the discussion around learning that occurs in organizations, Brown and Ford (2002) suggest that in situations in which individuals are expected to be active participants in a training, consideration should be given to the motivational orientation they lead to learning. In relatively recent studies, Bauer et al. (2015) and Yoon, Han and Huang (2012) infer that

intrinsic motivation may be the type of motivation most strongly related to learning processes. As informal learning is associated with a more negotiable, democratic and learner-led approach, mediated by a friend or co-worker (Malcolm, Hodkinson, & Colley, 2003), it is possible to establish a relationship between intrinsic motivation and learning strategies at work. Given the hierarchical model for the impact of personality on behavior, we also expect that intrinsic motivation is positively related to informal cognitive and behavioral learning strategies, mediating the relationship between regulatory focus and informal learning strategies. Therefore:

H3a: Intrinsic motivation is positively related to informal cognitive learning strategies.

H3b: Intrinsic motivation is positively related to informal behavioral learning strategies.

2.4 Method

The present investigation has a quantitative nature, relying on a structured questionnaire for data collection. The study used structural equations modeling to evaluate the causal connections between the constructs. Since all the variables of interest in the model have their respective measurement scales in the literature, the quantitative method seems to be the most appropriate to be used in this study.

2.4.1 Sample

We chose banking financial institutions as the setting for the study due to the fact that the banking industry has undergone many transformations in recent decades, as a result of technological innovations and new working methods (Alt, Beck, & Smits, 2018; Alt & Puschmann, 2012). In the face of these changes, banking professionals have become more versatile and highly pressured to achieve goals, driving them to develop alternative ways to perform their daily work tasks. Therefore, the characteristics of the professionals who work in banking financial institutions end up favoring the observation of the phenomena under study.

The financial institutions that were surveyed in this study are classified as commercial banks (monetary financial institutions), since they act as intermediaries between savers and borrowers in short- and medium-term operations. The Brazilian commercial banking sector is the largest and most complete in Latin America. According to data from the Brazilian Federation of Banks (Febraban, 2018), Brazil has 173 banking financial institutions. In relation to the number of bank branches, Brazil had 22,790 in 2017, of which 7,166 are in the State of São Paulo. Although these numbers are expressive, the Brazilian banking market is concentrated in only five major retail banks. The survey was conducted at two of these largest banks, which together account for 32% of the market.

The participants in this survey were bank branch managers. The criteria for participation of the managers in the present research were: to belong to a commercial bank (monetary financial institution); to occupy the position of “Banking Agency Manager”; to have at least one direct subordinate; and to work in a bank branch in the Brazilian territory. The managers

participating in the survey were selected by the general management of the banks (in Brasília, federal capital of Brazil), which was contacted by the researchers through telephone calls and electronic messages (e-mails).

Data collection took place between May and August 2018. The initial total number of questionnaires answered by managers was 664; however, only 244 managers responded adequately to all the items. For statistical purposes, only those participants who answered all the questions were considered for analysis. It is worth mentioning some important numbers concerning the participants: the majority of managers are male (58.19%) and are between 36 and 45 years old (42.62%), and the great majority has a solid educational background (71.72% with a post-graduation course) and have been in the financial institution for more than 10 years (83.19%).

2.4.2 Measurement

In order to reach the specific objectives of this research, a structured questionnaire for the data collection was developed based on measurement scales found in the literature. The questionnaire indicators were duly translated into Portuguese by the authors of this research; then a certified translator was selected by the authors so that the retroversion of the questionnaire indicators could be performed. The two versions (translated and retroverted) were compared and, although there are linguistic differences between them, there were no incongruences that affected face validity, that is, the degree to which a method appears to measure what it actually intends to measure has been preserved.

The variable informal learning strategies at work was measured based on the scale developed by Holman et al. (2001). The scale of Holman et al. (2001) has 21 items to measure two dimensions (cognitive and behavioral) and sub-dimensions (reproduction, extrinsic work reflection, intrinsic work reflection, interpersonal help seeking, seeking help from written material and practical application) of informal learning strategies at work. The study by Holman et al. (2001) is derived from the educational literature, but the purpose was to validate a scale of learning strategies in organizational contexts.

The variable regulatory focus was measured based on the scale developed by Lockwood, Jordan and Kunda (2002). The scale of Lockwood et al. (2002) has 18 items to measure the two dimensions of regulatory focus: regulatory focus of promotion and regulatory focus of

prevention. Lockwood et al. (2002) have created a measurement scale for regulatory focus that evaluates the chronic objectives of promotion and prevention directly, that is, the respondents indicate the extent to which they endorse items relevant to the promotion objectives and items relevant to the prevention objectives. These items were designed to explore the same theoretical constructs used by Higgins (1997, 1998), who subsequently measured the focus of promotion and prevention by calculating the differences in accessibility of the ideal and proper guides.

The variable intrinsic motivation was measured based on the scale developed by Sujan (1986). This scale has three items and was based on the concept of motivation as people's behavioral intentions, which is supported by most motivational theories.

In addition to the measurement scales presented previously, a three-item scale that measures the motivations for online shopping behavior (Childers et al., 2001) was included to account for common method variance (CMV), since cross-sectional studies on the relationship between attitude and behavior relying on a single source, are vulnerable to the inflation of correlations by variance of the common method (Lindell & Whitney, 2001).

2.5 Data Analysis and Results

This study used the IBM SPSS Statistics 22 – Statistical Package for the Social Sciences program to analyze the data that was collected. The IBM SPSS Amos 25 program was used for confirmatory factor analysis and to test the complex set of hypotheses in the research model.

The results obtained from the confirmatory factor analysis and the adjustment of the structural equation models are presented below, aiming to test the hypotheses established in this research. Therefore, the analyses were divided into two types: Confirmatory Factor Analyses (CFA) and Structural Equation Model (SEM).

2.5.1 Confirmatory Factor Analysis

Due to the large number of items per dimension and in order to obtain models with better fits, the technique of item parceling was applied. The purpose is to create new variables indicating the dimensions by calculating the average or sum of the items referring to each dimension (Coffman & MacCallum, 2005). One of the advantages of using parcels as indicators is that parcels generally have a higher reliability than single items (Kishton & Widaman, 1994). The models with parcels as indicators probably fit better than the models with items as indicators, since the order of the correlation matrix of parcels is smaller than the order of the correlation matrix of items (Coffman & MacCallum, 2005). Additionally, the usage of parcels renders latent variable estimations that are closer to the true centroids (Coffman & MacCallum, 2005). We decided to use the technique of item parceling for variables with more than five items relying on random parcels. We further note that the model comprises two second order factor variables, the two informal learning strategies. After testing different models (first and second-order models), we decided to use the second-order model due to the satisfactory fit to the data, ensuring that the chosen model was the best one possible.

At first, the convergent validity of the measurement instrument was evaluated. We verified whether the indicators have a high common variance and, for this purpose, we used the factor

loadings as well as the average variance extracted (AVE), the composite reliability (CR) and Cronbach's alpha (Hair et al., 2014).

Table 1 shows the results of the CFA for regulatory focus, informal learning strategies and intrinsic motivations scales:

Table 1: Confirmatory Factor Analysis results

Constructs and items	**Stand. Loadings**	**t-value**
Regulatory Focus of Promotion		
I frequently think how I will achieve my objectives and aspirations. / In general, I am focused on achieving positive outcomes in my life. / I often imagine myself experiencing good things that I hope will happen to me.	0.90	16.16
I often think about the person I would ideally like to be in the future. / I often think about how I will achieve professional success. / Overall, I am more oriented toward achieving success than preventing failure.	0.79	13.54
I normally focus on the success I hope to achieve in the future. / My major goal in organization right now is to achieve my professional ambition. / I see myself as someone who is primarily striving to reach my "ideal self" to fulfill my wishes, and aspirations.	0.77	13.01
Regulatory Focus of Prevention		
I often worry that I will fail to accomplish my professional goals. / I often imagine myself experiencing bad things that I fear might happen to me. / My major goal in this company right now is to avoid becoming a failed employee.	0.77	12.72
In general, I am focused on preventing negative events in my life. / I often think about the person I am afraid I might become in the future. / I am more oriented toward preventing losses than I am toward achieving gains.	0.79	13.05
I am anxious that I will fall short of my responsibilities and obligations. / I frequently think about how I can prevent failures in my life. / I see myself as someone who is primarily striving to become the self I "ought" to be to fulfill my duties, responsibilities, and obligations.	0.76	12.44
Intrinsic Motivation		
I have a lot of satisfaction and reward out of just doing my job.	0.83	14.41
My work is much fun.	0.75	12.62

If I could start over, I would still choose to do the kind of work that I am doing now.	0.80	13.64
Reproduction		
I do things at work without really knowing why they are needed. (reversed)	0.61	-
I often find myself on “automatic pilot” in this job. (reversed)	0.80	8.49
I do my job without thinking about it too much. (reversed)	0.78	8.10
Extrinsic Work Reflection		
I often think about how my work fits into other company activities.	0.71	-
I try to think about how different parts of the company fit together.	0.95	14.34
I try to think how my work relates to that of others.	0.93	14.18
Intrinsic Work Reflection		
I generally try to understand how new information fits in to how I do my work.	0.83	-
To better understand my work, I think about how work makes sense in terms of what I already know.	0.83	12.49
Interpersonal Help Seeking		
I ask other questions when I am uncertain about something.	0.76	-
I get someone to help me when I need assistance.	0.92	13.79
I ask others for more information when I need it.	0.81	12.52
Seeking Help from Written Material		
I try to understand something better by locating and studying a relevant document.	0.81	-
I fill in the gaps in my knowledge by acquiring the appropriate material.	0.83	9.62
Practical Application		
I try out new things by applying them in practice.	0.65	-
I do practical things to help myself to learn.	0.99	5.77
Informal Cognitive Learning Strategies		
Reproduction	0.41	4.67
Extrinsic Work Reflection	0.68	8.94
Intrinsic Work Reflection	0.99	14.28
Informal Behavioral Learning Strategies		
Interpersonal Help Seeking	0.74	8.35

Seeking Help from Written Material	0.73	8.49
Practical Application	0.52	4.56
Measures of fit: χ^2 = 518.20; df = 237; p < 0.01; IFI = 0.91; TLI = 0.89; CFI = 0.91; RMSEA = 0.07.		

In order to determine whether the CFA has a good fit, we considered the following measures (Hair et al., 2014): Chi-square – it tests whether the model is well-adjusted to the data, that is, whether the items are actually related to their dimensions; degrees of freedom – the degrees of freedom are the number of bits of information available to estimate the sampling distribution of the data after all model parameters have been estimated; p-value – when a small p-value (statistically significant) is found for the chi-square test, there is an indication that the two covariance matrices are statistically different, that is, there are problems with the fit; CFI (Comparative Fit Index) – the CFI ranges from 0 to 1, with values close to 1 indicating that the model is well adjusted; RMSEA (Root Mean Square Error of Approximation) – normally, a value less than 0.10 is an indicative of a well-adjusted model; TLI (Tucker Lewis Index) – high TLI values (above 0.90, for example) are an indicative of a well-adjusted model; and IFI (Bollen's Incremental Fit Index) – an IFI above 0.90, for example, is an indicative of a well-adjusted model.

We removed five items from the measurement model related to informal learning strategies that were causing bad fit. The final CFA model has the following measures of fit: Chi-square = 518.20; df = 237; p-value < 0.001; IFI = 0.91; TLI = 0.89; CFI = 0.91; and RMSEA = 0.07.

According to Table 1 and the overall model fit, the results of the CFA did not indicate the need to further re-specify the model. In particular, almost all the factor loadings that refer to the latent variables of the first and second order factors were higher than the limit of 0.5 as suggested by Hair et al. (2014). Table 2 provides further information concerning the convergent and divergent validity of the measures for the adjusted model:

Table 2:Correlation matrix, reliability and variance extracted

	RFProm	RFPrev	IntMot	ILSCog	ILSBeh	CR	AVE	CA
RFProm	**0.82**					0.86	0.68	0.86
RFPrev	-0.11	**0.77**				0.82	0.60	0.82
IntMot	0.45	-0.24	**0.79**			0.84	0.63	0.82
ILSCog	0.44	-0.03	0.27	**0.73**		0.76	0.54	0.82
ILSBeh	0.60	-0.08	0.41	0.66	**0.67**	0.70	0.45	0.81

Notes: RFProm – Regulatory Focus of Promotion; RFPrev – Regulatory Focus of Prevention; IntMot – Intrinsic Motivation; ILSCog – Informal Cognitive Learning Strategies; ILSBeh – Informal Behavioral Learning Strategies; Diagonal entries in bold are related to AVE square roots; CR – Composite Reliability; AVE – Average Variance Extracted; CA – Cronbach's alpha.

The AVE (average variance extracted) and the composite reliability, which are measures of scale validity, are presented in Table 2. For Hair et al. (2014), a scale is valid if: 1) the AVE of one dimension is larger than the squared correlation between this dimension and any other dimension – the value adopted for the AVE must be greater than 0.5; and 2) the composite reliability of each dimension is greater than 0.7.

Table 2 shows that the measures, on average, have more than half of the variance of the indicators explained by the latent variable in question. The exception was the AVE related to informal behavioral learning strategies (0.45). However, according to Fornell and Larcker (1981), even if the AVE is less than 0.5 but the composite reliability is high (as shown in Table 2), the convergent validity of the construct is still adequate. DeVellis (2017) also argues that it is better to maintain more items in the measurement scale to ensure content validity, even with the AVE slightly below 0.5, therefore it is possible to use the scale in future work and compare the results with previous research. When we evaluate the remaining constructs, we observe that the composite reliability of all latent variables is equal to or greater than 0.7, which meets the criteria.

In addition to the convergent validity, the discriminant validity of the model was evaluated, that is, the ability of the construct to truly distinguish itself from the others. Thus, it was verified that each construct is not strongly correlated with another construct; moreover, we compared the value of the correlation of the constructs with the square root of the AVE (Hair et al., 2014), highlighted on the main diagonal of the correlation matrix of the constructs. The correlations should not be greater than these limits, as observed in Table 2, indicating a good discriminant validity of the adjusted model.

We can also observe in Table 2 Cronbach's coefficient alpha, the most frequently used reliability coefficient in organizational research (Cho & Kim, 2015), which is considered as an internal consistency coefficient to be interpreted as an estimator or an estimate of reliability, depending on the context (Cortina, 1993). Alpha is expected to be greater than or equal to 0.7 (Cortina, 1993), and, according to Table 2, all latent variables meet these criteria.

In relation to the assessment of magnitude of common method variance (CMV), we firstly performed the Harman one-factor test. The first factor only retained 27.36% of the variance, which is below the upper limit of 50%. This percentage indicates that CMV should not affect the results substantively. In addition, a procedure that involves a comparison of simpler and more complex models was also applied. According to Chaudhuri and Ligas (2009), a simpler model with fewer factors should fit the data as well as or better than a more complex one. Thus, we executed different models with a smaller number of factors, combining items of different measures in the same construct. By analyzing the various chi-square difference tests, we observed that the fit of the original model was always better than any other simpler model, which means that CMV should not affect the results substantially (Kafetsios & Zampetakis, 2008).

2.5.2 Results of Hypotheses Testing

The model consisted of three first-level latent factors: intrinsic motivation, promotion and prevention orientations, and two second-order latent factors: cognitive and behavioral learning strategies. Table 3 shows the results of the structural model:

Table 3: Results of the structural model

Path	**Hypothesis**	**Standardized Coefficient**	**t-value**
Regulatory Focus of Promotion -> Cognitive ILS	**H1a**	0.40**	3.43
Regulatory Focus of Promotion -> Behavioral ILS	**H1b**	0.52**	5.21
Regulatory Focus of Promotion -> Intrinsic Motivation	**H1c**	0.43**	5.58
Regulatory Focus of Prevention -> Cognitive ILS	**H2a**	0.04	0.51
Regulatory Focus of Prevention -> Behavioral ILS	**H2b**	0.03	0.33
Regulatory Focus of Prevention -> Intrinsic Motivation	**H2c**	-0.19*	-2.65
Intrinsic Motivation -> Cognitive ILS	**H3a**	0.10	1.13
Intrinsic Motivation -> Behavioral ILS	**H3b**	0.19*	1.99
Measures of fit: χ^2 = 518.20; df = 237; p < 0.01; IFI = 0.91; TLI = 0.89; CFI = 0.91; RMSEA = 0.07.			

* p-value < 0.05; ** p-value < 0.01 (one-tail tests).

As the model presents a mediating variable (simple mediation), Table 4 shows the direct and indirect effects of regulatory focus on informal learning strategies. The hypothesis of mediation postulates how an independent variable affects a dependent variable through one or more potential or intervening variables or mediators (Preacher & Hayes, 2008).

Table 4: Direct and Indirect effects of the regulatory focus on informal learning strategies mediated by intrinsic motivation and respective p-values

	D. Effect	**p-value**	**Ind. Effect**	**p-value**	**Total Effect**	**p-value**
Regulatory Focus of Promotion -> Cognitive ILS	0,40	<0.01**	0.04	0.12	0.45	<0.01**
Regulatory Focus of Promotion -> Behavioral ILS	0,52	<0.01**	0.08	0.03*	0.60	<0.01**
Regulatory Focus of Promotion -> Intrinsic Motivation	0.43	<0.01**	-	-	0.43	<0.01**
Regulatory Focus of Prevention -> Cognitive ILS	0,04	0.61	-0.02	0.13	0.02	0.38
Regulatory Focus of Prevention -> Behavioral ILS	0.03	0.75	-0.04	0.04*	-0.01	0.50
Regulatory Focus of Prevention -> Intrinsic Motivation	-0.19	0.01*	-	-	-0.19	0.01*
Intrinsic Motivation -> Cognitive ILS	0.10	0.26	-	-	0.10	0.11
Intrinsic Motivation -> Behavioral ILS	0.19	0.05*	-	-	0.19	0.03*

* p-value < 0.05; ** p-value < 0.01 (one-tail tests).
Significance based on bootstrapping.

Table 3 shows that the proposed model fit is satisfactory: (χ^2 = 518.20; df = 237; p < .01; IFI = 0.91; TLI = 0.89; CFI = 0.91). We observe that a promotion orientation has direct positive significant effects on informal cognitive (b = .40; p < .01) and behavioral (b = .52; p <.01) learning strategies (**H1a** and **H1b**). Promotion orientation also has a positive effect on intrinsic motivation (b = .43; p < .01) (**H1c**), which, in turn, has a non-significant effect on informal cognitive learning strategies (b = .10; p > .05) (**H3a**) but a positive and significant one on informal behavioral learning strategies (b = .19; p < .05) (**H3b**).

Regulatory focus of prevention, in turn, did not show direct (and indirect) significant effects on informal cognitive (b = .04; p > .05), only an indirect one on behavioral (b = -.04; p < .05) learning strategies (**H2a** and **H2b**), and showed a direct negative effect on intrinsic motivation (b = -.19; p < .01) (**H2c**).

As a further check on CMV, we also introduced a marker variable in the structural model (Williams, Hartman, & Cavazotte, 2010). All of the paths that were previously statistically significant remained significant with the introduction of the marker variable. This also indicates that CMV is not a relevant concern.

2.6 Discussion

Informal learning at work appears to have important payoffs for organization's productivity and survival. In this context, the results of this study provide a relevant contribution to research on informal learning strategies at work. In particular, the study enlightens how regulatory focus, a psychological trait, relates to managers' informal learning strategies. This research has put forward a number of arguments for why promotion orientation, whose individuals are more sensitive to the presence and absence of positive results and that are directed towards the pursuit of achievement and growth; and prevention orientation, whose individuals are more sensitive to the presence and absence of negative outcomes, and that are focused on security and responsibilities (Higgins et al., 1994), relate to informal cognitive and behavioral learning strategies at work.

Hypotheses **H1a** and **H1b** advanced that promotion orientation is positively related to informal cognitive and behavioral learning strategies at work, and this was supported. These results are in line with those of Friedman and Förster (2001), Lanaj et al. (2012), Wallace and Chen (2006) and Wallace et al. (2016), which suggest that employees with a high level of promotion orientation exhibit more exploratory attitudes and experimentation efforts. For Crowe and Higgins (1997), individuals with a high promotion orientation tend to be more creative because of their exploratory orientation, abstract thinking, and openness to new experiences with potential for gains and rewards, fostering the generation of new knowledge and ideas. Consequently, the results suggest an increase in the level of learning by promotion-oriented individuals, since these individuals are more likely to adopt active learning strategies, that is, they explore a task for effective performance (Bell & Kozlowski, 2008), acquiring new knowledge, especially those related to the tasks of their job.

In addition, it is possible to infer from the results that a promotion orientation seems more related to managers' informal behavioral learning strategies than to the cognitive ones. This suggests that a promotion focus has a comparatively stronger relationship with informal learning strategies that involve interpersonal help seeking, seeking help from written material and practical application. Such informal behavioral learning strategies involve more active and exploratory attitudes and behaviors, characteristics that are present in individuals with a promotion orientation (Lanaj et al., 2012; Wallace et al., 2016).

Hypotheses **H2a** and **H2b**, which advanced that a prevention focus is negatively related to informal learning strategies at work, were not supported. Spreitzer et al. (2005) and Wallace et al. (2016), for example, proposed that employees with a prevention orientation do not adopt exploratory learning behaviors at work because the potential for negative outcomes outweighs the chances of rewards for performance and personal growth. Hence, individuals with a prevention focus act in a way that fulfills what is expected or accepted according to formal policies, in order to avoid negative consequences (Higgins et al., 1994; Kark, Katz-Navon, & Delegach, 2015). This would sustain a negative relationship, which was not supported. Against this, it is possible that prevention-oriented individuals might undertake some informal learning so as to obtain good assessments from others, which they value. Hence, opposing forces at play might have resulted in the non-significance of these relationships. Notwithstanding, the results suggest that formal, institutionally sponsored, classroom-based and highly structured organizational learning (Marsick & Watkins, 2015) would meet the criteria of people with a prevention focus, while those with a promotion focus, which are more engaged in exploratory learning activities at work, would prefer to have the control of learning in their hands, adhering to a great extent to informal learning.

Regarding the relationship between regulatory focus and intrinsic motivation (**H1c** and **H2c**), the predictions were supported. While the promotion focus has a positive relationship with intrinsic motivation, the prevention focus has a negative one. These results complement those of Higgins (2000), Johnson et al. (2010) and Van-Dijk and Kluger (2004), in the sense that regulatory focus influences the nature of motivation when the goal is to build positive results or avoid negative consequences. This means that congruence or adjustment between the dominant regulatory focus and the desired outcome type may increase motivation (Higgins, 2000; Van-Dijk & Kluger, 2004). Promotion orientation individuals look for their advancement and growth, and intrinsic motivation fits with this, as it involves feelings of challenge concerning one's tasks. A prevention orientation involves external concerns, as such individuals are focused on their responsibilities and oughts, and on social acceptance, which brings with it an external stimulus for the performance of job tasks.

With regard to the relationship between intrinsic motivation and informal learning strategies (**H3a** and **H3b**), the results obtained in this study only support the relationship between such motivation and informal behavioral learning. That is, intrinsic motivation has a relevant effect on informal behavioral learning strategies (interpersonal help seeking, seeking help from written material and practical application) and an insignificant one on informal

cognitive learning strategies (reproduction, extrinsic work reflection, and intrinsic work reflection). This suggests that intrinsic motivation is more likely to play a role in informal behavioral learning strategies than in cognitive ones. Informal behavioral learning strategies are characterized by more active and exploratory attitudes and behaviors, whereas informal cognitive learning strategies refer to more internal, reflexive attitudes and behaviors (Holman et al., 2001), which might have curtailed the positive relationship predicted. Finally, we note that intrinsic motivation mediates the effect of both regulatory orientations on behavioral learning strategies.

We considered intrinsic motivation as determined by a psychological trait. Notwithstanding, it is important to highlight in this discussion the study by Hackman and Oldham (1976), which sought to explain work motivation through contextual components such as the characteristics of the work. The job characteristics theory lists five key features of a job, namely skill variety, task identity, task significance, autonomy and feedback, and the psychological paths by which these characteristics operate: experienced meaningfulness of the work, experienced responsibility for the outcomes of the work, and knowledge of results of the work activities (Kanfer, Frese, & Johnson, 2017). Hackman and Oldham (1976) argue that jobs that stimulate such psychological states create a context in which performance becomes the reward itself, creating a virtuous cycle of self-perpetuation of positive motivation at work fueled by self-generated rewards. Humphrey et al. (2007) also report that task sense is one of the most important mediators of the effects of motivational characteristics at work, although they note that job characteristics theory focuses on a limited number of contextual variables, not encompassing, for example, job function characteristics (working in teams and with clients).

This study complements the works of various scholars (e.g., Friedman & Förster, 2001; Gorman et al., 2012; Lanaj et al., 2012; Spreitzer et al., 2005; Wallace & Chen, 2006), who related a promotion orientation with more exploratory behaviors, which may, consequently, increase employees' learning levels. Bell and Kozlowski (2008) also note that individual self-regulation processes have effects on active learning approaches, described as those in which individuals have control over their own learning, an important characteristic related to informal learning processes. Hence, our study adds to this body of knowledge by testing whether regulatory focus relate, directly and indirectly, with informal learning strategies.

2.7 Implications for Managers

The findings of this study suggest a set of recommendations aimed at promoting work-related learning with the potential to enhance individual and, ultimately, organizational performance. The first suggestion is to invest in the learning capacity of organizations, emphasizing the importance of managers and their attitudes, in order to effectively implement the factors or conditions of learning within organizations. Lourenco and Ferreira (2019) point out that training has changed towards a more learner-centered perspective in recent years, and they also emphasize that the concept of self-regulated learning plays a key role in the relationship between training context variables and organizational outcomes so that organizations can improve training effectiveness.

Thus, from a business standpoint, Training, Development and Education programs (TD&E) can be created and improved based on the identification of the relations between a manager's psychological traits, his/her preferred learning strategies, and the possible impacts on performance. This can be achieved by applying managerial interventions in such a way that an organizational learning orientation becomes major stimulus for learning.

Since learning in organizations is a key strategic resource, companies should consider the regulatory focus of potential employees in their selection processes. This psychological trait – regulatory focus – is relatively stable in individuals and should be considered as an antecedent of learning at work, guiding companies about how to develop their Human Resource Department (HRD) policies. Due to the malleability of regulatory focus (Kuhn, 2014), organizations can create and develop training programs to instill the right regulatory focus on their employees. According to Wallace et al. (2016), training sessions can help employees and their leaders recognize when it is appropriate to change focus to maximize task effectiveness and learning. This capability could lead to dynamic optimal fit processes between task requirements and the right regulatory focus as work demands and requirements change (Wallace & Chen, 2006).

Motivation, which can also operate as a relatively stable trait, that is, there are individual differences in basic motivational orientations (Amabile, 1993; Deci & Ryan, 1985), should be taken into account by companies when employee informal learning is important. Actions based on self-determined motivations may produce favorable levels of achievement in the domains of performance, as people often make a greater effort when intrinsically motivated

(Deci & Ryan, 1985), indicating that employees act for fun or challenge rather than external stimuli, pressures or rewards (Ryan & Deci 2000a). Hence, companies may select employees based on their intrinsic motivation propensities, as well as craft a work environment that fuels intrinsic motivation (Hackman & Oldham, 1976).

2.8 Limitations and Directions for Future Work

This study has some limitations, which can pave the way for new lines of research. One limitation is linked to the quantitative nature of the study. This is a cross-sectional research, specifically looking at the antecedents of learning in the workplace, and because learning in organizations takes place over time, studying it requires longitudinal data. Therefore, future research could consider a longitudinal study, implementing measures at different times in order to confirm the relations established in the proposed theoretical model.

Another limitation of this work is linked to its cultural environment. From this perspective, the proposal of this study is based on employees working in banking institutions that operate in the Brazilian territory. Although globalization can be seen as accompanied by a reduction of cultural differences, the applicability of this research can be limited, since the regulatory focus of a manager (a variable that may explain the use of certain learning strategies) may be related to cultural aspects (McCrae & Costa, 2008; Parks-Leduc, Feldman, & Bardi, 2015).

The data that this research uses are, to a large extent, subjective perceptions of managers who answered a questionnaire sent by e-mail. Although the subjective evaluations through multi-item scales are quite consistent, differences between perceptions and objective data may exist. Future research could focus on this area making use of objective indicators. In addition, as the study relied on a single source, common method variance is a potential threat to the conclusions generated by this study. Notwithstanding, the statistical procedures that were undertaken suggest that such bias should not be substantial. Moreover, although this is not a case study, this paper is limited to a particular sector of the economy, namely the Brazilian banking sector, so that the results obtained may not translate the reality of the investigated phenomena in other settings.

2.9 Conclusions

In summary, this study associated regulatory focus – a psychological trait – with informal learning strategies, having intrinsic motivation as a mediating variable. Although learning in organizations is not a relatively recent theme, this issue has been attracting an increasing interest from researchers, academics, professionals and society in general in relation to its meaning, principles, theoretical and practical implications, research methodologies and contributions.

Learning strategies and processes are recognized as valuable for the management of organizations, in the appreciation of their human capital, that effectively takes decisions, seeks continual improvement and promotes the necessary changes in modern settings. This research sought not only to complement previous academic work on the theme of workplace learning and its strategies, but also to add a new antecedent variable in the attempt to measure and explain possible influences over this organizational phenomenon, bringing originality and practicality to the subject.

Chapter 3 – Cognitive Styles and Informal Learning Strategies in the Workplace: The Mediating Role of Intrinsic Motivation

Abstract

This study analyzes the relationship between cognitive styles and managers' informal learning strategies. Intrinsic motivation is considered to be a mediating variable between these two constructs. Structural equation modeling was used to evaluate the relations in the research model. The hypotheses proposed in our research model were tested on a sample of 244 bank managers from all Brazilian regions. Results show that, from the three-dimensional model of cognitive styles, knowing cognitive style has a positive effect on both cognitive and behavioral learning strategies, whereas planning and creating cognitive styles have positive effects on behavioral learning strategies but they have non-significant effects on informal cognitive learning strategies. Intrinsic motivation mediates the relation between cognitive styles and informal learning strategies.

Keywords: Cognitive styles. Learning strategies in the workplace. Intrinsic motivation.

3.1 Introduction

Formal training programs, that is, those sponsored by an organization, aim to promote employee learning and, consequently, increase individual and organizational performance (Cerasoli et al., 2018). However, formal training programs do not seem to adequately prepare employees for all possible scenarios and are not designed to provide individuals with continuous learning in the workplace (Blume et al., 2010; Cerasoli et al., 2018). Therefore, formal training is only one way to develop the competences of employees (Marsick & Volpe, 1999).

In contrast to formal learning, which is planned and structured and usually takes place outside the workplace or in training rooms (Choi & Jacobs, 2011), there is also informal learning. Marsick et al. (2017) state that informal learning is not highly conscious, nor easily observable or accessible at the time of learning, which is why its study is always challenging. Despite this, most informal learning at work is tacit and takes place in the context of problem solving or experimenting with solutions to challenges (Marsick et al., 2017). Marsick and Volpe (1999) describe this type of learning as integrated into work routines, with little consciousness, poorly organized or structured, facilitated by reflection and action and linked to other people's learning. Informal learning strategies have also been presented as information-processing activities used by learners to facilitate the acquisition, storage and retrieval of information to be learned (Warr & Downing, 2000).

Cognitive styles are defined as a person's preferred way of gathering, processing, and evaluating information and as the way in which people perceive stimuli and how they use this information to guide their behavior (Cools & Van den Broeck, 2007; Hayes & Allinson, 1998). In this study, cognitive styles are investigated to explain the use of learning strategies at work. Cognitive styles are connected with many cognitive functions such as perception, learning, problem solving, thinking, intelligence and creativity (Sadler-Smith, 1998; Sternberg, 2010). Kirton (1994) suggests that cognitive styles are a direct expression of fundamental personality traits, reflecting both intellectual and personality aspects of human behavior.

Cognitive styles are a potential antecedent of learning strategies at work since cognitive styles are commonly associated with individual preferences concerning the perception and processing of information, being extensively studied in the areas of education and

experimental psychology (Grigorenko & Sternberg, 1995; Rayner & Riding, 1997). The subject gained prominence in the literature on management and organizational behavior with the works of Hayes and Allinson (1994), Hodgkinson and Sadler-Smith (2003), and Sadler-Smith and Badger (1998).

In the relationship between cognitive styles and informal learning strategies, we considered intrinsic motivation as a mediating variable, as cognitive styles may be a too abstract construct to have a direct influence on informal learning strategies. This is consistent with a hierarchical approach to the effects of psychological traits on human behavior (Mowen & Spears, 1999).

Intrinsic motivation occurs in the absence of external rewards (Deci & Ryan, 2004), that is, intrinsic motivation concerns an individual's involvement in his/her activity as a result of the feelings about that activity and not due to what it can provide financially or socially (Amabile, 1993). The nature of motivation can be influenced by cognitive styles, since self-determined motivations are the basis for employees to be committed to some professional purpose, reflecting autonomous propensities to engage in goal-directed behaviors (Johnson, Chang, & Yang, 2010). And intrinsic motivation indicates that, when a person is intrinsically motivated, acts for pleasure or challenge (Ryan & Deci, 2000a), and it is thus considered a critical factor influencing the learning process, adaptation and skills, and self-development (Deci & Ryan, 1985; Ryan & Stiller, 1991).

Hence, the contribution of this paper, supported by the three-dimensional model by Cools and Van den Broeck (2007) and by the empirical investigation on learning strategies in the workplace (e.g., Holman, Epitropaki, & Fernie, 2001), is to understand the relation between cognitive styles and informal learning strategies in the workplace, having intrinsic motivation as a mediating variable. In order to test such research model, we draw on a sample of managers from Brazilian banking institutions.

3.2 Literature Review

3.2.1 Informal Learning Strategies in the Workplace

Workplace learning is the process that involves individuals in training programs, education and development courses, as well as experimental learning, which aims to acquire or implement the necessary competences to meet organizational demands (Jacobs & Parks, 2009).

Marsick and Watkins (2001) conceptualized formal learning as structured learning, which does not occur during the performance of work tasks, but generally in formal educational environments in the classroom. Formal learning consists of planned learning activities that aim to help workers acquire knowledge in specific areas and develop useful skills for a satisfactory level of job performance (Marsick & Watkins, 2015). Eraut (2000) pointed out some remarkable characteristics of formal learning, such as a prescribed learning structure, the granting of a qualification or credit, the external specification of results and the presence of a designated teacher or instructor.

Regarding informal learning, it is possible to state that this is not a recent phenomenon. Lindeman (1926) and Dewey (1938) were the first scholars who emphasized the importance of learning from experience and the reflexive role in learning (Cseh, Watkins, & Marsick, 1999). Knowles (1950) introduced the term "informal learning", however, only decades later, authors such as Skule (2004) and Cseh et al. (1999), changed the focus from institutionalized education to the recognition that learning is lifelong, occurring in the workplace and elsewhere (Ellinger, 2005).

Watkins and Marsick (1992) and Marsick, Volpe and Watkins (1999) are the authors in the literature that provide the theoretical basis for informal work-based learning (Noe, Tews, & Marand, 2013). These scholars characterized informal learning as a process initiated by an intention to learn, complemented by experience and action, feedback seeking and reflection (Noe et al., 2013). Watkins and Marsick (1992) defined informal learning as:

> […] based on learning from experience; incorporated into the organizational context, oriented towards action; governed by non-routine conditions; concerned with tacit dimensions that must be made explicit; delimited by the nature of the task, the way in which problems are presented and the work capacity of the individual who performs the task; and enhanced by proactivity, critical reflection and creativity (Watkins & Marsick, 1992, p.287).

Informal learning can be encouraged by an organization or it can occur in an environment not highly conducive to learning, whereas incidental learning takes place despite individuals being somewhat unconscious of it, that is, when people learn incidentally, their learning occurs somewhat tacitly or unconsciously (Marsick & Watkins, 2015). Some examples of incidental learning are the learning from mistakes, or the unsystematic process of trial and error (Marsick & Watkins, 2001).

Informal learning is largely under individual control and, therefore, some individuals may be more able and prepared to engage in informal learning based on their personal characteristics, that is, individual differences are relevant antecedents that influence participation both in formal training activities and in voluntary development activities (Colquitt, LePine, & Noe, 2000). Based on the intention to learn, workers engage in activities to acquire knowledge or skills through experience, action or strategies, in order to achieve effective performance (Bell & Kozlowski, 2008).

Informal learning strategies can be defined as practices that individuals use to acquire and develop knowledge in any context (Holman et al., 2001). For Warr and Bunce (1995), informal learning strategies are information processing activities, used by learners at the time of coding, in order to facilitate the acquisition, storage and retrieval of information learned, varying between individuals and for the same individual in different situations.

Holman et al. (2001) developed and validated a scale to measure informal learning strategies through a survey of call center workers in a British company. The results provided evidence for a structure composed of six dimensions, included in two second-order constructs: cognitive strategies and behavioral strategies.

Cognitive strategies are formed by 1) Reproduction, which is the activity of repeating to yourself the information that is acquired, that is, the main point is the central repetition or copying of the information, usually in the same way as it was presented; 2) Intrinsic work reflection, which is the activity of identifying central elements that make up work tasks, as well as establishing mental processes that group and relate their constituent elements; and 3) Extrinsic work reflection, which is the reflection on the connections between work and the different characteristics of the organization. Behavioral strategies are formed by 4) Interpersonal help seeking, which is the activity of seeking the help of other people, such as peers, supervisors, customers, suppliers, that is, going beyond the routine receipt of instruction; 5) Seeking help from written material, which is the activity of locating and identifying information in manuals, computer programs and other non-social sources; and 6)

Practical application, which is the attempt to put one's knowledge into practice as it is acquired (Holman et al., 2001).

Clarke (2004) and Crouse, Doyle and Young (2011) also identified informal learning strategies in the workplace, for example, performing new tasks; team work; observation of co-workers; trial and error; reading, researching and surfing the internet; reflection on action; mentoring; work rotation; observation of work activities; and networking. De Groot et al. (2012) highlighted critical-reflexive work behaviors for effective informal learning, pointing out learning from mistakes as strategies; challenging thinking; feedback; and outcome evaluation.

According to the literature, some factors can affect informal learning. Jeong et al. (2018), for example, identified that the determinants for informal learning can be classified into three factors: 1) Sociodemographic; 2) Personal; and 3) Job characteristics. Sociodemographic characteristics include the relationship between age or generation and informal learning, participation in informal learning according to gender, or even the educational level and the degree of efforts for informal learning. Personal characteristics include cognitive ability, self-efficacy, personality and interest. Job characteristics, in turn, consider the relationship between informal learning and aspects such as seniority, the function performed, the workload and the professional's competence level (Jeong et al., 2018).

Cerasoli et al. (2018) considered two groups of personal antecedents for informal learning behaviors: 1) Individual predispositions; and 2) Demographic factors. The authors grouped individual characteristics or orientations similar to traits that could predispose individuals to engage in learning-oriented behaviors, such as certain personality factors or propensity factors assessed by the Big Five personality traits theory. In addition to these factors, Choi and Jacobs (2011) proposed that stable general reasons related to learning, such as orientation towards learning objectives, could affect individuals' engagement in informal learning. Demographic factors, such as age, educational level, gender, level of income/property and marital status, according to Cerasoli et al. (2018), could also be related to the involvement of individuals in informal learning behaviors.

In relation to the informal learning strategies used by managers, Enos, Kehrhahn and Bell (2003) suggested that informal learning is predominantly a social process and that managers with high levels of proficiency tend to learn management skills mainly from informal learning. More recently, Sparr, Knipfer and Willems (2017) studied feedback seeking and the use of reflection as informal and proactive learning behaviors in the transfer of formal

training within the context of leadership development programs. The research by Sparr et al. (2017) highlights the importance of informal learning activities after formal training, indicating that learners use feedback seeking to enhance specific learning and reflection to enhance further improvements.

3.2.2 Cognitive Styles

Cognitive styles are defined as stable attitudes, preferences and habitual strategies that determine an individual's modes of perception, remembering, thinking and problem solving (Messick & Fritzky, 1963). Usually, the term style refers to a usual pattern or preferential way of doing something (Grigorenko & Sternberg, 1995). Witkin et al. (1977) define the term cognitive style as the way in which a person perceives, thinks, learns, solves problems and relates to other people. Other authors, such as Hunt et al. (1989), define cognitive style as the way in which people process and organize information and come to judgments or conclusions based on their observations. Cools and Van den Broeck (2007) define cognitive style as the way in which people perceive stimuli and how they use this information to guide their behavior.

In the area of cognitive styles, several researchers tried to establish categories, based on different theories, to create order in the field of study, such as: Cassidy (2004); Coffield et al. (2004); and Desmedt and Valcke (2004). Allinson and Hayes (1996), Riding (1997) and Sadler-Smith and Badger (1998) suggested that different cognitive styles are different concepts from the same underlying dimension.

Riding and Cheema (1991), in a review of the literature, established two fundamental dimensions of cognitive styles: the wholist-analytical (WA) dimension and the verbalizer-imager (VI) dimension. The wholist-analytical dimension of cognitive style describes the way in which individuals process and organize information, that is, some individuals process and organize information into its component parts, whereas other individuals retain an overall view of information (Sadler-Smith & Riding, 1999). The verbalizer-imager dimension of cognitive style describes the usual way of representing individuals' information in memory during thinking, that is, verbalizers consider the information received in words or verbal associations, whereas imagers consider the information received through frequent mental pictures (Sadler-Smith & Riding, 1999).

According to Nickerson, Perkins and Smith (1985), two qualitatively distinct cognitive styles are also evident: the first cognitive style is commonly described by the terms analytical, deductive, rigorous, convergent, formal and critical; while the second cognitive style is commonly described by the terms synthetic, inductive, expansive, divergent, informal, diffuse and creative. On the one hand, individuals with a systematic rational style tend to apply rule-based thinking. They analyze the situation and logically evaluate various alternatives in an attempt to discover underlying rules, which help them organize the world into systematic patterns that they can rely on when choosing how to act (Sagiv et al., 2014). On the other hand, individuals with an intuitive style tend to apply associative thinking, also called experimental thinking (Norris & Epstein, 2011). They have a holistic and global perception and are often unaware of their thought patterns; they make associations and rely on intuition, taking into account not only facts, but also feelings and context (Sagiv et al., 2014).

For Sagiv et al. (2014), certain professional environments require, mainly, systematic thinking and processing based on rules and are, therefore, consistent with a systematic style; other professional environments require associative and holistic information processing and are therefore consistent with an intuitive style. The authors cite the accounting profession as an example that requires the processing of numerical information according to a set of clear and predefined rules and regulations, suggesting that the systematic style is more compatible with this profession than the intuitive style. In contrast, art is expressive, emotional and associative, and requires imaginative and unexpected thinking, as an artist subjectively communicates internal ideas and feelings, so that they are interpretable in various ways; therefore, this profession is more congruent with the intuitive cognitive style than with a systematic cognitive style (Sagiv et al., 2014).

According to Allinson and Hayes (1996), the systematic and intuitive cognitive styles can be grouped in the intuition-analysis dimension. According to these authors, the intuition-analysis dimension of cognitive style influences how people organize and process information concerning learning, problem solving and decision-making situations. Allinson and Hayes (1996) suggest that analysts prefer to adopt a sequential, gradual and structured approach to learning, whereas intuitives prefer to adopt a global perspective and an open-ended approach to learning. However, researchers like Hodgkinson and Sadler-Smith (2003) and Coffield et al. (2004) question the nature of the one-dimensional theory of Allinson and Hayes (1996) and propose that analysis and intuition are better conceived as separate

dimensions. There is no agreement in the literature whether systematic and intuitive styles are two poles of the same dimension or two distinct dimensions (Sagiv et al., 2014).

Cools and Van den Broeck (2007), however, identify a three-dimensional model, classifying cognitive styles in knowing style, planning style and creating style. According to the authors, individuals with the knowing style look for facts and data. They want to know exactly how things are and tend to retain a lot of facts and details. Individuals with the planning style, in turn, are characterized by a need for structure. They like to control and organize and prefer a well-structured work environment, attaching importance to preparation and planning to achieve their goals. Finally, individuals with the creating style tend to be creative and like to experience the new. They see problems as opportunities and challenges and like uncertainty and freedom (Cools & Van den Broeck, 2007). Table 5 shows Cools and Van den Broeck's (2007) three-dimensional cognitive style model:

Table 5: Cools and Van den Broeck's three-dimensional cognitive style model

Styles	Characteristics
Knowing	Facts, details Logical, reflexive Objective, impersonal, rational Accurate, methodical
Planning	Sequential, structured Conventional, in accordance Planned, organized, systematic
Creating	Possibilities, meanings, ideas Impulsive, flexible, open New, subjective, inventive, creative

Source: Cools and Van den Broeck (2007), adapted by the authors.

According to Cools and Van den Broeck (2007), the knowing cognitive style is empirically related to rationality, indicating a preference for processing logical, analytical and impersonal information. Cools and Van den Broeck (2007) affirm that such cognitive style

is similar, in theory, to the existing conceptualizations of the analytical pole, as the analyzes of Allinson and Hayes (1996) and Riding (1997).

The planning cognitive style is empirically related to Kirton's (1994) adaptability pole. According to Kirton (1994), individuals with the adaptability pole are characterized by the production of a relatively low number of solutions to problems in general, by a conventional approach to improve efficiency and by adherence to the rules. Cools and Van den Broeck (2007) identified that the planning style is also correlated with rationality.

The creating cognitive style is strongly correlated with the innovative individual, according to Kirton's theory (1994). Innovative individuals proliferate ideas, seek a broader realization of efficiency through radical changes, and are likely to threaten or subvert the traditional and accepted rules structure (Cools & Van den Broeck, 2007). This style is theoretically related to existing concepts of the intuitive pole, such as intuition in the theory of Allinson and Hayes (1996) or Kirton's (1994) innovation pole (Cools & Van den Broeck, 2007).

The findings of Cools and Van den Broeck (2007) suggest that it is useful to distinguish three different cognitive styles, which initially derive from the traditional conceptualization of intuitive-analytic bipolar cognitive style, without conceptually placing them in a single dimension. Thus, the authors do not exclude the possibility that people may show a preference for a combination of cognitive styles, since they are situated in a conceptual triangle as three independent unipolar scales.

The model we propose considers the mediating effect of intrinsic motivation, since cognitive styles may be a too conceptual construct to have a direct influence on informal learning strategies. Mowen and Spears (1999) mention a hierarchical model that combines the basic personality traits with a specific context for performance, thus producing surface traits or permanent dispositions, inclinations or tendencies towards behavior within the context. For Brown et al. (2002), the surface traits, in the personality hierarchy, are more connected to behaviors necessary to achieve high performance and, therefore, can predict specific behaviors and performance levels.

3.2.3 Intrinsic Motivation

Motivation concerns energy, direction, persistence and all aspects of activation and intention, being highly valued because the main consequence attributed to it is productivity (Ryan & Deci, 2000b). Motivation can be intrinsic, which is authentic, of its own authorship or endorsed, and extrinsic, whose individuals are merely externally controlled by an action, however, when compared, intrinsic motivation arouses more interest, enthusiasm and confidence, which can result in improved performance, persistence and creativity, increased vitality, self-esteem and general well-being (Deci & Ryan, 1995; Ryan & Deci, 2000; Ryan, Deci, & Grolnick, 1995).

Ryan and Deci (2000a) state that intrinsic motivation refers to the performance of an activity for the interest and enjoyment of the work itself, and not for some separable consequences, such as rewards or recognition (Amabile, 1993). For Amabile (1996), intrinsic motivation arises from the individual's positive reaction to the task itself, such as interest, involvement, curiosity, satisfaction or positive challenge, which serves as a type of work reward. Individuals are intrinsically motivated when they seek pleasure, feel interest and satisfaction from curiosity and are personally challenged at work (Amabile, 1993).

Social psychology and personality psychology consider autonomy and competence, which are aspects of work, as intrinsic motivators, that is, intrinsic motivation arises when individuals feel self-determined and competent in their work (Deci, 1975; Deci & Ryan, 1985). These conditions are likely to be achieved only when the difficulty of the job matches or slightly exceeds the person's skill level (Amabile, 1993). Deci (1975) suggests that when the target task is interesting to some degree, and that interest can arise from the variety of skills, identity and meaning of the task, self-determination and competence, then, can work to produce intrinsic motivation (Amabile, 1993).

Extrinsic motivation, in turn, arises when individuals feel motivated by something outside of their own work, such as promised rewards or expected assessments, that is, individuals are extrinsically motivated when they engage in work in order to achieve some objective other than work related ones (Amabile, 1993). Therefore, extrinsic motivation is related to the performance of an activity to obtain some separable result, in contrast to intrinsic motivation, which refers to doing an activity for the satisfaction inherent in the activity itself (Ryan & Deci, 2000a).

Intrinsic motivation can be considered unique, since individuals are motivated without external rewards or recognition, and this implies that intrinsic motivation is one of the most powerful factors in the attitudes and performance of an organization's employees (Deci & Ryan, 2004). Therefore, intrinsic motivators are an endogenous part of the workers' involvement in their activity, resulting from the feelings of individuals in relation to their activity and are necessarily linked to the work itself (Amabile, 1993).

3.3 Research Model and Hypotheses

The hypothesized model, based on the theoretical background presented previously, is depicted in the following figure:

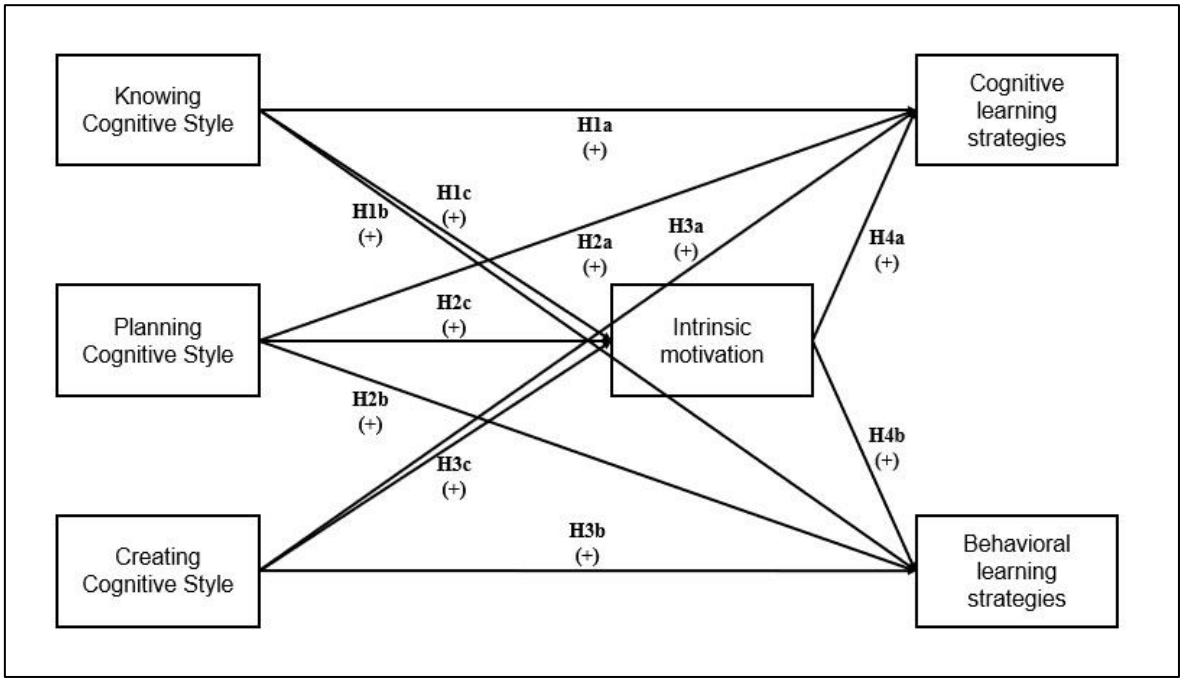

Figure 6: Model – Cognitive Styles and Informal Learning Strategies in the Workplace

Cognitive styles and informal learning strategies. Cognitive styles can be defined as a consistent individual approach to organizing and processing information during learning (Messick, 1984). Messick (1976, p. 9) states that cognitive styles "appear to serve as high level heuristics that organize lower-level strategies, operations, and propensities in such complex sequential processes as problem solving and learning". For Hayes and Allinson (1998), cognitive styles are defined as the way in which people perceive stimuli and how they use this information to guide their behavior.

According to Riding and Rayner (2013), cognitive styles include several aspects of differential psychology related to individual differences in the learner and the learning environment, that is, the key elements of this construct are formed from aspects of individual psychology, namely affection or feeling, behavior or action and cognition or knowledge. These primary elements in personal psychology are structured and organized by an individual's cognitive style (Riding & Rayner, 2013).

Therefore, cognitive styles reflect both intellectual and personality aspects of human behavior (Volkova & Rusalov, 2016). Hodgkinson and Sadler-Smith (2003) state that the construct of cognitive styles allows psychologists to unite cognitive and personality processes in a single set. In the same way, Sternberg (2010) posits that cognitive styles can provide a bridge between the study of cognition and the study of personality.

Learning strategies, on the other hand, involve conscious choices about how an apprentice intends to deal with certain learning situations (Messick, 1976). Learning strategies can be affected by cognitive styles; although such strategies can be adapted to a specific learning situation, the underlying cognitive style can be much more permanent and persuasive, that is, cognitive style can influence the choice of learning strategies that the learner tends to adopt in a series of learning tasks (Pithers, 2002).

The construction of a repertoire of learning strategies that combines with cognitive styles in order to contribute to a personal learning style is the dynamics that involves the individual throughout life (Riding & Rayner, 2013). A personal learning style describes the way in which a person habitually approaches or responds to the learning task, comprising two fundamental aspects: first, the cognitive style, which reflects the way in which a person thinks; and second, the learning strategy, which reflects the processes used by the learner to meet the demands of a learning activity (Riding & Rayner, 2013). As a result, a person's cognitive style is an imbued and automatic way of responding to information and situations, being a relatively stable aspect of learning performance and influencing a person's achievement in learning situations (Riding & Rayner, 2013). Sadler-Smith, Allinson and Hayes (2000) examined the proposition that learning preferences reflect the extent to which specific learning methods or learning strategies provide individuals with the chance to process information in a way that is compatible with their cognitive styles, suggesting a link between cognitive styles and the type of learning activity in which an individual engages.

To measure an individual's predominant cognitive style, Cools and Van den Broeck (2007) reported the development of a reliable, valid and convenient multidimensional cognitive style instrument – the Cognitive Style Indicator (CoSI) – for use with management and professional groups. The authors demonstrated its relevance and usefulness by identifying three cognitive styles: people with a knowing style are characterized by a preference for facts and details, while people with a planning style prefer structure and order, and people with a creating style tend to proliferate ideas and enjoy experimentation.

Bouckenooghe et al. (2016) clarified whether and how configurations of knowing, planning and creating cognitive styles impact on learning approaches among graduate business students. The authors used the term "learning approach" in order to refer to how students engage in learning, through strategic, deep and surface methods. According to Cools and Bellens (2012) and Sadler-Smith (1999), studies have indicated a relation between individuals' cognitive styles and their preference for specific learning approaches (Bouckenooghe et al., 2016).

Individuals with knowing and creating cognitive styles are likely to adopt a deep approach to learning because they want to understand and engage deeply with the subject material as well as reflect their constant search for new ideas, therefore they want to make informed decisions based on the analyses of facts, figures and rational arguments, whereas people with a planning cognitive style are expected to take a strategic learning approach, which implies an intention to obtain the best possible result by adopting well-organized and efficient study methods, since they prefer structured and well-organized environments (Bouckenooghe et al., 2016).

Consequently, based on the definitions of cognitive styles (e.g., Hayes & Allinson, 1998; Messick, 1976, 1984; Riding & Rayner, 2013), and on the characteristics presented about each cognitive style (Cools & Van den Broeck, 2007) in relation to its learning approach (Bouckenooghe et al., 2016), we expect that knowing, planning and creating cognitive styles are positively related to informal learning strategies. Therefore:

H1a: Knowing cognitive style is positively related to informal cognitive learning strategies.

H1b: Knowing cognitive style is positively related to informal behavioral learning strategies.

H2a: Planning cognitive style is positively related to informal cognitive learning strategies.

H2b: Planning cognitive style is positively related to informal behavioral learning strategies.

H3a: Creating cognitive style is positively related to informal cognitive learning strategies.

H3b: Creating cognitive style is positively related to informal behavioral learning strategies.

Cognitive styles and intrinsic motivation. Cognitive styles refer to consistent differences in the way individuals perceive, think, solve problems, learn, make decisions and relate to

others (Witkin et al., 1977). Cognitive evaluation theory (CET) (Deci, 1975; Deci & Ryan, 1980) suggests that feelings of competence and autonomy are important for intrinsic motivation.

Studies have shown that ideal challenging activities – those that demand more from cognitive functions – were highly intrinsically motivating (Danner & Lonky, 1981; Deci, 1971), and that positive feedback, on the one hand, facilitated motivation, fostering a sense of competence when people feel responsible for their performance; and that, on the other hand, negative feedback harms both intrinsic and extrinsic motivation, making people feel unmotivated (Gagné & Deci, 2005).

Kirton (1994) suggested an approach to understand and measure individuals' cognitive styles: Kirton Adaptation-Innovation Inventory (KAI). The adaptation-innovation theory (Kirton, 1994) establishes a bipolar continuum of cognitive styles, with adaptors and innovators located at opposite ends. According to the author, while individuals with an adaptive cognitive style (adaptors) are more likely to operate within certain procedures without questioning their validity, individuals with an innovative cognitive style (innovators) are more likely to run the risk of violating the combined way of doing things in order to develop different solutions than the previous ones for the same problems. In short, adaptors are characterized by doing things better, whereas innovators are characterized by doing things differently (Kirton, 1980).

In addition, adaptors and innovators are also different in relation to motivation (Amabile et al., 1994; Kirton, 1994). For these authors, individuals with an adaptive cognitive style prefer routine and predictable work and, as a result, tend to get less pleasure and intrinsic motivation from challenging activities. On the other hand, individuals with an innovative cognitive style are motivated mainly by the challenge and stimulation of the work itself when they have the opportunity to develop complex jobs, that is, when innovators maintain a good relationship with their work, they can achieve high levels of intrinsic motivation (Baer, Oldham, & Cummings, 2003).

Bouckenooghe et al. (2016) examined how a trait-like characteristic, such as cognitive styles, can predict differences in learning approaches, distinguishing strategic, deep and surface learning methods. For the authors, Cools and Van den Broeck's (2007) knowing, planning and creating cognitive styles are positively related to strategic and deep learning methods, since individuals with such cognitive styles are more likely to collect additional information and are motivated by their innate interest to learn. On the other hand, a surface learning

method is the opposite of a deep approach to learning because when individuals take a surface approach, their intention to learn is guided by extrinsic motivations and not by a genuine interest in learning more about a subject. Taking this discussion into account, we then expect that knowing, planning and creating cognitive styles contribute to intrinsic motivation (Bouckenooghe et al., 2016).

The relationship between cognitive styles and intrinsic motivation was studied by only a few authors in the organizational literature. Amabile et al. (1994), for example, found that scores on the KAI were positively associated with intrinsic motivation and negatively related to extrinsic motivation. Wang, Kim and Lee (2016) proposed that cognitive diversity, defined as perceived differences in thinking styles, knowledge, skills, values and beliefs among members of a work team (Van der Vegt & Janssen, 2003), was positively related to the intrinsic motivation of this team. For Wang et al. (2016), cognitive diversity expands the team's ability to make the team analyze problems from different angles. When team members are exposed to the different preferences and opinions held by other members, they end up being involved in the systematic processing of information, which can develop a shared belief that it is intrinsically rewarding to work together on group tasks, therefore establishing a relation between cognitive styles and intrinsic motivation (Wang et al., 2016). Thus, we expect that cognitive styles are positively related to intrinsic motivation:

H1c: Knowing cognitive style is positively related to intrinsic motivation.

H2c: Planning cognitive style is positively related to intrinsic motivation.

H3c: Creating cognitive style is positively related to intrinsic motivation.

Intrinsic motivation and informal learning strategies. Intrinsic motivation, which refers to the motivation to do something due to inherent satisfaction, is known as a critical factor that influences the learning process (Ryan & Stiller, 1991). Intrinsic motivation, in this way, is an important motivator that affects learning, adaptation and skills, being necessary for human development (Deci & Ryan, 1985). According to Rigby et al. (1992), individuals' motivation is related to learning outcomes, that is, the degree of personal autonomy or self-determination when engaging in a learning task can affect the depth of information processing, impacting the quality of learning. For these authors, when an individual is

intrinsically engaged in learning, the newly acquired information will be more easily understood and used.

Bell and Kozlowski (2008) examined the cognitive, motivational and emotional processes underlying active learning approaches, as well as their effects on learning and knowledge transfer. Based on the results, the authors concluded that motivational orientation is important when learners take an active role in the learning process. More recently, Bauer et al. (2015) and Yoon, Hang and Huang (2012) examined motivation in learning contexts and concluded that intrinsic motivation may be the type of motivation most strongly related to learning processes. Bauer et al. (2015) suggested that strategies designed to increase motivation can facilitate positive learning outcomes for the workplace, leading to beneficial outcomes for individuals and organizations. Thus, we expect that intrinsic motivation is positively related to informal learning strategies. Therefore:

H4a: Intrinsic motivation is positively related to informal cognitive learning strategies.

H4b: Intrinsic motivation is positively related to informal behavioral learning strategies.

3.4 Method

3.4.1 Sample

Banking financial institutions were selected as the setting for this study. In recent years, the banking market has suffered impacts that are related to technological innovations. The way people interact with the banking system, for example, has undergone profound transformations, and, in view of this context, banking professionals need to develop new ways of performing their daily work tasks (Alt, Beck, & Smits, 2018; Alt & Puschmann, 2012). The use of learning strategies by these professionals ends up being a requirement for survival in a highly competitive market, which is also characterized by constant and profound changes, favoring the observation of the phenomenon analyzed in this study.

The participants in this research were bank branch managers from two of the largest retail banks in Brazil, which together represent 32% of the market. To participate in this research, managers had to belong to a commercial bank; occupy the position of "Bank Agency Manager"; have at least one direct subordinate; and work in a bank branch within the Brazilian territory. The general management of the banks, which was contacted by the researchers through telephone calls and electronic messages (e-mails), was responsible for selecting the managers participating in the research. Initially, the total number of questionnaires answered by managers was 664, but 244 adequately answered all items, a number that was considered in the analysis for statistical purposes.

3.4.2 Measurement

We developed a questionnaire used for data collection based on measurement scales found in the literature. The questionnaire indicators went through a process of translation and retroversion, in order to ensure face validity, that is, the degree to which a method seems to measure what it actually intends to measure.

The variable informal learning strategies at work was measured based on the scale developed by Holman et al. (2001). The scale of Holman et al. (2001) has 21 items to measure dimensions (cognitive and behavioral) and sub-dimensions (reproduction, extrinsic work

reflection, intrinsic work reflection, interpersonal help seeking, seeking help from written material and practical application) of informal learning strategies at work. Holman et al. (2001) examined learning strategies in a non-educational organizational setting and their measurement scale was based on measures developed by Warr and Downing (2000) and Entwistle and Ramsden (1983).

The variable cognitive styles was based on the scale developed by Cools and Van den Broeck (2007). Cools and Van den Broeck's scale (2007) has 18 items to measure the three dimensions of cognitive styles: knowing cognitive style, planning cognitive style and creating cognitive style. Cools and Van den Broeck's scale presents a further refinement of the traditional conceptualization of bipolar cognitive analytic-intuitive style, dividing the analytical pole into a knowing style and a planning style, developing a valid and reliable cognitive style instrument for use in organizations.

The variable motivation was measured based on the scale developed by Sujan (1986), which has three items. For Sujan (1986), motivation is conceptualized as people's behavioral intentions, a conceptualization supported by most motivational theories.

A three-item scale that measures the motivations for online shopping behavior (Childers et al., 2001) was included for the common method variance (CMV), since cross-sectional studies on the relationship between attitude and behavior relying on a single source, are vulnerable to the inflation of correlations by variance of the common method (Lindell & Whitney, 2001).

3.5 Data Analysis and Results

3.5.1 Confirmatory Factor Analysis

We applied the technique of item parceling in order to obtain models with better fits. Parcels are aggregations (sums or averages) of several individual items (Coffman & MacCallum, 2005). The first advantage of using parcels as indicators of constructs is that parcels usually have a higher reliability than single items (Kishton & Widaman, 1994). A second advantage of using parcels rather than items as indicators of latent variables is related to the reduction in the number of measured variables in the model, that is, "models with parcels as indicators are likely to fit better than models with items as indicators because the order of the parcel correlation matrix is much smaller than the order of the item correlation matrix" (Coffman & MacCallum, 2005, p. 238.). The third advantage of parcels is that "they can be used as an alternative to data transformations or alternative estimation techniques when working with nonnormally distributed variables" (Coffman & MacCallum, 2005, p. 238), which means that parcels may be more normally distributed than items as indicators.

We decided to use the technique of item parceling for variables with more than five items relying on random parcels (Coffman & MacCallum, 2005). As the model comprises two second- order factor variables (cognitive and behavioral learning strategies), we tested different models (first and second-order models) and decided to use the second-order model due to the satisfactory fit to the data.

At first, the convergent validity of the measurement was evaluated. We verified whether the indicators have a high common variance and, for this purpose, we used the factor loadings as well as the average variance extracted (AVE), the composite reliability (CR) and Cronbach's alpha (Hair et al., 2014).

Table 6 shows the results of the CFA for cognitive styles, informal learning strategies and intrinsic motivations scales:

Table 6: Confirmatory Factor Analysis results

Constructs and items	Stand. Loadings	t-value
Knowing Cognitive Style		
I want to have a full understanding of all problems.	0.50	7.93
I like to analyze problems.	0.78	13.97
I make detailed analyses.	0.91	17.56
I study each problem until I understand the underlying logic.	0.84	15.58
Planning Cognitive Style		
Developing a clear plan is very important to me. / I always want to know what should be done and when should be done. / I prefer clear structures to do my job.	0.73	12.16
I like detailed action plans. / I make definitive engagements and I follow them up meticulously. / A good task is a well-prepared task.	0.86	15.15
I prefer a well-prepared meeting with a clear agenda and strict time management.	0.79	13.72
Creating Cognitive Style		
I like to contribute to innovative solutions. / I am motivated by ongoing innovations. / New ideas attract me more than existing solutions.	0.96	19.95
I prefer to look for creative solutions. / I like much variety in my life. / I try to avoid routine.	0.75	13.68
I like to extend boundaries.	0.94	19.14
Intrinsic Motivation		
I have a lot of satisfaction and reward out of just doing my job.	0.83	14.32
My work is much fun.	0.76	12.89
If I could start over, I would still choose to do the kind of work that I am doing now.	0.80	13.64
Reproduction		
I do things at work without really knowing why they are needed. (reversed)	0.61	-
I often find myself on “automatic pilot” in this job. (reversed)	0.81	8.48
I do my job without thinking about it too much. (reversed)	0.78	8.07
Extrinsic Work Reflection		
I often think about how my work fits into other company activities.	0.71	-

I try to think about how different parts of the company fit together.	0.95	14.33
I try to think how my work relates to that of others.	0.93	14.17
Intrinsic Work Reflection		
I generally try to understand how new information fits in to how I do my work.	0.83	-
To better understand my work, I think about how work makes sense in terms of what I already know.	0.84	12.22
Interpersonal Help Seeking		
I ask other questions when I am uncertain about something.	0.76	-
I get someone to help me when I need assistance.	0.92	13.77
I ask others for more information when I need it.	0.81	12.51
Seeking Help from Written Material		
I try to understand something better by locating and studying a relevant document.	0.81	-
I fill in the gaps in my knowledge by acquiring the appropriate material.	0.84	10.26
Practical Application		
I try out new things by applying them in practice.	0.69	-
I do practical things to help myself to learn.	0.93	6.39
Informal Cognitive Learning Strategies		
Reproduction	0.40	4.60
Extrinsic Work Reflection	0.68	8.91
Intrinsic Work Reflection	0.99	14.14
Informal Behavioral Learning Strategies		
Interpersonal Help Seeking	0.69	7.99
Seeking Help from Written Material	0.78	9.08
Practical Application	0.55	5.14
Measures of fit: χ^2 = 683.41; df = 330; p < 0.01; IFI = 0.91; TLI = 0.90; CFI = 0.91; RMSEA = 0.07.		

We firstly determined whether the CFA had a good fit (Table 6). We removed five items from the measurement model related to informal learning strategies that were causing bad fit. The final CFA model proved to be satisfactory: (χ^2 = 683.41; df = 330; p < 0.01; IFI = 0.91; TLI = 0.90; CFI = 0.91; RMSEA = 0.07). According to Table 6 and the overall model

fit, the results of the CFA did not indicate the need to further re-specify the model. In particular, almost all the factor loadings that refer to the latent variables of the first and second-order factors were higher than the limit of 0.5 as suggested by Hair et al. (2014). Table 7 provides further information concerning the convergent and divergent validity of the measures for the adjusted model:

Table 7: Correlation matrix, reliability and variance extracted

	KCS	PCS	CCS	IntMot	ILSCog	ILSBeh	CR	AVE	CA
KCS	**0.77**						0.85	0.60	0.84
PCS	0.55	**0.79**					0.84	0.63	0.83
CCS	0.16	0.30	**0.79**				0.84	0.63	0.91
IntMot	0.18	0.25	0.38	**0.89**			0.92	0.97	0.82
ILSCog	0.28	0.26	0.27	0.18	**0.73**		0.76	0.54	0.82
ILSBeh	0.44	0.45	0.41	0.45	0.64	**0.68**	0.72	0.46	0.81

Notes: KCS – Knowing Cognitive Style; PCS – Planning Cognitive Style; CCS – Creating Cognitive Style; IntMot – Intrinsic Motivation; ILSCog – Informal Cognitive Learning Strategies; ILSBeh – Informal Behavioral Learning Strategies; Diagonal entries in bold are related to AVE square roots; CR – Composite Reliability; AVE – Average Variance Extracted; CA – Cronbach's alpha.

Table 7 shows that the measures, on average, have more than half of the variance of the indicators explained by the latent variable in question. The exception was the AVE related to informal behavioral learning strategies (0.46). According to Hair et al. (2014), the AVE must be greater than 0.5. However, Fornell and Larcker (1981) state that even if the AVE is less than 0.5 but the composite reliability is high (greater than 0.7, according to Hair et al., as shown in Table 7), the convergent validity of the construct is still adequate. Another scholar who defends the AVE slightly below 0.5 is DeVellis (2017). The author argues that it is better to maintain more items in the measurement scale to ensure content validity and, consequently, being able to use the scale in future work and compare the results with previous research.

The discriminant validity of the model, which is the ability of the construct to truly distinguish itself from the others, was also evaluated. We verified that each construct is not strongly correlated with another construct. By comparing the value of the correlation of the constructs with the square root of the AVE (Hair et al., 2014), highlighted on the main

diagonal of the correlation matrix of the constructs, we concluded that the correlations indicate a good discriminant validity of the adjusted model because such correlations should not be greater than these limits, as observed in Table 7.

Cronbach's coefficient alpha, which is considered as an internal consistency coefficient and useful for estimating reliability when item-specific variance in a unidimensional test is of interest (Cortina, 1993), was also checked, as we can note in Table 7. Alpha is expected to be greater than or equal to 0.7 to reflect internal consistency (Cortina, 1993). We can observe, according to Table 7, that all latent variables meet these criteria.

As mentioned before, a three-item scale was included to account for common method variance (CMV). We followed some steps in order to assess its magnitude. Firstly, we performed the Harman one-factor test: the first factor only retained 25.69% of the variance, which is below the upper limit of 50%, indicating that CMV should not affect the results substantively.

Secondly, we executed different models with a smaller number of factors, combining items of different measures in the same construct, following Chaudhuri and Ligas' (2009) instructions, which state that a simpler model with fewer factors should fit the data as well as or better than a more complex one. We observed, by analyzing the various chi-square difference tests, that the fit of the original model was always better than any other simpler model, indicating that CMV should not affect the results substantially either (Kafetsios & Zampetakis, 2008).

3.5.2 Results of Hypotheses Testing

The model consisted of four first-level latent factors, namely intrinsic motivation, knowing, planning and creating cognitive styles, and two second-order latent factors: cognitive and behavioral learning strategies. We can observe the results of the structural model in Table 8:

Table 8: Results of the structural model

Path	**Hypothesis**	**Standardized Coefficient**	**t-value**
Knowing Cognitive Style -> Cognitive ILS	**H1a**	0.20*	2.04
Knowing Cognitive Style -> Behavioral ILS	**H1b**	0.26**	2.77
Knowing Cognitive Style -> Intrinsic Motivation	**H1c**	-0.04	-0.42
Planning Cognitive Style -> Cognitive ILS	**H2a**	0.08	0.82
Planning Cognitive Style -> Behavioral ILS	**H2b**	0.17*	1.72
Planning Cognitive Style -> Intrinsic Motivation	**H2c**	0.24**	2.66
Creating Cognitive Style -> Cognitive ILS	**H3a**	0.05	0.61
Creating Cognitive Style -> Behavioral ILS	**H3b**	0.28**	3.32
Creating Cognitive Style -> Intrinsic Motivation	**H3c**	0.33**	4.61
Intrinsic Motivation -> Cognitive ILS	**H4a**	0.19*	2.07
Intrinsic Motivation -> Behavioral ILS	**H4b**	0.21*	2.37
Measures of fit: χ^2 = 683.41; df = 330; p < 0.01; IFI = 0.91; TLI = 0.90; CFI = 0.91; RMSEA = 0.07.			

* p-value < 0.05; ** p-value < 0.01 (one-tail tests).

Table 9 shows the direct and indirect effects of cognitive styles on informal learning strategies due to the fact that the model has a mediating variable. Mediation hypotheses postulate how an independent variable affects a dependent variable through one or more potential or intervening variables or mediators (Preacher & Hayes, 2008). Because there is only one mediating variable in this research model, we can call it simple mediation (Preacher & Hayes, 2008).

Table 9: Direct and Indirect effects of cognitive styles on informal learning strategies mediated by intrinsic motivation and respective p-values

	Direct Effect	p-value	Indirect Effect	p-value	Total Effect	p-value
Knowing Cognitive Style -> Cognitive ILS	0.20	0.02*	-0.01	0.35	0.20	0.02*
Knowing Cognitive Style -> Behavioral ILS	0.26	<0.01**	-0.01	0.35	0.26	0.01*
Knowing Cognitive Style -> Intrinsic Motivation	-0.04	0.34	-	-	-0.04	0.35
Planning Cognitive Style -> Cognitive ILS	0.08	0.21	0.05	0.01*	0.13	0.09
Planning Cognitive Style -> Behavioral ILS	0.17	0.04*	0.05	0.02*	0.22	0.02*
Planning Cognitive Style -> Intrinsic Motivation	0.24	<0.01**	-	-	0.24	0.01*
Creating Cognitive Style -> Cognitive ILS	0.05	0.27	0.06	0.01*	0.11	0.07
Creating Cognitive Style -> Behavioral ILS	0.28	<0.01**	0.07	0.01*	0.35	<0.01**
Creating Cognitive Style -> Intrinsic Motivation	0.33	<0.01**	-	-	0.33	<0.01**
Intrinsic Motivation -> Cognitive ILS	0.19	0.02*	-	-	0.19	0.01*
Intrinsic Motivation -> Behavioral ILS	0.21	0.01*	-	-	0.21	0.01*

* p-value < 0.05; ** p-value < 0.01 (one-tail tests).
Significance based on bootstrapping.

Table 8 shows that the proposed model fit is satisfactory (χ^2 = 683.41; df = 330; p < .01; IFI = 0.913; TLI = 0.899; CFI = 0.912). We observe that knowing cognitive style has direct positive effects on informal cognitive (b = .20; p < .05) and behavioral (b = .26; p <.01) learning strategies that proved to be significant (**H1a** and **H1b**), and non-significant indirect negative effects on informal cognitive (b = -.01; p > .05) and behavioral (b = -.01; p > .05) learning strategies. Knowing cognitive style has also a non-significant effect on intrinsic motivation (b = -.04; p > .05) (**H1c**).

Planning cognitive style, in turn, has a non-significant effect on informal cognitive (b = .08; p > .05), but a positive and significant effect on behavioral (b = .17; p < .05) learning strategies (**H2a** and **H2b**). Planning cognitive style has indirect positive effects on informal cognitive (b = .05; p < .05) and behavioral (b = .05; p < .05) learning strategies. Planning cognitive style has a direct positive and significant effect on intrinsic motivation (b = .24; p < .01) (**H2c**) as well as indirect positive effects through the mediating variable intrinsic motivation on informal cognitive and behavioral learning strategies.

Creating cognitive style, in turn, has a positive and significant effect on informal behavioral learning strategies (b = .28; p < .01) (**H3b**) but has a non-significant effect on informal cognitive learning strategies (b = .05; p > .05) (**H3a**). Creating cognitive style has indirect positive effects on informal cognitive (b = .06; p < 0.5) and behavioral (b = .07; p < .05) learning strategies. Creating cognitive style has a positive effect on intrinsic motivation (b = .33; p < .01) (**H3c**) that proved to be significant. Hence, creating cognitive style has an indirect positive effect through the mediating variable intrinsic motivation on informal cognitive and behavioral learning strategies.

Direct effects of intrinsic motivation on informal cognitive and behavioral learning strategies proved to be significant (b = .19; p < .05) and (b = .21; p < .05) (**H4a** and **H4b**, respectively).

As a further check, we also introduced a marker variable in the structural model (Williams, Hartman, & Cavazotte, 2010). All of the paths that were previously statistically significant remained significant with the introduction of the marker variable, indicating that CMV is not a relevant concern.

3.6 Discussion

The findings of this model reveal an important contribution to research on informal learning strategies at work, and how cognitive styles – a usual pattern or a preferential way of doing something – relate to managers' informal learning strategies. Specifically, this model sought to explain whether knowing cognitive style (empirically related to rationality), whose individuals have a preference for processing logical, analytical and impersonal information; planning cognitive style (empirically related to Kirton's adaptability pole), whose individuals are characterized by the production of a relatively low number of solutions to problems in general, by a conventional approach to improve efficiency and by adherence to the rules; and creating cognitive style, whose individuals proliferate ideas, search for a broader achievement of efficiency through radical changes, and are likely to threaten or subvert the traditional and accepted rules structure (Cools & Van den Broeck, 2007) have effects on informal cognitive and behavioral learning strategies in the workplace.

Hypotheses **H1a** and **H1b** advanced that knowing cognitive style is positively related to informal cognitive and behavioral learning strategies at work, and this was supported in this study. These results may indicate that the preference for processing logical, analytical and impersonal information from individuals with this cognitive style (Cools & Van den Broeck, 2007) is as much related to some informal cognitive learning strategies, such as intrinsic and extrinsic work reflections, since both learning strategies require consideration on the existing connections between the component parts of the work and the different characteristics of the organization respectively (Holman et al., 2001), as to a specific informal behavioral learning strategy: seeking help from written material, since this learning strategy has eminently non-social sources of information (Holman et al., 2001), which coincides with the preference for processing impersonal information from individuals with knowing cognitive style (Cools & Van den Broeck, 2007).

Hypotheses **H2a** and **H2b**, which advanced that planning cognitive style is positively related to informal cognitive and behavioral learning strategies respectively, were partially supported in this research. We can note that planning cognitive style has direct and significant effects on the behavioral learning strategies but not on the cognitive ones. Hypotheses **H3a** and **H3b** advanced that creating cognitive style is positively related to informal cognitive and behavioral learning strategies respectively, and this was also partially

supported in our study, as creating cognitive style has also direct and significant effects on the behavioral learning strategies but not on the cognitive ones.

Although individuals with a planning cognitive style prefer tasks that involve planning, organization and a methodical approach to reach concrete results, whereas individuals with a creating cognitive style prefer tasks that require creativity, action and flexibility (Cools & Van den Broeck, 2008), when it comes to informal learning, the results show that they have a preference for behavioral learning strategies. This may be explained due to the fact that informal behavioral learning strategies (interpersonal help seeking, seeking help from written material and practical application) seem to be easier to put into practice compared to the cognitive ones (reproduction, intrinsic work reflection and extrinsic work reflection). Much adult learning in professional settings permits interaction with other people and provides opportunities for personal information-search and practical activities (Warr & Downing, 2000), characteristics that may foster the development of informal behavioral learning strategies. On the other hand, cognitive learning strategies presuppose creating mental structures to interrelate elements to be learned, making mental connections between the material to be learned and the existing knowledge, as well as reflecting on the connections between central elements that make up work tasks and the different characteristics of the organization (Holman et al., 2001; Warr & Downing, 2000), characteristics that may hinder the application, at first, of these learning strategies.

Therefore, this study points out that individuals with a knowing cognitive style use both informal learning strategies (cognitive and behavioral) when compared to individuals with planning and creating cognitive styles, who are more likely to use the behavioral ones. According to the Cognitive Style Indicator (CoSI) (Cools & Van den Broeck, 2007), individuals with a knowing cognitive style prefer to have a full understanding of all problems with detailed analyses, thus they are able to understand the underlying logic of the situation experienced, and this may promote the use of both cognitive and behavioral learning strategies, as far as one learning strategy can complement another in work-based learning processes (Warr & Downing, 2000).

The results obtained in this research confirm the study of Riding and Rayner (2013) about the relation between cognitive styles and informal learning strategies. According to the scholars, a person's cognitive style is a relatively stable characteristic that can influence a person's overall attainment or achievement in learning situations. While cognitive styles are fixed characteristics of individuals, it is possible to develop informal learning strategies that

allow them to make the most efficient use of the strengths and limitations of their particular cognitive style (Riding & Sadler-Smith, 1997). This may indicate that cognitive styles, when considered in training processes, have the potential to increase the efficiency and effectiveness of individual learning, as well as helping to identify learning difficulties (Riding & Sadler-Smith, 1997).

Regarding the relationship between cognitive styles (knowing, planning and creating) and intrinsic motivation **(H1c**, **H2c** and **H3c**), we observe that planning cognitive style and creating cognitive style have positive effects on intrinsic motivation (**H2c** and **H3c**, respectively), as advanced in our hypotheses, but hypothesis **H1c**, which advanced that knowing cognitive style is positively related to intrinsic motivation, was not supported in this study. The results are in line with the cognitive evaluation theory (Deci, 1975; Deci & Ryan, 1980) and the discussion developed by Bouckenooghe et al. (2016) and Wang et al. (2016), from which we can infer that cognitive styles may contribute to intrinsic motivation.

Hypotheses **H4a** and **H4b**, which advanced that intrinsic motivation is positively related to both informal cognitive and behavioral learning strategies, were supported in this study. These results are in line with those of Bauer et al. (2015), Brown and Ford (2002), Deci and Ryan (1985), Malcolm et al. (2003), Ryan and Stiller (1991) and Yoon et al. (2012), which support that intrinsic motivation is a determining factor that influences the learning process and a vigorous behavioral source when a person decides what to do autonomously, and suggest that intrinsic motivation may be the type of motivation most strongly related to learning processes. Therefore, we note that intrinsic motivation mediates the relationship between cognitive styles and informal learning strategies, since the correlation of the dimensions of these factors is significant.

We can observe that although individuals with knowing, planning and creating cognitive styles present different modes of perception, thinking, learning and solving problem (Cools & Van den Broeck, 2007; Witkin et al., 1977), they all adopt informal learning strategies in order to success in their daily tasks. Based on the results, we can state that cognitive styles are more strongly related to informal behavioral learning strategies (interpersonal help seeking, seeking help from written material and practical application), and this is particularly important to better predict individual differences in the behavior of managers and employees in order to achieve success of knowledge management practices and their application is the result of human cognitive processes (Jain & Jeppesen, 2013). Employee selection researchers and practitioners should be interested in cognitive styles as potential predictors

for work relevant criterion outcomes and, due to the centrality of information processing in learning, cognitive styles should also be considered in training research (Chan, 2010).

3.7 Implications for Managers

Based on the findings of this study, we suggest a set of recommendations for the purpose of promoting learning in the workplace. The first suggestion is related to planning and implementing effective individual efforts in order to understand the relation between an individual's personality preference and his or her workplace behavior (Berr, Church, & Waclawski, 2000), that is, it is first important to identify managers' cognitive styles (strengths and weaknesses) so that formal and informal learning can be more effective. For Hayes and Allinson (1994), individuals learn more effectively in learning environments that match their cognitive styles. It is also important to note that no cognitive style is inherently better than another, however greater attention to adjusting a person-organization fit may lead to better performance (Cools & Van den Broeck, 2008).

In addition, managers should also know their subordinates' cognitive styles in order to effectively manage their work teams and develop all their skills and competencies (Cools & Van den Broeck, 2008). In the same line, Volkema and Gorman (1998) state that identifying and understanding the cognitive style of each employee can allow managers to increase individual and collective performance and productivity in organizations. As such, it is a significant task for organizations to gain insight into the cognitive styles of their members (Cools & Van den Broeck, 2008).

Because all cognitive styles proved to be related to informal behavioral learning strategies in our study, companies should increasingly foster interactions between their work teams, promoting individual and group learning activities, as well as provide and allow access to diverse research and professional updating tools available today. Behavioral learning strategies are characterized as both social sources of achieving information (e.g., interpersonal help seeking, that is, a way that employees use to obtain information from others to help resolve a problem) and non-social sources of knowledge acquisition (e.g., seeking help from written material, which is the activity of locating and identifying information in manuals and computer programs, for example) (Holman et al., 2001). On the other hand, companies should also encourage their employees, based on their cognitive styles, to elaborate and organize new information acquired, characteristics of cognitive work-based learning strategies (Holman et al., 2012), which have been found to be associated with good learning outcomes (Warr & Downing, 2000).

Furthermore, results showed that knowing cognitive style is related to both cognitive and behavioral learning strategies and planning and creating cognitive styles are related to informal behavioral learning strategies, therefore companies should use this information in order to create, develop and improve training programs and corporate education based on the cognitive differences of their employees and their respective preferred informal learning strategies, thus stimulating and facilitating knowledge acquisition.

Following Hayes and Allinson (1994), cognitive styles can be used in the areas of recruitment, learning and task performance, internal communication, training and development, professional guidance and counseling, team building and conflict management. Sadler-Smith and Badger (1998) emphasize that human resources professionals play a crucial role in promoting individual versatility and facilitating innovation through effective management of differences in cognitive style.

Motivation can operate as a relatively stable trait (Amabile, 1993; Deci & Ryan, 1985), and represents a fundamental element of any credible model of human performance (Pinder, 2011). The dominant theory of intrinsic motivation – self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000) – states that intrinsic motivation fuels the direction, intensity, and persistence of motivated behavior. Given this reasoning, companies should consider motivation in their recruitment and selection processes, as well as develop a work environment that promotes intrinsic motivation (Hackman & Oldham, 1976) when employee learning is important. Actions based on self-determined motivations may produce high levels of achievement and performance, as individuals make a greater effort when intrinsically motivated (Deci & Ryan, 1985).

3.8 Limitations and Directions for Future Work

Despite its merits and contributions, there are several potential limitations to our research. First of all, a traditional limitation is linked to the quantitative nature of the study, that is, this is a cross-sectional research, which fails to consider the dynamics of informal learning strategies over a specific period of time. Learning in organizations takes place throughout time, and studying it requires time-series or longitudinal studies, which could implement measures at different times to confirm the relations established in the proposed theoretical model.

Second, there is a limitation related to the cultural aspect. This research had as participants managers from Brazilian banking financial institutions. Cultural differences may affect how learning in organizations is understood (Watkins & Kim, 2018), even though such differences have been reduced through the effects of globalization. Therefore, further research is needed to investigate significant cultural factors in the relation between cognitive styles and informal learning strategies. In addition, this paper is limited to a specific area of the economy, namely the Brazilian banking sector, which may indicate that the results obtained could vary if the research were applied in other settings.

Furthermore, the data used in this research are subjective perceptions of managers who answered a questionnaire sent by e-mail. The questionnaire used in this quantitative survey draws on consistent multi-item scales that have already been validated by other researchers. However, differences between respondents' perceptions and objective data may persist anyway. Finally, it is also worthwhile to pursue whether contextual variables moderate the relationships observed in the present study.

3.9 Conclusions

This study considered the relationship between cognitive styles and managers' informal learning strategies, having intrinsic motivation as a mediating variable. Informal learning is important in today's dynamic and competitive business environment (Noe et al., 2013) and understanding the influence of individual differences, such as cognitive styles, on informal learning strategies is useful for researchers, academics, professionals, and organizations in general, since learning strategies are recognized as valuable for the management of organizations.

Chapter 4 – Goal Orientations and Workplace Informal Learning Strategies: The Mediating Role of Intrinsic Motivation

Abstract

This study innovates by investigating the effects of goal orientations on informal learning strategies and whether intrinsic motivation mediates the relation between those two constructs. Structural equation modeling was used to evaluate the relationships between the constructs in the research model. Results show that mastery goal orientation has positive and significant effects on both informal cognitive and behavioral learning strategies as well as a positive and significant effect on intrinsic motivation. Performance-approach goal orientation has a positive and significant effect on informal cognitive learning strategies. And performance-avoidance goal orientation has a negative and significant effect on informal behavioral learning strategies. None of the indirect effects of goal orientations on informal learning strategies, through intrinsic motivation, are significant, since the direct effects of intrinsic motivation on informal learning strategies are not significant.

Keywords: Goal orientations. Learning strategies in the workplace. Intrinsic motivation.

4.1 Introduction

Informal learning is used in adult education for several reasons: it allows learners more flexibility or freedom; recognizes the social meaning of learning from other people; and it happens in a much wider variety of settings than formal learning (Eraut, 2004). Adult education that occurs in the workplace considers informal learning as complementary to formal and more structured training (Marsick et al., 2017). Individuals working in organizational environments interact with colleagues, which continually exposes them to new knowledge, skills and situations (Eraut, 2004), making informal learning the driving force that moves employees in the direction of professional improvement (Jeong et al., 2018).

Cerasoli et al. (2018) define informal learning behaviors as non-curricular activities that occur outside the formally designated learning contexts with the aim of acquiring knowledge and skills. Informal learning strategies, in turn, refer to the ways in which people acquire new knowledge, skills and attitudes (Crouse, Doyle, & Young, 2011). Within the organizational context, informal learning strategies are clearly relevant to a considerable number of areas, including innovation, corporate sustainability and performance management (Holman, Epitropaki, & Fernie, 2001).

Jeong et al. (2018) provide an integrative and analytical review of previous empirical studies on informal learning in the workplace, in order to determine the main antecedents of informal learning at the individual level. For the authors, the sociodemographic (e.g., age, gender, educational level), personal (e.g., cognitive skills, personality, interest) and work characteristics (e.g., work area, part-time or full-time job, skill level) may represent the antecedent factors of informal learning in the workplace. We considered goal orientations, a psychological trait which reflects the goals that individuals pursue, and such orientations are strong predictors of individual behavior and performance (Dweck, 1986), as a variable that can explain the use of learning strategies at work.

Goal orientations serve as cognitive frameworks for interpreting feedback, reacting to challenges in goal achievement, and responding to performance outcomes (Alexander & Van Knippenberg, 2014). They are relatively stable individual differences even when goal orientations may also be influenced by the environment (Button, Mathieu, & Zajac, 1996; Murayama & Elliot, 2009). Dispositional goal orientations may predispose individuals to

adopt specific response patterns across situations; however, situational characteristics may cause them to adopt a different or less critical response pattern for a particular situation (Button et al., 1996).

We considered intrinsic motivation as a mediating variable in the relationship between goal orientations and informal learning strategies because we believe that a direct relationship between goal orientations and informal learning strategies is not close enough to the final result. According to Ryan and Deci (2000), intrinsic motivation is the inherent tendency to seek out novelty and challenges, with a spontaneous interest that is a key factor for cognitive and social development. Elliot and Church (1997), for example, related goal orientations to achievement motivation, which is a characteristic that people have in order to be competent in their daily activities. Goal orientations define the purpose for engaging in a task (Dweck, 1986), and intrinsic motivation may be a critical factor that may influence the learning process (Ryan & Stiller, 1991).

In order to complement previous research on the antecedents of informal learning (Choi & Jacobs, 2011; Jeon & Kim, 2012; Kyndt, Dochy, & Nijs, 2009), more specifically addressing its strategies, this study, supported by Dweck's (1986) research on goal orientations and by the empirical investigation on learning strategies in the workplace (e.g., Holman et al., 2001), aims to provide an overview of theories, empirical work and practical implications by investigating whether goal orientations, considered a stable personality characteristic, relate with managers' work-learning strategies, and whether intrinsic motivation mediates this relationship. A sample of managers from Brazilian banking institutions was selected in an attempt to find the answers for such questions.

4.2 Literature Review

4.2.1 Informal Learning Strategies in the Workplace

Many scholars have defined informal learning by comparing it with formal learning (Clarke, 2004). Formal learning is characterized as highly structured, institutionally supported and classroom-based learning with an instructor or teacher (Marsick & Watkins, 2001). On the other hand, informal learning is characterized as predominantly unstructured, experiential, non-institutionalized, in which students take the initiative in search of knowledge and acquisition of skills to reach individual and organizational goals (Marsick & Volpe, 1999).

Cerasoli et al. (2018) separate the two concepts by proposing a clearer outline, which focuses on behaviors. While formal learning is related to acquiring knowledge and skills through activities such as attending a class, taking notes during a lecture, completing homework or recommended reading, informal learning refers to acquiring knowledge and skills through activities such as observing a co-worker, discussing a problem with a supervisor or asking questions while working (Cerasoli et al., 2018). Sambrook (2005) states that informal learning behaviors are highly experiential and non-curricular, they occur in the workplace outside formal learning contexts, through observation, questioning and practice.

For Marsick and Watkins (2015), there is also the difference between informal learning and incidental learning. Informal learning can be deliberately encouraged by the organization or it can occur despite an unfavorable learning environment; on the other hand, incidental learning may take place at any time, even though people may not always be aware of it (Marsick & Watkins, 2015). People learn incidentally when their learning is tacit or unconscious and taken for granted, like learning from mistakes or the non-systematic trial and error process (Marsick & Watkins, 2001).

Holman et al. (2001) define informal learning strategies as practices that people use to assist in the acquisition and development of knowledge in any type of context. Warr and Allan (1998) proposed that informal learning strategies can be divided into cognitive and behavioral dimensions. Cognitive strategies include: 1) Reproduction, that is, the intention to reproduce information without reflection on its meaning and the repetition of the information that is learned; 2) Organization, which is to identify key issues, creating schemes and grouping learned elements; and 3) Elaboration, which is related to the implications of

new information, seeking to understand this information in the light of existing knowledge. Behavioral strategies include: 4) Interpersonal help seeking, obtaining assistance from others; 5) Seeking help from written material, related to getting information from documents, manuals, books and other non-social sources; and 6) Practical application, which is the accumulation of knowledge by testing things in practice (Warr & Allan, 1998).

Based on the informal learning strategies of Warr and Allan (1998), Warr and Downing (2000) developed a questionnaire composed of 45 items that was applied to two samples, the first formed by university students, and the second composed by participants from a professional course. Based on the conclusions of Warr and Downing (2000), Holman et al. (2001) developed a research instrument suggesting six learning factors divided in terms of cognitive and behavioral strategies. The three behavioral dimensions as well as the cognitive dimension of reproduction were exactly the same ones as originally proposed by Warr and Allan (1998). However, Holman et al. (2001) also identified amongst informal cognitive learning strategies intrinsic work reflection and extrinsic work reflection as two different ways that individuals have to actively reflect on their work. Intrinsic work reflection is related to activities to identify central elements that compose work actions, as well as to the creation of mental schemes that group and relate these constituent elements; and extrinsic work reflection, which consists of activities with implications and possible connections between the different parts that establish the intra and extra-organizational system, aiming to integrate them into work actions (Holman et al., 2001).

Other scholars who also identified informal learning strategies at work were Clarke (2004) and Crouse et al. (2011). They identified the following informal learning strategies: performing new tasks; teamwork; observation of co-workers; trial and error; reading, researching and surfing the internet; reflection on action; mentoring; job rotation; observation of work activities; and networking. De Groot et al. (2012) highlighted the strategies learning from mistakes; challenging thinking; and outcome evaluation as critical-reflexive work behaviors for effective informal learning.

With regard to informal learning at the managerial level, Enos, Kehrhahn and Bell (2003) examined the extent to which managers are involved in informal learning. The results found by the authors suggest that informal learning is predominantly a social process and that managers with high levels of proficiency learn management skills mainly through informal learning and transfer what they have learned more frequently. Macneil (2001) researched the importance of improving line managers' facilitation skills, suggesting that they can promote

a positive environment for informal learning in their work teams. Macneil (2001) proposed that managers who are effective facilitators can use their own interpersonal and learning skills to promote informal learning opportunities, thus improving team performance.

Marsick (2003) sought to show how informal learning impacts managerial proficiency and suggested combining informal learning and training to increase informal learning capacity towards complex skills and having an organizational view to improve managerial proficiency. Choi and Jacobs (2011) investigated the effects of formal learning, personal learning orientation and learning environment conducive to informal learning among more than 200 middle managers of commercial banks. Formal learning and personal learning orientation have significant and positive effects on managers' informal learning (Choi & Jacobs, 2011).

Sparr, Knipfer and Willems (2017) analyzed feedback seeking and reflection as informal and proactive learning behaviors in the transfer of formal training in contexts of leadership development programs. The authors stressed the importance of informal learning activities after formal training, defending feedback seeking and reflection to improve the transfer of training. For Sparr et al. (2017), it is important to study informal learning behaviors from both a theoretical and practical point of view, especially when complex skills, such as leadership, are taught.

Jeong et al. (2018) examined the antecedents of informal learning in the workplace at the individual level and classified them into three factors: sociodemographic (the relationship between age or generation and informal learning), personal (cognitive skills, personality and interest) and job characteristics (skill level, function, working hours). Cerasoli et al. (2018) provided a classification for the antecedents of informal learning behaviors at three levels of construct specificity: personal antecedents (individual predispositions and demographic factors), situational antecedents (job characteristics, organizational support and learning opportunities) and results (attitudes, knowledge/skills acquisition and performance). Noe, Tews and Marand (2013) also analyzed antecedents of informal learning in the workplace, such as individual differences related to the personality dimensions of the Big Five Traits, demonstrating that each individual difference has a significant relationship with informal learning.

4.2.2 Goal Orientations

Goal orientations can be defined as stable personality traits concerning the nature and development of attributes, such as intelligence, personality and skills, that people have (Janssen & Van Yperen, 2004). Goal orientations are believed to create different cognitive-perceptual structures in relation to how individuals approach, interpret and respond to situations of achievement (Dweck, 1999; Van Yperen, 2003).

According to Preenen, Van Vianen and de Pater (2014), goal orientations are a mental structure or belief, which is formed of beliefs, affects, goals and cognitions that are important in situations of achievement and influence people's behaviors. The belief approach to goal orientation emphasizes people's self-efficacy beliefs about their ability to achieve a particular goal (Preenen et al., 2014). The authors conceptualize goal orientation as a relatively stable individual variable that can influence behaviors at work, but reinforce that these behaviors are influenced by situational factors, such as leaders' orientations and behaviors. Goal orientations are important in different decision-making situations, mainly the ones concerning achievements in learning and work contexts (Preenen et al., 2014).

Dweck (1986) was one of the first researchers to postulate that people tend to have mastery or performance goals. On the one hand, a performance orientation reflects the fact that an individual has the objective of establishing his superiority over the others; on the other hand, a mastery orientation involves the purposes of developing competence, acquiring skill and giving the best of oneself (Van Yperen & Janssen, 2002). Preenen et al. (2014) state that individuals who have a performance orientation get involved in a task because they want to show their competence to others, aiming to obtain favorable judgments, while individuals who have a mastery orientation approach a task with the objective of learning for themselves, aiming to develop their competence.

Performance-oriented individuals believe that intelligence is fixed and attribute its ability to factors such as innate talent and luck; consequently, they tend to avoid and give up challenges, since effort means having low quality. On the other hand, mastery-oriented individuals conceive intelligence as a malleable quality and capacity as a product of effort, which means individuals with this orientation tend to work hard to achieve their improvement goals and persist effectively in the face of obstacles (Van Yperen & Janssen, 2002).

The achievement goal theory (Dweck, 1986, 1999) suggests that mastery-oriented employees perceive work demands as task demands directing their energy towards the tasks themselves. In contrast, performance-oriented employees tend to perceive work demands as competitive demands, directing their energy towards possible results, such as looking smart and performing better than others (Van Yperen & Janssen, 2002).

In addition to the mastery-performance orientation dichotomy, Elliot and Church (1997) developed a trichotomous conceptualization of goal orientations by separating the performance orientation into a performance approach orientation and a performance-avoidance orientation. The authors argue that performance-oriented individuals can be motivated both to outperform others, demonstrating their competence and superiority, and to avoid failure and incompetence. Elliot (1999) suggests that individuals with a performance approach orientation tend to try harder and work harder to achieve their goal of performing better than others. For Elliot (1999), the tendency to reduce efforts or abandon a task when there are setbacks and difficulties, often associated with a performance orientation, seems to be more a characteristic of individuals with a performance-avoidance orientation.

Several goal orientations can coexist in one person (Senko, Hulleman, & Harackiewicz, 2011). In fact, people may have more than one goal orientation, but they tend to prefer a specific goal orientation over others (Preenen et al., 2014). In order to examine the relationship between goal orientations and informal learning strategies, we propose a model that considers intrinsic motivation as a mediating variable due to the distance of the relationship between both constructs.

4.2.3 Intrinsic Motivation

Individuals who feel motivated in relation to their work are likely to have characteristics such as energy, direction, creativity and persistence (Amabile, 1993), and are highly valued since the main consequence attributed to them is productivity (Ryan & Deci, 2000b). The self-determination theory (SDT) (Ryan & Deci, 2000a) establishes two types of motivation: extrinsic and intrinsic. Extrinsic motivation is concentrated on goal-oriented motives, such as rewards or benefits obtained from performing an activity, while intrinsic motivation indicates the inherent pleasure and satisfaction derived from a specific activity (Deci, 1975;

Deci & Ryan, 1985). Both types of motivation influence individual intentions in relation to an activity as well as to their real behaviors (Deci, 1975).

Studies on motivation have shown that extrinsic motivation, such as monetary rewards, is more effective in motivating employees and more powerful in controlling behavior than intrinsic motivation (Mickel & Barron, 2008). However, other studies (Cho & Perry, 2012; Grant, 2007; Pink, 2009; Ryan & Deci, 2000a) have highlighted that employees value more a job that has important and significant aspects for them than promotions, income and job security. Cho and Perry (2012) demonstrated that intrinsic motivation is substantially associated with employee satisfaction and negatively related to turnover intention. Pink (2009) stated that intrinsically motivated individuals are more creative, as they believe that they are doing meaningful work, with autonomy and increasing mastery of work tasks.

The cognitive evaluation theory (CET) aims to specify the factors that explain variability in intrinsic motivation, that is, the social and environmental factors that facilitate or decrease intrinsic motivation (Ryan & Deci, 2000a). The cognitive assessment theory emphasizes the fundamental needs for competence and autonomy, arguing that socio-contextual events, such as feedback, communication and rewards, which lead to feelings of competence during action, may increase intrinsic motivation for that action (Ryan & Deci, 2000a). The sense of autonomy must necessarily be connected to intrinsic motivation so that feelings of competence may increase it (Ryan, 1982; Ryan & Deci, 2000a). In addition to autonomy and competence, there is another factor so called relatedness that can favor intrinsic motivation, that is, a safe relational basis seems to be important for the expression of intrinsic motivation (Ryan & Deci, 2000a).

Elliot and Church (1997) proposed a hierarchical model of approach and avoidance achievement motivation in which mastery, performance-approach and performance-avoidance goals were evaluated. For the authors, achievement motivation is a characteristic in people's daily lives, who strive to be competent in their activities. The results obtained by Elliot and Church (1997) indicated that mastery goals are based on achievement motivation and high expectations of competence; performance-avoidance goals are based on fear of failure and low expectations of competence; and performance-approach goals are based on motivation for achievement, fear of failure and high expectations of competencies. Mastery goals facilitated intrinsic motivation, while performance-approach goals increased performance, and performance-avoidance goals were averse to intrinsic motivation and performance (Elliot & Church, 1997).

4.3 Research Model and Hypotheses

Given the above theoretical reference, our hypothesized research model is depicted in the following figure:

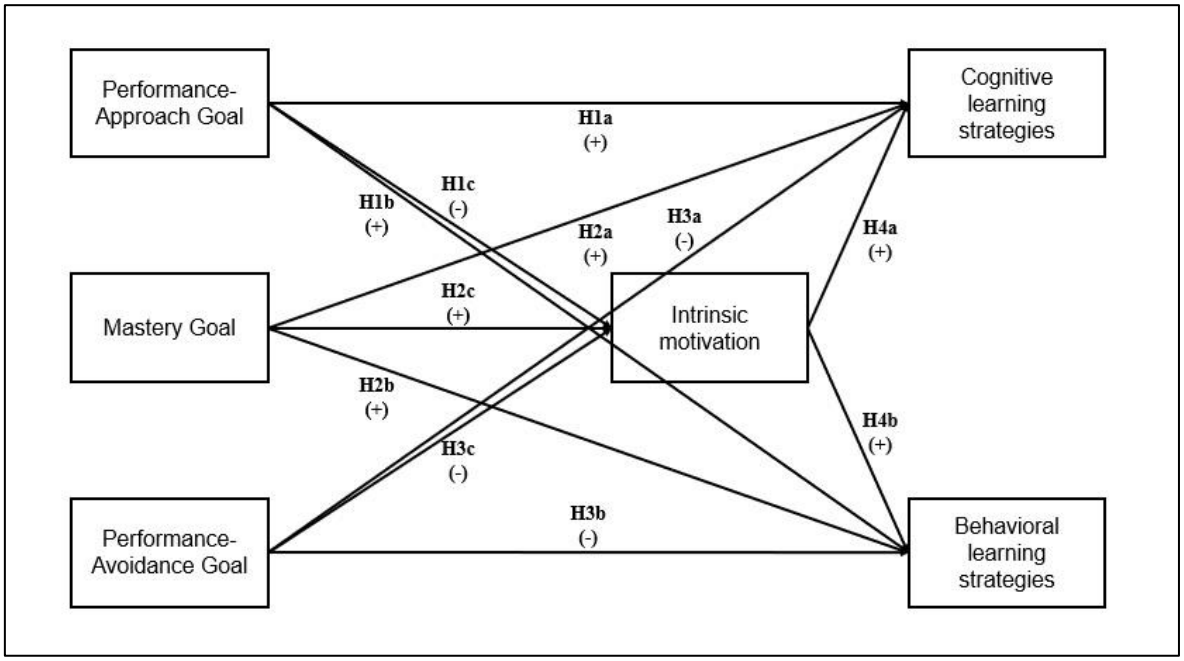

Figure 7: Model – Goal Orientations and Informal Learning Strategies in the Workplace

Goal orientations and informal learning strategies. The goal orientations construct includes a mastery orientation aimed at the pursuit of growth, a performance-approach orientation aiming to demonstrate competence, and a performance-avoidance orientation seeking to avoid showing incompetence. Chadwick and Raver (2015) provide a theoretical foundation for the relationships between goal orientations and learning processes at all levels of analysis, seeking to answer the questions of why some employees and workgroups actively seek learning opportunities in their work experiences while others actively avoid such opportunities.

Chadwick and Raver (2015) propose that individuals' goal orientations influence the way in which they approach individual processes of learning intuition and interpretation. For Crossan, Lane and White (1999), intuition refers to the subconscious recognition of patterns and possibilities and is a first step towards the development of new insights. And interpretation is the process of refining and developing these intuitive insights through the

development of cognitive maps, so that the initial insights lead to possible explanations and understanding. Both learning processes, therefore, can be useful to generate assimilation of new learning (exploration) and use of what has been learned (exploitation) (Crossan et al., 1999).

According to Chadwick and Raver (2015), a mastery goal orientation can motivate individuals to intuit and interpret their experiences generating new knowledge, since these individuals believe that they can learn by expanding their skills through personal effort. That is, these beliefs provoke proactive learning behaviors, which support exploratory learning processes (exploration), aimed at continuous growth and learning (Chadwick & Raver, 2015).

A performance-approach goal orientation can also motivate individuals to intuit and interpret their experiences, however, according to Chadwick and Raver (2015), these learning processes are more for the use of learned content (exploitation) than for generating assimilation of new learning (exploration). Individuals with a performance goal orientation can engage in learning activities if they need to demonstrate competence or outdo others, even though their learning behaviors are likely to be exploitation of previous learning, which leads to rapid results of performance, rather than exploring new knowledge needed for higher levels of performance in the long run (Chadwick & Raver, 2015). Noe, Tews and Michel (2016) point out that, particularly for managers, work environment is an achievement situation and, therefore, goal orientations are likely an important predictor of informal learning. In their research, the authors assumed that individuals with a learning goal orientation, which is a preference to develop one's competence by acquiring new skills, is positively related to informal learning because individuals with a learning goal orientation are more likely to get attracted by challenging situations. A performance goal orientation, which reflects a desire to demonstrate competence, is also positively related to informal learning because acquiring knowledge will help those individuals appear competent and get approval from other people, whereas an avoidance goal orientation, which focuses on not revealing incompetence, is negatively related to informal learning because individuals with this goal orientation are less likely to engage in formal learning to avoid revealing to others a lack of competence (Noe et al., 2016).

Chadwick and Raver (2015) propose that a goal orientation of avoiding performance impedes learning (both in the form of exploration and exploitation) and, therefore, is negatively related to intuition and interpretation. Employees with a strong orientation

towards avoiding performance are motivated to concentrate their energy to avoid negative perceptions of their skills, which includes worrying about possible failures and performance evaluations. This causes these individuals to avoid activities that can promote learning for fear that participation in them exposes their incompetence or are still unable to select relevant information necessary for learning due to their cognitive overload with learning opportunities (Chadwick & Raver, 2015). Thus, we expect that performance-approach goal orientation and mastery goal orientation are positively related to informal learning strategies at work, while performance-avoidance goal orientation is negatively related to informal learning strategies at work. Therefore:

H1a: Performance-approach goal orientation is positively related to informal cognitive learning strategies.

H1b: Performance-approach goal orientation is positively related to informal behavioral learning strategies.

H2a: Mastery goal orientation is positively related to informal cognitive learning strategies.

H2b: Mastery goal orientation is positively related to informal behavioral learning strategies.

H3a: Performance-avoidance goal orientation is negatively related to informal cognitive learning strategies.

H3b: Performance-avoidance goal orientation is negatively related to informal behavioral learning strategies.

Goal orientations and intrinsic motivation. The term "achievement goals" defines the purpose or reason for engaging in the task, as well as subsequent affection, cognition and behavior to achieve a task goal (Dweck, 1986). Goal orientations may create different perceptual-cognitive structures in relation to how individuals deal with achievement situations (Janssen & Van Yperen, 2004; Van Yperen, 2003).

In the development of the achievement motivation theory, researchers approached the educational context and examined the motivations of students – with equivalent IQ and performance standards – in solving difficult tasks (Diener & Dweck, 1978, 1980; Payne, Youngcourt, & Beaubien, 2007). The researchers then divided the students into two

categories: those with a performance-approach oriented-goal and those with a mastery oriented-goal.

The results showed, on the one hand, that performance goal-oriented students blame their inability to solve problems due to their low skills and the difficulty of the tasks themselves, giving up on attempts even before solving them (Elliot & Dweck, 1988; Van de Walle, 1997), as they believe that their intelligence has reached its maximum. Students in this group must seem intelligent at all costs, so they prefer to be in situations in which they can outdo others and strive to avoid negative judgments (Dweck, 2000). Others studies revealed that performance-approach goals were negatively related to interest and intrinsic motivation and related to anxiety, unwillingness to seek interpersonal help and surface processing of information (Elliot, 1999; Hulleman et al., 2010).

On the other hand, mastery goal-oriented students are persistent in trying to solve problems and demonstrate the characteristic of being oriented to learning (Dweck, 2000). For these students, tasks considered difficult are opportunities to explore new ways of executing them and to develop their competence through task mastery (Chen & Mathieu, 2008; Diener & Dweck, 1980; Van de Walle, 1997). Students with a mastery goal orientation are intrinsically motivated to develop and improve their intelligence through effort and continuous learning (Dweck, 2000). Lee et al. (2010) also state that a mastery goal is the belief that when individuals make efforts to achieve their goals in life, this will lead to success, since mastery goal-oriented individuals are focused on the intrinsic value of learning.

Regarding the organizational context, mastery-oriented individuals show a pattern of preference for challenging tasks, persistence when faced with failures, higher levels of task satisfaction and positive attitudes towards learning (Elliot & Harackiewicz, 1996). Mastery goals can positively influence subsequent levels of intrinsic motivation, since these goals promote perceptions of challenge, encourage engagement in the task and generate enthusiasm, therefore supporting intrinsic motivation (Elliot & Harackiewicz, 1994, 1996).

Cerasoli and Ford (2014), for example, replicated previous findings that mastery goal orientation is positively related to intrinsic motivation. According to the authors, mastery goals give an additional purpose and focus to the intrinsically motivated individual. Mastery goals provide the focus and direction to guide an individual's impulse and cognitions towards the types of performance behaviors relevant to competence and satisfaction that are predictive of long-term success (Cerasoli & Ford, 2014).

A performance-avoidance orientation, in turn, is based on fear of failure (Silver, Dwyer & Alford, 2006). The achievement motivation theory predicts that individuals with this orientation will engage in behaviors that aim at this objective, that is, to avoid the appearance of incompetence (Silver et al., 2006). According to Elliot (1999), Elliot and Church (1997), Elliot and Harackiewicz (1996) and Elliot and McGregor (1999), individuals with this orientation may adopt behavioral patterns called "helpless", such as personal anxiety, distraction from tasks and focus on non-relevant information, as well as other behavioral results, for example: procrastination and reduced effort for assigned tasks. According to Rawsthorne and Elliot (1999), a performance-avoidance goal orientation may also appear to decrease the level of intrinsic motivation for learning.

The experiments by Elliot and Harackiewicz (1996) found that, in university students, performance-avoidance orientation resulted in lower levels of intrinsic motivation compared to learning orientations and performance goal orientations. Thus, we expect that performance-approach goal orientation and performance-avoidance goal orientation are negatively related to intrinsic motivation, while mastery goal orientation is positively related to intrinsic motivation:

H1c: Performance-approach goal orientation is negatively related to intrinsic motivation.

H2c: Mastery goal orientation is positively related to intrinsic motivation.

H3c: Performance-avoidance goal orientation is negatively related to intrinsic motivation.

Intrinsic motivation and informal learning strategies. Informal learning behavior can be seen as initiated, directed and controlled by the individual, and performed in relation to goal achievements defined by the learner and not by an instructor or an organization (Cerasoli et al., 2018). Self-directed learning can be defined as a process in which individuals take the initiative to diagnose their learning needs, formulate objectives, identify human and material resources, in order to choose and implement the appropriate informal learning strategies and evaluate the results (Knowles, 1975). According to Mezirow (2000), adults' commitment to learning is greater when they have control over the learning method, which may indicate that this commitment manifests itself as motivation (Boyer et al., 2014).

Motivation is the force that drives employees to work towards their goals, expressed in their willingness, desire or commitment to perform the tasks necessary for these goals to be achieved (Boyer et al., 2014). Marsick and Watkins (2001) emphasize that individuals learn from their experiences and that informal learning occurs when they have the need and the motivation or opportunity for learning. Thus, intrinsic motivation, which is likely to support assimilation, mastery, competence, spontaneous interest and exploration, plays an important role to achieve cognitive and social development (Ryan, 1995), and ends up being a critical factor that can influence the learning process (Ryan & Stiller, 1991). Therefore, intrinsic motivation is an element that affects learning, adaptation and skills, and a key factor for human development (Deci & Ryan, 1985). Thus, we expect that intrinsic motivation is positively related to informal cognitive and behavioral learning strategies. Therefore:

H4a: Intrinsic motivation is positively related to informal cognitive learning strategies.

H4b: Intrinsic motivation is positively related to informal behavioral learning strategies.

4.4 Method

4.4.1 Sample

We chose the banking sector as the setting for our research. The digital banking transformation has caused profound changes, both for organizations and their customers. This process was, in a way, accelerated with the emergence of the so-called “fintechs”, which offer agile and automated services (Alt, Beck, & Smits, 2018; Alt & Puschmann, 2012). In this context, traditional financial institutions had to reinvent themselves, and banking professionals need to create and develop strategies for performing their daily tasks successfully. The use of learning strategies by these professionals may be a way to keep up with these changes and remain in an increasingly competitive job market, which favors the analysis of the issues covered in this study.

The participants in this research were bank agency managers from two of the largest retail banks in Brazil. In order to participate in this research, managers should fulfill some requirements, such as belonging to a commercial bank; occupying the position of “Bank Agency Manager”; having at least one direct subordinate; and working in a bank branch within the Brazilian territory. We contacted the general management of the banks, which was responsible for the selection of the managers participating in the research, through telephone calls and electronic messages (e-mails). We obtained 664 questionnaires from managers, but only 244 of these adequately answered all items, a number that was considered in the analysis for statistical purposes.

4.4.2 Measurement

The questionnaire used for data collection was developed based on measurement scales found in the literature. A translation and retroversion process was applied to the questionnaire indicators to ensure face validity.

In order to measure the dependent variable informal learning strategies at work, we decided to use the scale developed by Holman et al. (2001), which has 21 items to measure dimensions (cognitive and behavioral) and sub-dimensions (reproduction, extrinsic work

reflection, intrinsic work reflection, interpersonal help seeking, seeking help from written material and practical application) of informal learning strategies at work. Holman et al. (2001) based their measurement scale on measures previously developed by Warr and Downing (2000) and Entwistle and Ramsden (1983).

The independent variable goal orientations was measured based on the scale developed by Elliot and Church (1997). Elliot and Church's (1997) scale has 18 items to measure the three dimensions of goal orientations: performance-approach goal, mastery goal and performance-avoidance goal. A series of pilot studies was conducted in the development of the questionnaire by Elliot and Church (1997) in which the item pools for each goal orientation were generated, tested (via factor analysis and correlations with other relevant measures) and adequately reviewed.

We used the scale developed by Sujan (1986) to measure the mediating variable intrinsic motivation, which has three items. Sujan (1986) developed a scale based on the concept of motivation as people's behavioral intentions, which is supported by most motivational theories.

We also used a three-item scale that measures the motivations for online shopping behavior (Childers et al., 2001) to account for common method variance (CMV). Cross-sectional studies are vulnerable to the inflation of correlations by variance of the common method (Lindell & Whitney, 2001). Method biases are a problem due to the fact that the actual phenomenon under investigation becomes difficult to differentiate from measurement artifacts (Malhotra, Kim, & Patil, 2006). Thus, in order to avoid such problems, we decided to include in our questionnaire this measurement scale.

4.5 Data Analysis and Results

4.5.1 Confirmatory Factor Analysis

The technique of item parceling was applied to obtain models with better fits. Coffman and MacCallum (2005) define parcels as aggregations of several individual items. Parcels generally have a higher reliability than single items as indicators (Kishton & Widaman, 1994). The technique of item parceling was used for variables with more than five items and with random parcels (Coffman & MacCallum, 2005).

We tested different models (first and second-order models) as the model comprises two second-order factor variables (cognitive and behavioral learning strategies), and decided to use the second-order model due to the satisfactory fit to the data.

The convergent validity of the measurement was evaluated at first. We verified whether the indicators have a high common variance and, for this purpose, we used the factor loadings as well as the average variance extracted (AVE), the composite reliability (CR) and Cronbach's alpha (Hair et al., 2014).

Table 10 shows the results of the CFA for goal orientations, informal learning strategies and intrinsic motivations scales:

Table 10: Confirmatory Factor Analysis results

Constructs and items	**Stand. Loadings**	**t-value**
Performance-Approach Goal		
It is important to me to do better than the other colleagues. / My goal in this company is to get a better evaluation than most of the colleagues. / It is important to me to do well compared to others in this company.	0.93	20.77
I am striving to demonstrate my ability relative to others in this company. / I am motivated by the thought of outperforming my peers in this company. / I want to do well in this company to show my ability to my family, friends, or others.	0.97	20.77
Mastery Goal		

I want to learn as much as possible from this work. / In this work, I prefer tasks that arouse my curiosity, even though they are difficult to execute. / In this work, I prefer tasks that challenge me in order to learn new things.	0.85	14.01
It is important for me to learn with every experience of customer service. / It is important for me to learn how to meet the client in a better way. / I hope to completely master the required competences to do well this work.	0.80	13.18
Performance-Avoidance Goal		
The possibility of having a poor performance rating worries me. / I just want to avoid having a poor performance in this job. / I am afraid to ask "silly" questions to my superior because he may think I am not very intelligent.	0.66	7.39
I often think to myself: "what if I do badly in this job?" / What motivates me at work is the fear of poor performance. / I would prefer that the people in this work were not evaluated.	0.70	8.04
Intrinsic Motivation		
I have a lot of satisfaction and reward out of just doing my job.	0.85	14.70
My work is much fun.	0.74	12.52
If I could start over, I would still choose to do the kind of work that I am doing now.	0.79	13.39
Reproduction		
I do things at work without really knowing why they are needed. (reversed)	0.61	-
I often find myself on "automatic pilot" in this job. (reversed)	0.81	8.50
I do my job without thinking about it too much. (reversed)	0.78	8.07
Extrinsic Work Reflection		
I often think about how my work fits into other company activities.	0.71	-
I try to think about how different parts of the company fit together.	0.95	14.34
I try to think how my work relates to that of others.	0.93	14.17
Intrinsic Work Reflection		
I generally try to understand how new information fits in to how I do my work.	0.83	-
To better understand my work, I think about how work makes sense in terms of what I already know.	0.83	12.52
Interpersonal Help Seeking		
I ask other questions when I am uncertain about something.	0.75	-

I get someone to help me when I need assistance.	0.90	14.06
I ask others for more information when I need it.	0.83	12.60
Seeking Help from Written Material		
When I am unsure about something, I look the information up.	0.85	-
I try to understand something better by locating and studying a relevant document.	0.70	9.58
I fill in the gaps in my knowledge by acquiring the appropriate material.	0.73	10.11
Practical Application		
I try out new things by applying them in practice.	0.67	-
I do practical things to help myself to learn.	0.97	5.06
Informal Cognitive Learning Strategies		
Reproduction	0.41	4.69
Extrinsic Work Reflection	0.68	8.93
Intrinsic Work Reflection	1.00	14.36
Informal Behavioral Learning Strategies		
Interpersonal Help Seeking	0.87	10.44
Seeking Help from Written Material	0.94	12.12
Practical Application	0.41	3.92
Measures of fit: χ^2 = 574.16; df = 256; p < 0.01; IFI = 0.91; TLI = 0.89; CFI = 0.91; RMSEA = 0.07.		

We removed four items from the measurement model related to informal learning strategies that were causing bad fit. The final CFA model proved to be satisfactory according to Chi-square test and assessed fit indices close to or higher than 0.9 and RMSEA less than 0.1, indicatives of a well-adjusted model (Hair et al., 2014) (χ^2 = 574.16; df = 256; p-value < 0.01; IFI = 0.91; TLI = 0.89; CFI = 0.91; RMSEA = 0.07). Almost all the factor loadings that refer to the latent variables of the first and second-order factors were higher than the limit of 0.5 (Hair et al., 2014). Table 11 provides further information concerning the convergent and divergent validity of the measures for the adjusted model:

Table 11: Correlation matrix, reliability and variance extracted

	PerfAppG	MastG	PerfAvG	IntMot	ILSCog	ILSBeh	CR	AVE	CA
PerfAppG	**0.95**						0.95	0.90	0.95
MastG	0.03	**0.82**					0.81	0.68	0.80
PerfAvG	0.30	-0.29	**0.76**				0.74	0.58	0.73
IntMot	0.06	0.55	-0.15	**0.79**			0.84	0.63	0.82
ILSCog	0.22	0.45	-0.08	0.27	**0.74**		0.76	0.54	0.82
ILSBeh	0.02	0.63	-0.31	0.33	0.58	**0.77**	0.80	0.60	0.84

Notes: PerfAppG – Performance-Approach Goal Orientation; MastG – Mastery Goal Orientation; PerfAvG – Performance-Avoidance Goal Orientation; IntMot – Intrinsic Motivation; ILSCog – Informal Cognitive Learning Strategies; ILSBeh – Informal Behavioral Learning Strategies; Diagonal entries in bold are related to AVE square roots; CR – Composite Reliability; AVE – Average Variance Extracted; CA – Cronbach's alpha.

Table 11 shows that the measures have more than half of the variance of the indicators explained by the latent variable in question – the AVE must be greater than 0.5 (Hair et al., 2014). We also evaluated the discriminant validity of the model, which is the ability of the construct to truly distinguish itself from the others, and we verified that each construct is not strongly correlated with another construct. The diagonal entries in bold in Table 11 are related to AVE square roots and, by comparing the value of the correlation of the constructs with them (Hair et al., 2014), we conclude about the discriminant validity of the adjusted model.

In addition, we checked Cronbach's coefficient alpha, which is an internal consistency coefficient used to estimate reliability when we are interested in item-specific variance in a unidimensional test (Cortina, 1993). According to the author, alpha is expected to be greater than or equal to 0.7 to reflect internal consistency. Table 11 indicates that all latent variables meet these criteria.

Regarding the assessment of the magnitude of common method variance (CMV), we firstly performed the Harman one-factor test. The first factor only retained 27.75% of the variance, which is below the upper limit of 50%, indicating that CMV should not affect the results substantively. Then, we tested different models with a smaller number of factors, combining items of different measures in the same construct (Chaudhuri & Ligas, 2009). By analyzing the various chi-square difference tests, we observed that the fit of the original model was

always better than any other model with a smaller number of factors. We concluded that the CMV should not affect the results substantially (Kafetsios & Zampetakis, 2008).

4.5.2 Results of Hypotheses Testing

The model consisted of four first level factors: intrinsic motivation, performance-approach goal orientation, mastery goal orientation and performance-avoidance goal orientation, and two second-order latent factors: cognitive and behavioral learning strategies. We can observe the results of the structure model in Table 12:

Table 12: Results of the structural model

Path	**Hypothesis**	**Standardized Coefficient**	**t-value**
Performance-Approach Goal -> Cognitive ILS	**H1a**	0.21*	2.44
Performance-Approach Goal -> Behavioral ILS	**H1b**	0.05	0.76
Performance-Approach Goal -> Intrinsic Motivation	**H1c**	0.05	0.67
Mastery Goal -> Cognitive ILS	**H2a**	0.42**	3.18
Mastery Goal -> Behavioral ILS	**H2b**	0.60**	5.85
Mastery Goal -> Intrinsic Motivation	**H2c**	0.55**	6.64
Performance-Avoidance Goal -> Cognitive ILS	**H3a**	-0.02	-0.25
Performance-Avoidance Goal -> Behavioral ILS	**H3b**	-0.16*	-2.00
Performance-Avoidance Goal -> Intrinsic Motivation	**H3c**	-0.03	-0.11
Intrinsic Motivation -> Cognitive ILS	**H4a**	0.02	0.24
Intrinsic Motivation -> Behavioral ILS	**H4b**	-0.03	-0.36
Measures of fit: χ^2 = 574.16; df = 256; p < 0.01; IFI = 0.91; TLI = 0.89; CFI = 0.91; RMSEA = 0.07.			

* p-value < 0.05; ** p-value < 0.01 (one-tail tests).

The direct and indirect effects of goal orientations on informal learning strategies, as the model has a mediating variable, are provided in Table 13. According to Baron and Kenny (1986), a mediating variable causes mediation in the relationship between the dependent and

the independent variables because there is no direct, or there is a small relationship between them, that is, first the independent variable influences the mediating variable, and then the mediating variable influences the dependent variable, as proposed in our hypothesized model.

Table 13: Direct and Indirect effects of goal orientations on informal learning strategies mediated by intrinsic motivation and respective p-values

	Direct Effect	**p-value**	**Indirect Effect**	**p-value**	**Total Effect**	**p-value**
Performance-Approach Goal -> Cognitive ILS	0.21	0.01*	0.00	0.42	0.21	<0.01**
Performance-Approach Goal -> Behavioral ILS	0.05	0.22	0.00	0.47	0.05	0.25
Performance-Approach Goal -> Intrinsic Motivation	0.05	0.25	-	-	0.05	0.27
Mastery Goal -> Cognitive ILS	0.42	<0.01**	0.00	0.40	0.42	<0.01**
Mastery Goal -> Behavioral ILS	0.60	<0.01**	-0.01	0.37	0.58	<0.01**
Mastery Goal -> Intrinsic Motivation	0.55	<0.01**	-	-	0.55	<0.01**
Performance-Avoidance Goal -> Cognitive ILS	-0.02	0.40	0.00	0,50	-0.02	0.40
Performance-Avoidance Goal -> Behavioral ILS	-0.16	0.02*	0.00	0.47	-0.16	0.04*
Performance-Avoidance Goal -> Intrinsic Motivation	-0.03	0.46	-	-	-0.03	0.46
Intrinsic Motivation -> Cognitive ILS	0.02	0.41	-	-	0.02	0.40
Intrinsic Motivation -> Behavioral ILS	-0.03	0.09	-	-	-0.03	0.37

* p-value < 0.05; ** p-value < 0.01 (one-tail tests).
Significance based on bootstrapping.

Table 12 shows that the proposed model fit was satisfactory (χ^2 = 574.16; df = 256; p < .01; IFI = 0.91; TLI = 0.89; CFI = 0.91). We observed that performance-approach goal orientation has a positive and significant effect on informal cognitive learning strategies (b = .21; p < .05) (**H1a**) and a non-significant effect on informal behavioral learning strategies (b = .05; p > .05) (**H1b**). Performance-approach goal orientation has also a non-significant effect on intrinsic motivation (b = .05; p > .05) (**H1c**).

Mastery goal orientation, in turn, has direct positive and significant effects on informal cognitive (b = .42; p < .01) (**H2a**) and behavioral (b = .60; p < .01) (**H2b**) learning strategies.

Moreover, mastery goal orientation has a positive and significant effect on intrinsic motivation (b = .55; p < .01) (**H2c**).

Finally, performance-avoidance goal orientation has a non-significant effect on informal cognitive learning strategies (b = -.02; p > .05) (**H3a**) and a direct negative and significant effect on informal behavioral learning strategies (b = -.16; p < .05) (**H3b**). Besides that, performance-avoidance goal orientation has a non-significant effect on intrinsic motivation (b = -.03; p > .05) (**H3c**).

None of the indirect effects of goal orientations on informal learning strategies through intrinsic motivation proved to be significant, since the direct effects of intrinsic motivation on informal cognitive (b = .02; p > .05) (**H4a**) and behavioral (b = -.03; p > .05) (**H4b**) learning strategies are not significant.

We also introduced a marker variable in the structural model as a further check on common method bias (Williams, Hartman, & Cavazotte, 2010). The introduction of the marker variable indicated that CMV is not a relevant concern due to the fact that all of the paths that were previously statistically significant remained significant.

4.6 Discussion

Our goal with this study was to provide a contribution to research on informal learning strategies at work, specifically by investigating how goal orientations relate to managers' informal learning strategies. This model sought to explain whether performance-approach goal orientation, whose individuals can engage in learning activities if they need to demonstrate competence or outdo others; mastery goal orientation, whose individuals believe that they can learn and expand their skills through personal effort; and performance-avoidance goal orientation, whose individuals concentrate their energy to avoid negative perceptions of their skills, which includes worrying about possible failures and performance evaluations (Chadwick & Raver, 2015), relate with informal cognitive and behavioral learning strategies in the workplace. Moreover, we also innovated by considering the mediating effect of intrinsic motivation.

Hypotheses **H1a** and **H1b** advanced that performance-approach goal orientation is positively related to informal cognitive and behavioral learning strategies, and this was partially supported in our study. According to the results, we could verify that performance-approach goal orientation has a positive and significant effect on the informal cognitive learning strategies but not on the behavioral ones. Informal behavioral learning strategies are characterized by more active and exploratory attitudes and behaviors, and informal cognitive learning strategies, on the other hand, refer to more reflexive and thoughtful attitudes and behaviors (Holman et al., 2001). This may be the explanation for our findings due to the fact that individuals with a performance-approach goal orientation believe that intelligence is fixed and their ability is attributed to factors such as innate talent and luck (Van Yperen & Janssen, 2002). Therefore, they tend to avoid and give up challenges, since effort means having low quality (Van Yperen & Janssen, 2002) and learning processes for individuals with a performance-approach goal orientation are more for the use of learned content (exploitation) than for generating assimilation of new learning (exploration) (Chadwick & Raver, 2015).

Hypotheses **H2a** and **H2b**, which advanced that mastery goal orientation is positively related to informal cognitive and behavioral learning strategies, were supported in this study. These results are in line with the research of Chadwick and Raver (2015), who claim that a mastery goal orientation can motivate individuals to intuit and interpret their experiences generating new knowledge, since these individuals believe that they can learn by developing their skills

through personal effort, provoking proactive learning behaviors aimed at continuous growth and learning. Moreover, Preenen et al. (2014) and Van Yperen and Janssen (2002) state that individuals with a mastery goal orientation approach a task with the objective of learning for themselves, working hard to achieve their improvement goals even when they have to face obstacles, which, in turn, is in line with the principles of informal learning.

Hypotheses **H3a** and **H3b**, which advanced that performance-avoidance goal orientation is negatively related to informal cognitive and behavioral learning strategies, were partially supported in this study. According to the results, we could verify that performance-avoidance goal orientation has a direct negative and significant effect on informal behavioral learning strategies. However, the effect of performance-avoidance goal orientation is negative but non-significant on informal cognitive learning strategies, and this may be explained due to the fact that informal cognitive learning strategies (reproduction, intrinsic work reflection and extrinsic work reflection) are primarily non-social sources of information and knowledge acquisition in the workplace (Holman et al., 2001; Warr & Downing, 2000), which implies that the learner does not necessarily need to actively participate in learning activities and be exposed to other individuals, an inherent fear of people who hold a performance-avoidance goal orientation (Chadwick & Raver, 2015). These results corroborate the research of Chadwick and Raver (2015), which proposes that a performance-avoidance goal orientation hinders exploration and exploitation learning forms, since individuals with this goal orientation are motivated to concentrate their energy to avoid negative perceptions of their skills. As informal learning strategies require the individual's participation in the learning process in order to lead to the development and improvement of knowledge and skills (Jeong et al., 2018), performance-avoidance goal orientation may be an obstacle to achieving such purposes as individuals with this orientation avoid activities that can promote learning for fear that participation in them exposes their incompetence (Chadwick & Raver, 2015).

Regarding the relation between goal orientations (performance-approach, mastery and performance-avoidance goals) and intrinsic motivation (**H1c**, **H2c** and **H3c**, respectively), we observed that mastery goal orientation has a positive and significant effect on intrinsic motivation (**H2c**), as advanced in our hypothesis and in line with Cerasoli and Ford (2014) and Elliot and Harackiewicz (1994, 1996), who claim that mastery goals can positively influence intrinsic motivation as these goals promote perceptions of challenge, encourage engagement in the task, generate enthusiasm and provide focus and direction towards

performance behaviors. Performance-approach goal orientation has a positive but non-significant effect on intrinsic motivation (**H1c**), and performance-avoidance goal orientation has a negative but non-significant effect on intrinsic motivation (**H3c**), although we expected negative and significant relations between such constructs. Individuals who hold a performance-approach goal orientation want to perform better than other people so that they can be recognized as competent by their peers, however they believe that their intelligence has reached its maximum, therefore they are less likely to have a genuine interest in new and challenging tasks (Elliot, 1999; Elliot & Church, 1997). Individuals who hold a performance-avoidance goal orientation do their tasks primarily because they fear appearing incompetent, therefore they tend to have lower levels of intrinsic motivation (Elliot, 1999; Elliot & Church, 1997; Elliot & Harackiewicz, 1996). This may explain the reason why performance-approach and performance-avoidance goal orientations have non-significant effects on intrinsic motivation in our study.

Furthermore, intrinsic motivation has non-significant effects on both informal cognitive and behavioral learning strategies (**H4a** and **H4b**, respectively), contrary to our initial assumptions. Moreover, intrinsic motivation does not mediate the relationship between goal orientations and informal cognitive and behavioral learning strategies at work as none of the indirect effects of goal orientations on informal learning strategies through intrinsic motivation proved to be significant. A possible explanation for intrinsic motivation not to mediate the relationship between goal orientations and informal learning strategies may lie in the fact that goal orientations, as an exogenous variable, have a nature more closely linked to aspects of task performance at work, that is, their concepts are of a more concrete and material in essence, which can hinder mediation through intrinsic motivation.

Overall, the findings reveal the importance that goal orientations have a significant influencing factor on informal learning strategies. Previous research examined the relationship between goal orientations and informal learning withing the organizational context (e.g., Chadwick & Raver, 2015; Noe et al., 2016), however our research innovates by considering not only informal learning itself, but specifically its strategies in the workplace used to acquire new information and develop skills. In addition, the relationship between goal orientations and intrinsic motivation was previously studied by several authors within the educational context (e.g., Chen & Mathieu, 2008; Elliot & Dweck, 1988; Lee et al., 2010; Payne et al., 2007; Van de Walle, 1997), whereas this research sheds light on this discussion in the organizational field.

4.7 Implications for Managers

There are some implications for practice concerning our research. First of all, when companies plan formal training programs, they should consider the likelihood of informal learning and try to find ways to better deal with it, since both formal and informal learning can be complementary when it comes to individual learning because learners may not distinguish their learning into categories of formal or informal (Choi & Jacobs, 2011).

Secondly, goal orientations are stable personality characteristics about the nature and development of attributes that people have (Janssen & Van Yperen, 2004). Thus, companies may need to develop selection processes that increase the probability of hiring individuals with a performance-approach and mastery goal orientations, since these individuals, according to our findings, are more engaged in learning activities.

Companies should also take into account that goal orientations can suffer contextual influences. A given context can, on the one hand, promote existing dispositions for individuals to engage in learning or, on the other hand, encourage people to manifest behaviors that they otherwise would not have (Hirst, Knippenberg, & Zhou, 2009). The authors consider that team learning behavior, which is a process by which team members discuss and solve problems, plays an important role in individual differences, such as goal orientations, and learning processes. When work teams engage in learning behaviors, they collectively support learning, and this may increase the level of information available in the company, thereby creating a favorable context for learning with a reduction in the levels of psychological risks associated with its processes, which, in turn, encourages people to engage in learning (Hirst et al., 2009). Hence, Human Resource Management (HRM) should focus on practices that support team learning behaviors in order to achieve the expected organizational outcomes.

Although intrinsic motivation did not mediate the relationship between goal orientations and informal learning strategies in our study due to the reasons mentioned before, it is important to highlight that mastery goal orientation proved to be significantly related to intrinsic motivation ($b = .55$; $p < .01$). This means that companies should pay close attention to employees who are mastery-oriented, mainly because this type of goal orientation is seen as the driver for performance behaviors that predict long-term organizational success (Cerasoli & Ford, 2014).

4.8 Limitations and Directions for Future Work

This study has some limitations that should be discussed. A limitation of the present study is related to the generalizability of our results (Preenen et al., 2014). The sample of our research consisted of bank agency managers from large retail banks, who are professionals with a high level of educational background, and this may hinder the generalizability of our findings to individuals with a lower level of formal education (Preenen et al., 2014). Therefore, future research should investigate whether our results are also found among people of lower educational and professional levels.

We used a cross-sectional design to test our hypotheses in this study, which is considered a traditional limitation in field research. Due to the fact that learning in organizations occurs throughout the time, future research should investigate the effects of goal orientations on informal learning strategies through time-series or longitudinal data in order obtain measures at different moments to confirm the relations proposed in the theoretical model.

It may also be sensible to, in addition to study informal learning strategies and the goal orientation terms quantitatively, conduct qualitative studies to approach the issues tackled in this study. Finally, other variables likely to influence informal learning strategies need to be identified. The limited set of variables included in this theoretical model restricts our understanding of what impacts informal learning strategies and the effectiveness that results from the relations established in our model. Hence, it is worthwhile to consider other variables, such as locus of control, learning culture, learning climate, individual task performance and organizational performance in future research.

4.9 Conclusions

Learning in the workplace is a major focus for human resource development (Jeong et al., 2018) and, in a highly competitive business environment, workplace learning is a key factor for competitive advantage of organizations (Eraut, 2004). This paper has contributed to the discussion concerning the effects of goal orientations on managers' informal learning strategies, complementing previous research on the antecedents of informal learning. We hope that such contribution will assist to stimulate and guide future research to advance our understanding of informal learning strategies in the workplace.

Chapter 5 – Overall Conclusion

This doctoral thesis investigated individual differences in regulatory focus, cognitive styles and goal orientations as antecedents of managers' informal learning strategies in the workplace, and whether intrinsic motivation mediated the relation between those two constructs. This overall conclusion provides a general summary of the main findings of our study and the contextualization of these themes, discussing the theoretical and managerial implications and highlighting the limitations and directions for future research.

5.1 Research Questions

We tried to answer some gaps in the literature, namely the scarce research on how psychological traits, such as regulatory focus, cognitive styles and goal orientations, relate with informal cognitive and behavioral learning strategies in the workplace, as well as the lack of research concerning the mediating effects of intrinsic motivation in relation to the constructs mentioned here. Therefore, we have articulated four research questions: (1) What is the relationship between regulatory focus and workplace informal learning strategies? (2) What is the relationship between cognitive styles and workplace informal learning strategies? (3) What is the relationship between goal orientations and workplace informal learning strategies? (4) Does intrinsic motivation mediate the relationship between psychological traits (regulatory focus, cognitive styles and goal orientations) and workplace informal learning strategies?

5.2 Research Contributions

5.2.1 Methodological Contributions

In order to answer the four research questions mentioned above and test our research models, we decided to draw on a sample of managers from the Brazilian banking sector, which is an area of the economy that has undergone technological innovations and profound transformations, accelerated with the emergence of the so-called “fintechs” in recent years (Alt et al., 2018; Alt & Puschmann, 2012).

Bank managers are responsible for a series of daily work tasks, such as selling financial products and services; coordinating, planning and implementing the development of financial products and services and banking processes; managing people; making plans for the credit, products and marketing areas; managing material, financial resources and third-party products and services; as well as communicating, disseminating and consolidating information, rules and procedures, interacting with people and conducting meetings. The innovative and transformative banking scenario described previously indicates that bank managers have to develop new ways of performing their daily work tasks, making use of workplace informal learning strategies as a key tool for their survival in a competitive job market, thus favoring the observation of the phenomena investigated in the three studies presented here.

Thus, in the attempt to reach the objective of our study, we applied a quantitative method, relying on a structured questionnaire for data collection, providing several methodological contributions. In contrast to qualitative research, the results of a quantitative study can be quantified and, as samples are generally large and considered representative of the population, the results are taken as if they were a real picture of the entire target population of the research (Kline, 2016). For the author, quantitative research has its roots in logical positivism and tends to emphasize deductive reasoning, the rules of logic and the measurable attributes of human experience. In addition, quantitative research uses structured procedures and formal instruments (questionnaires) for data collection, which occurs under controlled conditions, emphasizing objectivity (Kline, 2016). Therefore, as all the variables of interest in the models have their respective measurement scales in the literature, we decided that the quantitative method was the most appropriate to be used in this study.

We divided the analyses of the three studies into two types: Confirmatory Factor Analysis (CFA); and Structural Equation Modeling (SEM). The CFA is applied to test the extent to which the theoretical pattern of factor loads in pre-specified constructs represents the actual data, that is, the CFA is a tool that allows the researcher to confirm or reject a preconceived theory (Hair et al., 2014). According to the authors, the CFA is used to provide a confirmatory measurement theory test, which specifies how the measured variables represent the constructs involved logically and systematically in a theoretical model, and this measurement theory can then be combined with a structural theory to fully specify a model of structural equations. In a CFA, the researcher can evaluate the contribution of each item on the scale, as well as incorporating how well the scale measures the concept (reliability); then the scales are integrated into an estimation of the relationships between the dependent and independent variables in the structural model (Hair et al., 2014).

The SEM, in turn, is a technique that allows separate relationships for each set of dependent variables, which provides the most appropriate and efficient estimation technique for a series of multiple regression equations estimated simultaneously (Hair et al., 2014). Pearl (2012) defines the SEM as a method of causal inference that has three inputs and generates three outputs. The entries are the following, namely: 1) a set of qualitative causal hypotheses (typically based on assumptions) about the theory or results of empirical studies that are represented in a structural equation model; 2) a set of inquiries or questions about causal relationships between the variables of interest; and 3) most of the applications of a structural equation model are in non-experimental formats, but data from experimental or semi-experimental formats can also be analyzed. The outputs, in turn, generated by a structural equation model are the following, namely: 1) numerical estimates of model parameters for hypothesized effects; 2) a set of logical implications of the model that may not correspond directly to a specific parameter, but that can still be tested on the data; and 3) the level at which the implications that can be tested for the model are supported by the data (Pearl, 2012). For the author, the quality of the outputs generated by a structural equation model depends on the validity of the researcher's ideas, that is, on the first entry mentioned previously. Hence, the main point of the SEM is to test a theory by specifying a model that represents predictions of that theory among plausible constructs measured by observed variables that are appropriate (Kline, 2016). Thus, we decided to use the SEM to evaluate the relations of the constructs in the three research models examined in this study in order to

ensure objectivity and quality of our statistical analyses and provide an efficient estimation technique.

5.2.2 Theoretical Contributions

This work provides several theoretical contributions to the Human Resources Management literature by offering novel results regarding psychological traits and informal work-based learning, revealing the mediating role of intrinsic motivation. This research aimed not only to complement previous academic work on the theme of workplace learning and its strategies, but added new antecedent variables, such as regulatory focus, cognitive styles and goal orientations, in order to measure and explain possible influences of these psychological traits on informal work-based learning, bringing academic originality to the subject.

Regarding the relationship between regulatory focus and workplace informal learning strategies specifically, this study complements the works of various scholars (e.g., Friedman & Förster, 2001; Gorman et al., 2012; Lanaj et al., 2012; Spreitzer et al., 2005; Wallace & Chen, 2006), who related the promotion orientation of regulatory focus with more exploratory behaviors, which may, consequently, increase employees' learning levels due to the fact that new ideas and strategies used in the workplace increase their knowledge, skills, creativity, job satisfaction, commitment and work performance (Gorman et al., 2012; Spreitzer et al., 2005; Wallace et al., 2016). Bell and Kozlowski (2008) also stated that individual characteristics of self-regulation processes have effects on active learning approaches, described as those in which individuals have control over their own learning, an important characteristic related to informal learning processes.

However, the aforementioned works basically sought to relate regulatory focus with work behaviors (e.g., organizational citizenship behavior; leader-member exchange; safety, innovative and task performance) and work perceptions and attitudes (e.g., work engagement; job satisfaction; commitment), indicating as one of the consequences of these relationships the levels of engagement in learning behaviors in relation to obtaining new knowledge in the domain of the work tasks. On the other hand, our research not only considered the relationship between regulatory focus and informal work-based learning in order to understand the direct effects of such psychological trait on informal learning processes in the workplace, but also examined the direct effects of regulatory focus on

managers' preference for certain informal learning strategies, categorized into cognitive and behavioral dimensions, and the mediating role of intrinsic motivation that may affect this relationship, thus contributing to a theoretical advance of the subject in the organizational literature.

When it comes to the relationship between cognitive styles and informal learning strategies in the workplace, the main theoretical contribution of our research is to complement the subject in the organizational field based on previous research developed in educational contexts. Bouckenooghe et al. (2016), for example, related knowing, planning and creating cognitive styles with certain learning approaches among graduate business students. A learning approach is a term used by the authors to refer to the students' engagement in learning and their strategic, deep and surface study methods, which are connected with the degree of interest in learning. Riding and Rayner (2013) also related cognitive styles with personal learning styles in educational settings. According to the authors, a personal learning style refers to the way in which an individual responds to a learning task in order to meet the demands of a learning activity. Hence, we can identify that there is a significant difference between the terms learning approaches and learning styles compared to the term learning strategies used in our study. Learning approaches and learning styles describe individual differences in learning based on how people react and engage to their learning environment (Bouckenooghe et al., 2016; Riding & Rayner, 2013), whereas learning strategies are information-processing activities or a sequence of procedures used by learners in order to accomplish learning (Warr & Downing, 2000). Accordingly, our research innovates by investigating the effects of knowing, planning and creating cognitive styles on both informal cognitive and behavioral learning strategies in the workplace, having intrinsic motivation as a mediating variable, thus assuming a character of originality in the organizational literature.

Concerning the relationship between goal orientations and workplace informal learning strategies, our research has also a theoretical contribution to the subject by complementing previous research developed in both educational and professional contexts. Chadwick and Raver (2015), for instance, provided a theoretical foundation by stating that performance-approach, mastery and performance-avoidance goal orientations have an influence on the way individuals intuit and interpret their learning processes. For the authors, intuition is considered the first step to achieve the development of new insights, whereas interpretation is related to the process of refining these intuitive insights so that they can be better understood. Chadwick and Raver (2015) classified these learning processes into exploitation

(the use of learned content) and exploration (the assimilation of new learning), which can be considered types of learning approaches or behaviors but not learning strategies. Noe et al. (2016) related learning goal orientations with informal work-based learning by explaining that individuals with a learning goal orientation are more likely to engage in challenging situations, and this favors the emergence of informal learning in work environments. Thus, we sought to answer some gaps in the literature in order to achieve a better understanding about the subject by examining not only the relationship between performance-approach, mastery and performance-avoidance goal orientations and workplace informal learning, but also its strategies used by learners to assist in their acquisition and development of knowledge. Furthermore, the discussion about the relationship between goal orientations and intrinsic motivation, which has been extensively studied within the educational context (e.g., Chen & Mathieu, 2008; Lee et al., 2010; Van de Walle, 1997), was taken to the organizational field by this study.

Shortly, in our findings, the promotion orientation of regulatory focus, knowing cognitive style and mastery goal orientation positively relate with both informal cognitive and behavioral learning strategies in the workplace, and intrinsic motivation mediates the relationship between regulatory focus and cognitive styles with workplace informal learning strategies, and these are novel insights that can offer theoretical contributions. In addition, we found that intrinsic motivation has no mediating effects on goal orientations and informal learning strategies, which may be explained by the fact that goal orientations are more closely linked to aspects of task performance at work, hindering this mediation relationship.

It is relevant to highlight that this is the first study to consider regulatory focus, cognitive styles and goal orientations as antecedents of informal learning strategies in the workplace, whose scale and categories were developed and validated by Holman et al. (2001). Moreover, as we discussed previously, informal learning approaches have been studied mainly in educational environments (Kyndt et al., 2009), whereas this research emphasizes informal learning and its strategies in a professional setting, shedding light on this discussion in the organizational literature.

5.2.3 Managerial Implications

Overall, these results may inspire companies and managers to look at TD&E programs from different perspectives. Firstly, it is relevant to consider the complementary nature between the two types of work-based learning (formal and informal), since learners may not differentiate their learning into categories. Secondly, due to the fact that learning can be considered an important driver for long-term organizational success, companies should invest in their learning capacity, fostering the necessary conditions for learning to play a key role in organizational life. As an example, companies should give particular attention to research and professional updating tools that are available nowadays, so that their employees can obtain real-time information and acquire knowledge in order to perform their daily tasks more efficiently.

In relation to the psychological traits addressed here, companies should take them into account to develop their HRD policies. Regulatory focus, cognitive styles and goal orientations should be considered in recruitment and selection processes by companies to increase the probability of hiring more learning-oriented individuals. For example, we found that the promotion orientation of regulatory focus, knowing cognitive style and mastery goal orientation are positively related to both informal cognitive and behavioral learning strategies; consequently, individuals with such psychological traits are expected to be more engaged in learning activities, and this may also lead to the development of changing environments adaptation, innovation and growth and competitive advantage promoted by learning in organizations.

5.3 Limitations and Suggestions for Future Research

Despite its merits and contributions, this study has some limitations that should be mentioned, and the findings reported in this doctoral thesis may be complemented and enlarged in future research as discussed previously. Firstly, this is a cross-sectional research, which fails to consider informal learning processes over time. With a longitudinal research, scholars would be able to implement measures at different times to confirm the relations established in our theoretical models and detect possible developments of changes in the individual characteristics of the target population.

Secondly, our research has a limitation related to the cultural aspect. According to Watkins and Kim (2018), cultural differences may have an impact on how individuals perceive learning in organizations, and this can reduce the applicability of our study, due to the fact that this research is based on employees who work in banking institutions that operate in Brazil. In addition, bank agency managers are professionals with a high level of educational background, which may hinder the generalizability of our findings to individuals with a lower level of formal education (Preenen et al., 2014). This suggests that future research should investigate whether our results are also found among individuals of different cultures and educational and professional levels.

Thirdly, the data used in this thesis are subjective perceptions of managers who answered a questionnaire sent by e-mail. Subjective evaluations through multi-item scales are quite consistent, however differences between respondents' perceptions and objective data may exist anyway. Thus, future research should make use of objective indicators in order to reduce such differences.

Fourthly, common method variance is a potential threat to our conclusions because the study relied on a single source, although we adopted statistical procedures that indicated that such bias may not be substantial. Furthermore, the research should be replicated in contexts other than the banking sector, thus the results obtained in this research could be validated in other sectors of the economy.

Finally, future research should consider other variables that have influence on informal learning strategies, such as locus of control, which can be defined as the extent to which an individual believes that he or she has the ability to affect the results of events in life through his or her own actions (Rotter, 1966); or even consequent variables, such as creativity,

typically defined as the generation or production of new and useful ideas (Amabile, 1996; Oldham & Cummings, 1996) for human adaptation in complex and dynamic environments (Amabile, 1996); and individual task performance at work, which can be seen as an added value, among a set of behaviors, so that employees can contribute directly and indirectly to the achievement of organizational goals (Rich, Lepine, & Crawford, 2010); as well as the inclusion of other mediating/moderating mechanisms, for example: learning climate, defined as employees' perceptions of organizational policies and practices that aim to facilitate, reward and support employees' learning behavior (Nikolova et al., 2014); and generational differences in the workplace, that is, groups of individuals born within the same historical and socio-cultural context sharing a certain mode of thought and action that serves as a basis for attitudes and behaviors (Lyons & Kuron, 2014).

Last but not least, the findings may be complemented by other methodologies (e.g., qualitative studies and/or case studies) to approach the issues tackled in this research from different perspectives. Thus, future research should, for example, interview employees in order to get other insights about how psychological traits relate with workplace informal learning strategies, taking into account the interpretation of the participants' feedback, since such information could suffer from biased judgments. We hope that such limitations will assist to stimulate and guide future research to advance our understanding of the phenomena studied in this doctoral thesis.

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Appendix 1 – Initials and Used Items (English version)

INFORMAL COGNITIVE LEARNING STRATEGIES (ILS_COG)

Reproduction

ILS_COG_R_1	1. I do my work without really questioning it.
ILS_COG_R_2	2. I do things at work without really knowing why they are needed.
ILS_COG_R_3	3. I often find myself on "automatic pilot" in this job.
ILS_COG_R_4	4. I do my job without thinking about it too much.

Extrinsic Reflection

ILS_ER_1	5. I often think about how my work fits into other company activities.
ILS_ER_2	6. I try to think about how different parts of the company fit together.
ILS_ER_3	7. I try to think how my work relates to that of others.

Intrinsic Reflection

ILS_COG_IR_1	8. I try to develop an overall idea of how the different aspects of my job fit together.
ILS_COG_IR_2	9. I work out which are the key points of my job and which are less important.
ILS_COG_IR_3	10. I generally try to understand how new information fits in to how I do my work.
ILS_COG_IR_4	11. I think about new information and its implications for work rather than merely concentrating on the facts given.

ILS_COG_IR_5	12. To better understand my work, I think about how work makes sense in terms of what I already know.

INFORMAL BEHAVIORAL LEARNING STRATEGIES (ILS_BEH)

Search for Interpersonal Help

ILS_BEH_IH_1	13. I ask other questions when I am uncertain about something.
ILS_BEH_IH_2	14. I get someone to help me when I need assistance.
ILS_BEH_IH_3	15. I ask others for more information when I need it.

Search for Help in Written Material

ILS_BEH_MH_1	16. When I am unsure about something, I look the information up.
ILS_BEH_MH_2	17. I try to understand something better by locating and studying a relevant document.
ILS_BEH_MH_3	18. I fill in the gaps in my knowledge by acquiring the appropriate material.

Practical Application

ILS_BEH_PA_1	19. Rather than spend time reading or asking someone's advice, I try to understand something better by working it out in practice.
ILS_BEH_PA_2	20. I try out new things by applying them in practice.
ILS_BEH_PA_3	21. I do practical things to help myself to learn.

REGULATORY FOCUS OF PROMOTION (RF_PRO)

RF_PRO_1	1. I frequently think how I will achieve my objectives and aspirations.
RF_PRO_2	2. I often think about the person I would ideally like to be in the future.
RF_PRO_3	3. I normally focus on the success I hope to achieve in the future.
RF_PRO_4	4. I often think about how I will achieve professional success.
RF_PRO_5	5. My major goal in organization right now is to achieve my professional ambition.
RF_PRO_6	6. I see myself as someone who is primarily striving to reach my "ideal self" to fulfill my wishes, and aspirations.
RF_PRO_7	7. In general, I am focused on achieving positive outcomes in my life.
RF_PRO_8	8. I often imagine myself experiencing good things that I hope will happen to me.
RF_PRO_9	9. Overall, I am more oriented toward achieving success than preventing failure.

REGULATORY FOCUS OF PREVENTION (RF_PRE)

RF_PRE_1	10. In general, I am focused on preventing negative events in my life.
RF_PRE_2	11. I am anxious that I will fall short of my responsibilities and obligations.
RF_PRE_3	12. I often think about the person I am afraid I might become in the future.
RF_PRE_4	13. I often worry that I will fail to accomplish my professional goals.

RF_PRE_5	14. I often imagine myself experiencing bad things that I fear might happen to me.
RF_PRE_6	15. I frequently think about how I can prevent failures in my life.
RF_PRE_7	16. I am more oriented toward preventing losses than I am toward achieving gains.
RF_PRE_8	17. My major goal in this company right now is to avoid becoming a failed employee.
RF_PRE_9	18. I see myself as someone who is primarily striving to become the self I "ought" to be to fulfill my duties, responsibilities, and obligations.

KNOWING COGNITIVE STYLE (KCS)

KCS_1	1. I want to have a full understanding of all problems.
KCS_2	2. I like to analyze problems.
KCS_3	3. I make detailed analyses.
KCS_4	4. I study each problem until I understand the underlying logic.

PLANNING COGNITIVE STYLE (PCS)

PCS_1	5. Developing a clear plan is very important to me.
PCS_2	6. I always want to know what should be done and when should be done.
PCS_3	7. I like detailed action plans.
PCS_4	8. I prefer clear structures to do my job.
PCS_5	9. I prefer a well-prepared meeting with a clear agenda and strict time management.

PCS_6	10. I make definitive engagements and I follow them up meticulously.
PCS_7	11. A good task is a well-prepared task.

CREATING COGNITIVE STYLE (CCS)

CCS_1	12. I like to contribute to innovative solutions.
CCS_2	13. I prefer to look for creative solutions.
CCS_3	14. I am motivated by ongoing innovations.
CCS_4	15. I like much variety in my life.
CCS_5	16. New ideas attract me more than existing solutions.
CCS_6	17. I like to extend boundaries.
CCS_7	18. I try to avoid routine.

PERFORMANCE-APPROACH GOAL ORIENTATION (PERF_APP_G)

PERF_APP_G_1	1. It is important to me to do better than the other colleagues.
PERF_APP_G_2	2. My goal in this company is to get a better evaluation than most of the colleagues.
PERF_APP_G_3	3. I am striving to demonstrate my ability relative to others in this company.
PERF_APP_G_4	4. I am motivated by the thought of outperforming my peers in this company.
PERF_APP_G_5	5. It is important to me to do well compared to others in this company.
PERF_APP_G_6	6. I want to do well in this company to show my ability to my family, friends, or others.

MASTERY GOAL ORIENTATION (MAST_G)

MAST_G_1	7. I want to learn as much as possible from this work.
MAST_G_2	8. It is important for me to learn with every experience of customer service.
MAST_G_3	9. It is important for me to learn how to meet the client in a better way.
MAST_G_4	10. I hope to completely master the required competences to do well this work.
MAST_G_5	11. In this work, I prefer tasks that arouse my curiosity, even though they are difficult to execute.
MAST_G_6	12. In this work, I prefer tasks that challenge me in order to learn new things.

PERFORMANCE-AVOIDANCE GOAL ORIENTATION (PERF_AV_G)

PERF_AV_G_1	13. I often think to myself: "what if I do badly in this job?"
PERF_AV_G_2	14. The possibility of having a poor performance rating worries me.
PERF_AV_G_3	15. What motivates me at work is the fear of poor performance.
PERF_AV_G_4	16. I just want to avoid having a poor performance in this job.
PERF_AV_G_5	17. I am afraid to ask "silly" questions to my superior because he may think I am not very intelligent.
PERF_AV_G_6	18. I would prefer that the people in this work were not evaluated.

INTRINSIC MOTIVATION (INT_MOT)

INT_MOT_1	1. I have a lot of satisfaction and reward out of just doing my job.
INT_MOT_2	2. My work is much fun.
INT_MOT_3	3. If I could start over, I would still choose to do the kind of work that I am doing now.

Appendix 2 – Initials and Used Items (Portuguese version)

ESTRATÉGIAS DE APRENDIZAGEM INFORMAL COGNITIVAS (ILS_COG)

Reprodução

ILS_COG_R_1	1. Faço meu trabalho sem, de fato, questioná-lo.
ILS_COG_R_2	2. Faço as coisas no trabalho sem realmente saber por que elas são necessárias.
ILS_COG_R_3	3. Muitas vezes, percebo que estou no "piloto automático" neste trabalho.
ILS_COG_R_4	4. Faço o meu trabalho sem pensar demais sobre isso.

Reflexão Extrínseca

ILS_ER_1	5. Muitas vezes, penso sobre como meu trabalho se encaixa nas demais atividades da empresa.
ILS_ER_2	6. Tento pensar sobre como as diferentes partes da empresa se encaixam.
ILS_ER_3	7. Tento pensar sobre como meu trabalho se relaciona com o dos outros.

Reflexão Intrínseca

ILS_COG_IR_1	8. Tento desenvolver uma ideia geral de como os diferentes aspectos do meu trabalho se encaixam.
ILS_COG_IR_2	9. Elaboro quais são os pontos-chave do meu trabalho e quais são os menos importantes.
ILS_COG_IR_3	10. Em geral, tento entender como novas informações se enquadram em como faço meu trabalho.

ILS_COG_IR_4	11. Penso sobre novas informações e suas implicações para o trabalho, em vez de me concentrar meramente nos fatos apresentados.
ILS_COG_IR_5	12. Para entender melhor o trabalho, penso sobre como ele faz sentido em termos daquilo que eu já conheço.

ESTRATÉGIAS DE APRENDIZAGEM INFORMAL COMPORTAMENTAIS (ILS_BEH)

Procura de Ajuda Interpessoal

ILS_BEH_IH_1	13. Faço perguntas quando estou incerto sobre alguma coisa.
ILS_BEH_IH_2	14. Procuro alguém para me ajudar quando preciso de assistência.
ILS_BEH_IH_3	15. Peço aos outros mais informações quando preciso.

Procura de Ajuda em Material Escrito

ILS_BEH_MH_1	16. Quando não tenho certeza sobre alguma coisa, procuro pela informação.
ILS_BEH_MH_2	17. Tento entender melhor alguma coisa localizando e estudando um documento importante.
ILS_BEH_MH_3	18. Preencho as lacunas do meu conhecimento por meio da obtenção do material correto.

Aplicação Prática

ILS_BEH_PA_1	19. Em vez de passar o tempo lendo ou pedindo um conselho para alguém, tento

	entender melhor alguma coisa por meio de aplicação prática.
ILS_BEH_PA_2	20. Tento coisas novas aplicando-as na prática.
ILS_BEH_PA_3	21. Faço coisas práticas que me ajudam a aprender.

FOCO REGULATÓRIO DE PROMOÇÃO (RF_PRO)

RF_PRO_1	1. Penso frequentemente sobre como atingirei meus objetivos e aspirações.
RF_PRO_2	2. Muitas vezes, penso sobre a pessoa que eu gostaria de ser no futuro.
RF_PRO_3	3. Normalmente, concentro-me no sucesso que eu espero conquistar no futuro.
RF_PRO_4	4. Muitas vezes, penso sobre como atingirei o sucesso profissional.
RF_PRO_5	5. Meu principal objetivo na empresa agora é alcançar minha ambição profissional.
RF_PRO_6	6. Eu me vejo como alguém que está se esforçando para alcançar o seu “eu ideal”, a fim de realizar seus desejos e aspirações.
RF_PRO_7	7. Em geral, eu me concentro em atingir resultados positivos na minha vida.
RF_PRO_8	8. Muitas vezes, eu me imagino experimentando coisas boas que espero que aconteçam comigo.
RF_PRO_9	9. No geral, estou mais orientado para alcançar o sucesso do que para evitar falhas.

FOCO REGULATÓRIO DE PREVENÇÃO (RF_PRE)

RF_PRE_1	10. No geral, estou concentrado em prevenir eventos negativos na minha vida.
RF_PRE_2	11. Estou ansioso por poder ficar abaixo das minhas responsabilidades e obrigações.
RF_PRE_3	12. Muitas vezes, penso sobre a pessoa que eu tenho medo de me tornar no futuro.
RF_PRE_4	13. Muitas vezes, eu me preocupo em não conseguir realizar meus objetivos profissionais.
RF_PRE_5	14. Costumo me imaginar experimentando coisas ruins que temo que possam acontecer comigo.
RF_PRE_6	15. Penso frequentemente sobre como eu posso prevenir falhas na minha vida.
RF_PRE_7	16. Estou mais orientado em relação a prevenir perdas do que a obter ganhos.
RF_PRE_8	17. Meu principal objetivo na empresa agora é evitar me tornar um empregado fracassado.
RF_PRE_9	18. Eu me vejo como alguém que está se esforçando para se tornar a pessoa que "deveria ser", a fim de cumprir seus deveres, responsabilidades e obrigações.

ESTILO COGNITIVO CONHECIMENTO (KCS)

KCS_1	1. Quero ter uma compreensão total de todos os problemas.
KCS_2	2. Gosto de analisar os problemas.
KCS_3	3. Faço análises detalhadas.

KCS_4	4. Estudo os problemas até entender a lógica que está subjacente.

ESTILO COGNITIVO PLANEJAMENTO (PCS)

PCS_1	5. O desenvolvimento de um plano claro é muito importante para mim.
PCS_2	6. Gosto sempre de saber o que deve ser feito e quando deve ser feito.
PCS_3	7. Gosto de planos de ação detalhados.
PCS_4	8. Prefiro regras claras para fazer o meu trabalho.
PCS_5	9. Prefiro uma reunião bem preparada, com uma agenda clara e um tempo reduzido de gestão.
PCS_6	10. Estabeleço compromissos definitivos e os sigo meticulosamente.
PCS_7	11. Uma boa tarefa é uma tarefa bem preparada.

ESTILO COGNITIVO CRIAÇÃO (CCS)

CCS_1	12. Gosto de contribuir para soluções inovadoras.
CCS_2	13. Prefiro olhar (me orientar) para soluções criativas.
CCS_3	14. Sou motivado pela inovação contínua.
CCS_4	15. Gosto de muita variedade na minha vida.
CCS_5	16. Novas ideias me atraem mais do que as soluções existentes.
CCS_6	17. Gosto de ampliar meus horizontes.
CCS_7	18. Tento evitar a rotina.

ORIENTAÇÃO DE OBJETIVO DE ABORDAGEM DO DESEMPENHO (PERF_APP_G)

PERF_APP_G_1	1. Para mim, é importante desempenhar melhor do que os outros colegas.
PERF_APP_G_2	2. Meu objetivo nesta empresa é ter uma melhor avaliação do que a maioria dos colegas.
PERF_APP_G_3	3. Estou me esforçando para mostrar minhas habilidades em relação aos outros nesta empresa.
PERF_APP_G_4	4. Sou motivado pelo pensamento de superar meus colegas nesta empresa.
PERF_APP_G_5	5. Para mim, é importante se sair bem em comparação com os outros nesta empresa.
PERF_APP_G_6	6. Quero me sair bem nesta empresa para mostrar minhas habilidades à família, aos amigos e aos outros.

ORIENTAÇÃO DE OBJETIVO DE DOMÍNIO (MAST_G)

MAST_G_1	7. Quero aprender o máximo possível sobre este trabalho.
MAST_G_2	8. Para mim, é importante aprender com cada experiência de atendimento a clientes.
MAST_G_3	9. Para mim, é importante aprender a servir melhor os clientes.
MAST_G_4	10. Espero dominar as competências que são necessárias para fazer bem este trabalho.
MAST_G_5	11. Neste trabalho, prefiro tarefas que suscitem a minha curiosidade, mesmo que sejam difíceis de executar.

MAST_G_6	12. Neste trabalho, prefiro tarefas que me desafiem de forma a poder aprender coisas novas.

ORIENTAÇÃO DE OBJETIVO DE EVITAR DESEMPENHO (PERF_AV_G)

PERF_AV_G_1	13. Frequentemente, eu me questiono sobre "o que aconteceria se eu fizesse mal o meu trabalho?"
PERF_AV_G_2	14. A possibilidade de ter uma má avaliação de desempenho me preocupa.
PERF_AV_G_3	15. O que me motiva no trabalho é o medo de ter um mau desempenho.
PERF_AV_G_4	16. Eu apenas quero evitar ter um mau desempenho neste trabalho.
PERF_AV_G_5	17. Receio fazer perguntas "bobas" ao meu superior por ele(a) poder achar que sou pouco inteligente.
PERF_AV_G_6	18. Eu preferiria que as pessoas neste trabalho não fossem avaliadas.

MOTIVAÇÃO INTRÍNSECA (INT_MOT)

INT_MOT_1	1. Tenho muita satisfação e recompensa por fazer o meu trabalho.
INT_MOT_2	2. O trabalho que faço é muito divertido.
INT_MOT_3	3. Se eu pudesse começar de novo, ainda escolheria fazer o tipo de trabalho que estou fazendo agora.

Appendix 3 – Complete Questionnaire (in Portuguese)

Este questionário pretende coletar informação para analisar se traços de personalidade influenciam as preferências dos gestores por determinadas estratégias de aprendizagem no trabalho utilizadas para a aquisição de competências.

Agradecemos a sua colaboração!

Seção A: Dados Demográficos

A1. **Escreva abaixo o código que você recebeu no corpo do e-mail.**

A2. **Sexo:**

- ☐ Feminino
- ☐ Masculino

A3. **Idade:**

- ☐ Entre 18 e 25 anos
- ☐ Entre 26 e 35 anos
- ☐ Entre 36 e 45 anos
- ☐ Mais de 45 anos

A4. **Escolaridade:**

- ☐ Ensino Médio incompleto
- ☐ Ensino Médio completo
- ☐ Graduação incompleta
- ☐ Graduação completa
- ☐ Pós-graduação incompleta
- ☐ Pós-graduação completa

A5. Qual o banco para o qual você trabalha?

- ☐ Banco do Brasil
- ☐ Bradesco
- ☐ Caixa Econômica Federal
- ☐ Itaú-Unibanco
- ☐ Santander
- ☐ Outros

Outros

A6. Digite o código da agência/setor onde você trabalha:

A7. Função ou Cargo atual que exerce:

A8. Tempo total de empresa:

- ☐ Menos de 1 ano
- ☐ Entre 1 e 5 anos
- ☐ Entre 6 e 10 anos
- ☐ Mais de 10 anos

Seção B: Locus de Controle e Orientações de Objetivo e Aprendizagem

B1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 7 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5	6	7
Normalmente, sou capaz de proteger meus interesses pessoais.	☐	☐	☐	☐	☐	☐	☐
Minha vida é determinada pelas minhas próprias ações.	☐	☐	☐	☐	☐	☐	☐
Determino, em grande parte, o que vai acontecer na minha vida.	☐	☐	☐	☐	☐	☐	☐
Quando faço planos, tenho quase certeza de fazê-los funcionar.	☐	☐	☐	☐	☐	☐	☐
Quando tenho aquilo que quero é porque geralmente trabalhei muito para conquistar.	☐	☐	☐	☐	☐	☐	☐
Depende principalmente de quanto sou um(a) bom(boa) motorista para que eu me envolva ou não em um acidente de carro.	☐	☐	☐	☐	☐	☐	☐
A quantidade de amigos que tenho depende de quanto eu sou uma pessoa agradável.	☐	☐	☐	☐	☐	☐	☐
Depende principalmente das minhas habilidades para que eu me torne um líder.	☐	☐	☐	☐	☐	☐	☐
Em grande parte, minha vida é controlada por acontecimentos acidentais.	☐	☐	☐	☐	☐	☐	☐
Muitas vezes, não consigo proteger meus interesses pessoais da má sorte.	☐	☐	☐	☐	☐	☐	☐
Quando consigo aquilo que quero é porque geralmente tenho sorte.	☐	☐	☐	☐	☐	☐	☐
Nem sempre é racional planejar muito adiante porque muitas coisas são uma questão de ter ou não ter sorte.	☐	☐	☐	☐	☐	☐	☐
A possibilidade de eu chegar a líder depende de ter a sorte de estar no lugar certo na hora certa.	☐	☐	☐	☐	☐	☐	☐
Geralmente, acredito que aquilo que está para acontecer, acontecerá.	☐	☐	☐	☐	☐	☐	☐
Se eu me envolver ou não em um acidente de carro, é meramente por uma questão de sorte.	☐	☐	☐	☐	☐	☐	☐
É principalmente uma questão de destino se tenho ou não alguns ou muitos amigos.	☐	☐	☐	☐	☐	☐	☐
Frequentemente eu me questiono sobre "o que aconteceria se eu fizesse mal o meu trabalho?"	☐	☐	☐	☐	☐	☐	☐
A possibilidade de ter uma má avaliação de desempenho me preocupa.	☐	☐	☐	☐	☐	☐	☐
O que me motiva no trabalho é o medo de ter um mau desempenho.	☐	☐	☐	☐	☐	☐	☐
Eu apenas quero evitar ter um mau desempenho neste trabalho.	☐	☐	☐	☐	☐	☐	☐

	1	2	3	4	5	6	7
Receio fazer perguntas "bobas" ao meu superior por ele(a) poder achar que sou pouco inteligente.	☐	☐	☐	☐	☐	☐	☐
Eu preferiria que as pessoas neste trabalho não fossem avaliadas.	☐	☐	☐	☐	☐	☐	☐

Seção C: Foco Regulatório

C1. Conforme as frases a seguir, indique o número apropriado na escala (1 = Discordo totalmente e 9 = Concordo totalmente):

	1	2	3	4	5	6	7	8	9
Penso frequentemente sobre como atingirei meus objetivos e aspirações.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muitas vezes, penso sobre a pessoa que eu gostaria de ser no futuro.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Normalmente me concentro no sucesso que eu espero conquistar no futuro.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muitas vezes, penso sobre como atingirei o sucesso profissional.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Meu principal objetivo na empresa agora é alcançar minha ambição profissional.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Eu me vejo como alguém que está se esforçando para alcançar o seu "eu ideal", a fim de realizar seus desejos e aspirações.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Em geral, eu me concentro em atingir resultados positivos na minha vida.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muitas vezes, eu me imagino experimentando coisas boas que espero que aconteçam comigo.	☐	☐	☐	☐	☐	☐	☐	☐	☐
No geral, estou mais orientado para alcançar o sucesso do que para evitar falhas.	☐	☐	☐	☐	☐	☐	☐	☐	☐
No geral, estou concentrado em prevenir eventos negativos na minha vida.	☐	☐	☐	☐	☐	☐	☐	☐	☐

	1	2	3	4	5	6	7	8	9
Estou ansioso por poder ficar abaixo das minhas responsabilidades e obrigações.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muitas vezes, penso sobre a pessoa que eu tenho medo de me tornar no futuro.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Muitas vezes, eu me preocupo em não conseguir realizar meus objetivos profissionais.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Costumo me imaginar experimentando coisas ruins que temo que possam acontecer comigo.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Penso frequentemente sobre como eu posso prevenir falhas na minha vida.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Estou mais orientado em relação a prevenir perdas do que a obter ganhos.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Meu principal objetivo na empresa agora é evitar me tornar um empregado fracassado.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Eu me vejo como alguém que está se esforçando para se tornar a pessoa que "deveria ser", a fim de cumprir seus deveres, responsabilidades e obrigações.	☐	☐	☐	☐	☐	☐	☐	☐	☐

Seção D: Estilos Cognitivos

D1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 5 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5
Quero ter uma compreensão total de todos os problemas.	☐	☐	☐	☐	☐
Gosto de analisar os problemas.	☐	☐	☐	☐	☐
Faço análises detalhadas.	☐	☐	☐	☐	☐
Estudo os problemas até entender a lógica que está subjacente.	☐	☐	☐	☐	☐
O desenvolvimento de um plano claro é muito importante para mim.	☐	☐	☐	☐	☐

	1	2	3	4	5
Gosto sempre de saber o que deve ser feito e quando deve ser feito.	☐	☐	☐	☐	☐
Gosto de planos de ação detalhados.	☐	☐	☐	☐	☐
Prefiro regras claras para fazer o meu trabalho.	☐	☐	☐	☐	☐
Prefiro uma reunião bem preparada, com uma agenda clara e um tempo reduzido de gestão.	☐	☐	☐	☐	☐
Estabeleço compromissos definitivos e os sigo meticulosamente.	☐	☐	☐	☐	☐
Uma boa tarefa é uma tarefa bem preparada.	☐	☐	☐	☐	☐
Gosto de contribuir para soluções inovadoras.	☐	☐	☐	☐	☐
Prefiro olhar (me orientar) para soluções criativas.	☐	☐	☐	☐	☐
Sou motivado pela inovação contínua.	☐	☐	☐	☐	☐
Gosto de muita variedade na minha vida.	☐	☐	☐	☐	☐
Novas ideias me atraem mais do que as soluções existentes.	☐	☐	☐	☐	☐
Gosto de ampliar meus horizontes.	☐	☐	☐	☐	☐
Tento evitar a rotina.	☐	☐	☐	☐	☐

Seção E: Motivação

E1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 7 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5	6	7
Tenho muita satisfação e recompensa por fazer o meu trabalho.	☐	☐	☐	☐	☐	☐	☐
O trabalho que faço é muito divertido.	☐	☐	☐	☐	☐	☐	☐
Se eu pudesse começar de novo, ainda escolheria fazer o tipo de trabalho que estou fazendo agora.	☐	☐	☐	☐	☐	☐	☐
Para mim, trabalhar é basicamente um meio para ter as coisas boas na vida.	☐	☐	☐	☐	☐	☐	☐
Essencialmente, trabalho na minha empresa pelas recompensas materiais que recebo.	☐	☐	☐	☐	☐	☐	☐
Trabalho principalmente por dinheiro e outras recompensas tangíveis.	☐	☐	☐	☐	☐	☐	☐

Seção F: Clima de Aprendizagem

F1. Conforme as afirmações a seguir, indique a frequência (1 = Nunca e 5 = Sempre):

	1	2	3	4	5
Minha organização fornece recursos educacionais atraentes.	☐	☐	☐	☐	☐
Minha organização fornece recursos suficientes para desenvolver minhas habilidades.	☐	☐	☐	☐	☐
Na minha organização, uma pessoa recebe os treinamentos de que precisa.	☐	☐	☐	☐	☐
Na minha organização, os empregados que se desenvolvem profissionalmente de maneira contínua são recompensados.	☐	☐	☐	☐	☐
Os empregados são rapidamente promovidos na minha empresa se eles se envolverem em desenvolvimento profissional contínuo.	☐	☐	☐	☐	☐
Na minha organização, os empregados que se esforçam para aprender coisas novas ganham valorização e respeito.	☐	☐	☐	☐	☐
Na minha organização, uma pessoa tem medo de admitir erros.	☐	☐	☐	☐	☐
Na minha organização, os empregados não se atrevem a discutir erros.	☐	☐	☐	☐	☐
Na minha organização, os empregados ficam ansiosos para discutir abertamente os problemas relacionados ao trabalho.	☐	☐	☐	☐	☐

Seção G: Orientações de Objetivo e Aprendizagem e Locus de Controle

G1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 7 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5	6	7
Para mim é importante desempenhar melhor do que os outros colegas.	☐	☐	☐	☐	☐	☐	☐
Meu objetivo nesta empresa é ter uma melhor avaliação do que a maioria dos colegas.	☐	☐	☐	☐	☐	☐	☐
Estou me esforçando para mostrar minhas habilidades em relação aos outros nesta empresa.	☐	☐	☐	☐	☐	☐	☐
Sou motivado pelo pensamento de superar meus colegas nesta empresa.	☐	☐	☐	☐	☐	☐	☐
Para mim é importante se sair bem em comparação com os outros nesta empresa.	☐	☐	☐	☐	☐	☐	☐
Quero me sair bem nesta empresa para mostrar minhas habilidades à família, aos amigos e aos outros.	☐	☐	☐	☐	☐	☐	☐
Quero aprender o máximo possível sobre este trabalho.	☐	☐	☐	☐	☐	☐	☐
Para mim é importante aprender com cada experiência de atendimento a clientes.	☐	☐	☐	☐	☐	☐	☐

	1	2	3	4	5	6	7
Para mim é importante aprender a servir melhor os clientes.	☐	☐	☐	☐	☐	☐	☐
Espero dominar as competências que são necessárias para fazer bem este trabalho.	☐	☐	☐	☐	☐	☐	☐
Neste trabalho, prefiro tarefas que suscitem a minha curiosidade, mesmo que sejam difíceis de executar.	☐	☐	☐	☐	☐	☐	☐
Neste trabalho, prefiro tarefas que me desafiem de forma a poder aprender coisas novas.	☐	☐	☐	☐	☐	☐	☐
Sinto que o que acontece na minha vida é principalmente determinado por pessoas com poder.	☐	☐	☐	☐	☐	☐	☐
Pessoas como eu têm poucas chances de proteger interesses pessoais quando esses entram em conflito com os interesses de fortes grupos de pressão.	☐	☐	☐	☐	☐	☐	☐
Minha vida é principalmente determinada por outras pessoas que são poderosas.	☐	☐	☐	☐	☐	☐	☐
Ter o que quero exige agradar pessoas que estão acima de mim.	☐	☐	☐	☐	☐	☐	☐
Embora eu possa ter as competências necessárias, uma responsabilidade de liderança não será a mim confiada sem que eu peça para aqueles que estão em posições de poder.	☐	☐	☐	☐	☐	☐	☐
Se pessoas importantes decidirem que não gostam de mim, provavelmente não farei muitos amigos.	☐	☐	☐	☐	☐	☐	☐
Para que meus planos funcionem, me certifico de que eles se encaixam nos desejos das pessoas que têm poder sobre mim.	☐	☐	☐	☐	☐	☐	☐
Eu ter um acidente de automóvel depende essencialmente de outro condutor.	☐	☐	☐	☐	☐	☐	☐

Seção H: Aprendizagem Organizacional

H1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 7 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5	6	7
Existem procedimentos na empresa para receber propostas/sugestões de seus empregados, coletá-las e distribuí-las internamente.	☐	☐	☐	☐	☐	☐	☐
As reuniões são realizadas periodicamente, nas quais todos os empregados são informados sobre quaisquer novos desenvolvimentos na empresa.	☐	☐	☐	☐	☐	☐	☐

	1	2	3	4	5	6	7
A empresa produz um relatório periodicamente, no qual todos os empregados são informados sobre o progresso da empresa.	☐	☐	☐	☐	☐	☐	☐
O sistema de gestão de recursos humanos motiva seu pessoal a compartilhar conhecimento por meio de sua política de recompensas.	☐	☐	☐	☐	☐	☐	☐
Os procedimentos e processos da organização são estabelecidos em um manual, folheto de normas ou algo similar.	☐	☐	☐	☐	☐	☐	☐
A empresa possui uma base de dados, o que permite que experiências e conhecimentos sejam armazenados e usados posteriormente.	☐	☐	☐	☐	☐	☐	☐
As sugestões dos próprios empregados da empresa são frequentemente incorporadas aos seus processos, produtos ou serviços.	☐	☐	☐	☐	☐	☐	☐
Parcerias e redes de contato são estabelecidas pela organização com outras empresas para incentivar a aprendizagem.	☐	☐	☐	☐	☐	☐	☐
Acordos são feitos pela organização com universidades ou com outros centros tecnológicos ou de pesquisa para incentivar a aprendizagem.	☐	☐	☐	☐	☐	☐	☐
Os arquivos e bancos de dados da empresa fornecem aos seus empregados as informações necessárias para que façam seu trabalho efetivamente.	☐	☐	☐	☐	☐	☐	☐
Os sistemas de informação permitem que as pessoas compartilhem informações.	☐	☐	☐	☐	☐	☐	☐
A empresa possui mecanismos formais que permitem que boas práticas sejam compartilhadas por departamentos diferentes.	☐	☐	☐	☐	☐	☐	☐

Seção I: Estratégias de Aprendizagem Informal no Trabalho

I1. Conforme as afirmações a seguir, indique a frequência (1 = Nunca e 5 = Sempre):

	1	2	3	4	5
Faço meu trabalho sem, de fato, questioná-lo.	☐	☐	☐	☐	☐
Faço as coisas no trabalho sem realmente saber por que elas são necessárias.	☐	☐	☐	☐	☐
Muitas vezes, percebo que estou no "piloto automático" neste trabalho.	☐	☐	☐	☐	☐
Faço o meu trabalho sem pensar demais sobre isso.	☐	☐	☐	☐	☐
Muitas vezes, penso sobre como meu trabalho se encaixa nas demais atividades da empresa.	☐	☐	☐	☐	☐

	1	2	3	4	5
Tento pensar sobre como as diferentes partes da empresa se encaixam.	☐	☐	☐	☐	☐
Tento pensar sobre como meu trabalho se relaciona com o dos outros.	☐	☐	☐	☐	☐
Tento desenvolver uma ideia geral de como os diferentes aspectos do meu trabalho se encaixam.	☐	☐	☐	☐	☐
Elaboro quais são os pontos-chave do meu trabalho e quais são os menos importantes.	☐	☐	☐	☐	☐
Em geral, tento entender como novas informações se enquadram em como faço meu trabalho.	☐	☐	☐	☐	☐
Penso sobre novas informações e suas implicações para o trabalho, em vez de me concentrar meramente nos fatos apresentados.	☐	☐	☐	☐	☐
Para entender melhor o trabalho, penso sobre como ele faz sentido em termos daquilo que eu já conheço.	☐	☐	☐	☐	☐
Faço perguntas quando estou incerto sobre alguma coisa.	☐	☐	☐	☐	☐
Procuro alguém para me ajudar quando preciso de assistência.	☐	☐	☐	☐	☐
Peço aos outros mais informações quando preciso.	☐	☐	☐	☐	☐
Quando não tenho certeza sobre alguma coisa, procuro pela informação.	☐	☐	☐	☐	☐
Tento entender melhor alguma coisa localizando e estudando um documento importante.	☐	☐	☐	☐	☐
Preencho as lacunas do meu conhecimento por meio da obtenção do material correto.	☐	☐	☐	☐	☐
Em vez de passar o tempo lendo ou pedindo um conselho para alguém, tento entender melhor alguma coisa por meio de aplicação prática.	☐	☐	☐	☐	☐
Tento coisas novas aplicando-as na prática.	☐	☐	☐	☐	☐
Faço coisas práticas que me ajudam a aprender.	☐	☐	☐	☐	☐

Seção J: Competências Gerenciais

J1. De acordo com as frases a seguir, como você classificaria o seu desempenho no trabalho (1 = Desempenho claramente não atinge o padrão aceitável e 5 = Desempenho excepcional e excede o padrão aceitável)? Alguém que:

	1	2	3	4	5
Busca todas as informações relevantes possíveis para a tarefa de forma sistemática. Consegue informações relevantes de outras pessoas.	☐	☐	☐	☐	☐
Identifica problemas e, depois, os transforma. Relaciona dados de diferentes fontes e identifica possíveis causas.	☐	☐	☐	☐	☐

	1	2	3	4	5
Assimila informações numéricas e estatísticas com precisão e faz interpretações sensatas.	☐	☐	☐	☐	☐
Desenvolve cursos alternativos de ação e toma decisões com base em hipóteses lógicas que refletem informações factuais.	☐	☐	☐	☐	☐
Gera e reconhece soluções imaginativas e inovações em situações de trabalho que são sólidas e práticas, e não óbvias para colegas menos perceptivos.	☐	☐	☐	☐	☐
Toma ou inicia uma ação que envolve um risco significativo para alcançar um benefício ou vantagem reconhecida. Procura novas experiências e situações em vez da segurança oferecida por soluções estabelecidas ou familiares.	☐	☐	☐	☐	☐
Mostra disposição para tomar decisões, julgamentos, agir ou se comprometer, mesmo que a informação esteja incompleta e/ou seja de validade duvidosa.	☐	☐	☐	☐	☐
Identifica as oportunidades que aumentarão as vendas ou lucros da organização; seleciona e explora as atividades que resultarão em maiores retornos.	☐	☐	☐	☐	☐
Coloca-se acima do problema ou situação imediata e enxerga os assuntos e as implicações de forma mais abrangente; relaciona fatos e problemas a um contexto extremamente amplo através da capacidade de perceber todas as relações possíveis.	☐	☐	☐	☐	☐
Aplica o conhecimento sobre situações de mudança e pressões internas para identificar potenciais problemas e oportunidades organizacionais. Está ciente do impacto e das implicações das próprias decisões em outras partes da organização.	☐	☐	☐	☐	☐
Aplica o conhecimento das pressões de mudança da sociedade e do governo para identificar potenciais problemas e oportunidades. Está ciente do impacto e das implicações das decisões que são relevantes para os fatores sociais e governamentais.	☐	☐	☐	☐	☐
Mostra, por meio do uso de informações escritas, que o conhecimento foi efetivamente assimilado e retido.	☐	☐	☐	☐	☐
O trabalho escrito é facilmente inteligível; os pontos e as ideias são transmitidos de forma clara e concisa ao leitor.	☐	☐	☐	☐	☐
Ouve de maneira neutra, ou seja, não é seletivo em relação ao que ouve; transmite claramente a impressão de que os pontos-chave foram lembrados e levados em consideração.	☐	☐	☐	☐	☐
É fluente, fala claramente, de maneira audível, e tem boa dicção.	☐	☐	☐	☐	☐
Em apresentações formais, é conciso e direto ao ponto; não usa jargão sem explicação; ajusta o conteúdo ao entendimento do público. É entusiasmado e animado ao falar.	☐	☐	☐	☐	☐
Estabelece cursos de ação para si mesmo e para outras pessoas para alocações adequadas de pessoal e de recursos. Estabelece prioridades, visualiza todas as mudanças possíveis que são necessárias para atender aos requisitos futuros.	☐	☐	☐	☐	☐
Coordena efetivamente as atividades de seus empregados e colegas para alcançar objetivos comuns. Organiza todos os recursos de forma eficiente e eficaz.	☐	☐	☐	☐	☐

	1	2	3	4	5
Delega a tomada de decisões e outras responsabilidades para o subordinado apropriado. Distingue de maneira satisfatória entre o que deve ser feito pelos outros e aquilo que deve fazer ele próprio.	☐	☐	☐	☐	☐
Monitora e avalia eficazmente os resultados das atribuições ou projetos que foram delegados. Fornece feedback adequado.	☐	☐	☐	☐	☐
Desenvolve habilidades e competências dos subordinados por meio de treinamentos e atividades de desenvolvimento relacionados a trabalhos atuais e futuros.	☐	☐	☐	☐	☐
Faz uso efetivo do próprio tempo e de outros recursos. Organiza a documentação de forma eficiente e ordenada, adota procedimentos eficazes de arquivamento e recuperação.	☐	☐	☐	☐	☐
Deixa uma forte e positiva impressão na primeira reunião. Tem autoridade e credibilidade, estabelece relacionamento com colegas e clientes rapidamente.	☐	☐	☐	☐	☐
Influencia e persuade outras pessoas a darem o seu acordo e compromisso com uma decisão ou curso de ação que elas inicialmente se opuseram.	☐	☐	☐	☐	☐
O comportamento indica uma consideração pelos sentimentos e necessidades de outras pessoas.	☐	☐	☐	☐	☐
Adota um estilo flexível (mas não concordante) ao interagir com outras pessoas. Leva em consideração as opiniões delas e muda de posição quando apropriado.	☐	☐	☐	☐	☐
É dominante e assertivo. É forte quando lida com outras pessoas. Toma a responsabilidade de uma situação e comanda o respeito das outras pessoas.	☐	☐	☐	☐	☐
Inspira outras pessoas a alcançar metas, mostrando uma ideia clara do que precisa ser alcançado, demonstrando comprometimento e entusiasmo.	☐	☐	☐	☐	☐
Quando enfrenta oposição ou conflito, usa influência pessoal para comunicar propostas, identificar bases de compromisso e, eventualmente, chegar a um acordo com outras pessoas.	☐	☐	☐	☐	☐
Adota estilos e métodos interpessoais adequados para orientar um grupo de indivíduos para a realização de uma tarefa. Promove a cooperação e o trabalho efetivo da equipe.	☐	☐	☐	☐	☐
Mostra energia e vitalidade. Mantém um nível elevado de atividade. É muito trabalhador. Trabalha rapidamente todos os dias, de modo que não deixa acumular trabalho.	☐	☐	☐	☐	☐
Define altas metas ou padrões de desempenho para si mesmo e para os outros, e fica insatisfeito com o desempenho médio.	☐	☐	☐	☐	☐
Tenta ativamente influenciar o que acontece para alcançar objetivos; é uma pessoa que toma a iniciativa em vez de se limitar a aceitar ordens. Toma medidas para alcançar metas além daquelas estabelecidas e dá origem a novas iniciativas.	☐	☐	☐	☐	☐
Mostra estabilidade de desempenho sob pressão e quando enfrenta oposição. Não parece ficar irritado, ansioso ou perder a compostura.	☐	☐	☐	☐	☐
Mantém a eficácia em situações e ambientes muito diferentes, com várias tarefas, responsabilidades ou pessoas. Adapta o comportamento rapidamente aos requisitos de uma nova situação.	☐	☐	☐	☐	☐

	1	2	3	4	5
Toma ação em que a influência dominante são suas próprias convicções, e não a influência das opiniões de outras pessoas.	☐	☐	☐	☐	☐
Adere às normas sociais, éticas e organizacionais prevalecentes no trabalho.	☐	☐	☐	☐	☐
Lida com o desapontamento e a rejeição mantendo a eficácia. Não reage negativamente a insultos ou a observações injustas.	☐	☐	☐	☐	☐
Permanece com uma posição ou plano de ação até que o objetivo desejado seja alcançado ou não seja mais razoável, independentemente dos contratempos e obstáculos encontrados.	☐	☐	☐	☐	☐
Trabalha com precisão e com informações factuais altamente detalhadas. É metódico e garante que os detalhes não sejam ignorados.	☐	☐	☐	☐	☐

Seção K: Criatividade

K1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 7 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5	6	7
Faço apresentações de vendas de maneiras inovadoras.	☐	☐	☐	☐	☐	☐	☐
Realizo tarefas de vendas de formas que são engenhosas.	☐	☐	☐	☐	☐	☐	☐
Tenho novas ideias para satisfazer as necessidades dos clientes.	☐	☐	☐	☐	☐	☐	☐
Crio e avalio múltiplas alternativas para novos problemas dos clientes.	☐	☐	☐	☐	☐	☐	☐
Tenho novas perspectivas para problemas antigos.	☐	☐	☐	☐	☐	☐	☐
Melhoro métodos para resolver um problema quando uma resposta não é aparente.	☐	☐	☐	☐	☐	☐	☐
Crio ideias criativas de vendas.	☐	☐	☐	☐	☐	☐	☐

Seção L: Common Method Variance

L1. Indique o quanto você concorda ou discorda (1 = Discordo totalmente e 5 = Concordo totalmente) em relação às seguintes afirmações:

	1	2	3	4	5
Comprar produtos/serviços pela Internet é simples.	☐	☐	☐	☐	☐
Comprar produtos/serviços pela Internet requer pouco esforço mental.	☐	☐	☐	☐	☐
É fácil comprar produtos/serviços pela Internet.	☐	☐	☐	☐	☐

As informações coletadas serão analisadas em conjunto com a de outros participantes e será garantido sigilo absoluto sobre as questões respondidas, sendo resguardado o nome dos participantes, assim como a identificação do local da coleta de dados.

Muito obrigado pela participação!