

**SATISFACTION IN TERMS OF AUTONOMY, COMPETENCE AND
RELATEDNESS, AND ITS IMPORTANCE IN PROMOTING JOB
MOTIVATION IN THE PORTUGUESE CULTURE**

Diogo Patricio Varandas da Costa

A Dissertation presented in partial fulfillment of the Requirements for the degree of
Master in Social and Organizational Psychology

Supervisor:

Professor Sven Waldzus, Principal Investigator, Assistant Professor
ISCTE – Lisbon University Institute

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Resumo

A Teoria de Auto-Determinação (Self-Determination Theory) defende que autonomia, competência e relatedness (necessidade de relacionamento) são necessidades universais que, uma vez satisfeitas, promovem tipos de motivação mais auto-determinados e comportamentos intrinsecamente mais motivados e que produzem efeitos positivos no bem-estar. Contrastantes com esta ideia, investigadores interculturais argumentam que a satisfação da autonomia e da necessidade de relatedness não é compatível. Para indivíduos oriundos de culturas colectivistas, a procura de autonomia entraria em conflito com o desenvolvimento de relações gratificantes e agradáveis. O presente estudo explorou em que medida o papel das três necessidades seria importante na estimulação de tipos de motivação auto-determinados, em contexto laboral, na cultura Portuguesa. Hipotetizou-se que a necessidade estabelecer relacionamentos agradáveis e gratificantes teria maior impacto na promoção de tipos de motivação auto-determinados, que as necessidades de autonomia e competência. Congruente com a Teoria de Auto-Determinação, também se hipotetizou que uma interacção entre a satisfação de autonomia e a satisfação de relatedness produziria resultados significativos na promoção de tipos de motivação auto-determinados no contexto de trabalho. Ambas as hipóteses foram rejeitadas pelos resultados obtidos. Em vez disso, os resultados mostraram que, mesmo na cultura colectiva de Portugal, autonomia e competência são as necessidades mais importantes na promoção de motivação auto-determinada num contexto laboral, reforçando parcialmente as afirmações da teoria em estudo.

Palavras-Chave: Auto-determinação, Motivação, Autonomia, Competência, Relatedness

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3000 Social Psychology

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Abstract

Self-Determination Theory (SDT) argues that autonomy, competence and relatedness are three universally critical needs that, once satisfied, will promote self-determined types of motivation and more intrinsically motivated behaviours that yield positive effects on well-being. In contrast, researchers on cross-cultural differences argue that the pursuit of autonomy and relatedness in collectivist cultures is not compatible. For individuals living in collectivist cultures valuing social bonding, striving for autonomy would be in conflict with the development of meaningful and satisfying relationships. The present study explored the role of the three needs in fostering self-determined types of job motivation in the Portuguese culture. We hypothesized that relatedness would have a stronger impact than autonomy and competence, in promoting self-determined types of motivation at the work place. Consistent with SDT, we also hypothesized that an interaction between autonomy and relatedness would have significant results in enhancing self-determined types of job motivation. Both of our hypothesis were not supported by the data. Instead, the results show that, even in the Portuguese collectivist culture, autonomy and competence are the most significant basic needs predicting self-determined types of job motivation, only partially supporting SDT's claims.

Keywords: Self-Determination, Motivation, Autonomy, Relatedness, Competence

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“Enter every activity without giving mental recognition to the possibility of defeat. Concentrate on your strengths, instead of your weaknesses...on your powers, instead of your problems.”

PAUL J. MEYER

1. Introduction

In a world of competitive business, wealth creation is the key to success. Most organizational cultures have a single-minded focus on winning. To achieve the desired results, many organizations disregard means, processes and their own members. “Conflict, law suits, contract breaking, retribution, and disrespect characterize many interactions and social relationships in the organizational context” (Cameron, Dutton & Quinn, 2003, pp.3). Theories of problem solving, managing uncertainty, achieving profitability and competing against others are commonly emphasized by researchers investigating these organizations (Cameron, Dutton & Quinn, 2003). Few organizations give emphasis to human well-being, positive feedback, appreciation, collaboration, vitality or meaningfulness. Whether people are happy or not, is a pertinent concern but not a central one. Of course, a focus on competition and profitability is crucial in understanding organizational survival and success. However, the study of especially positive outcomes, processes, attributes of organizations and their members is equally important. Positive Organizational Scholarship (POS) is an expanded perspective that puts an increased emphasis on ideas of positive human potential. Its focus is on dynamics that promote positive events and behaviours. POS is distinguished from traditional organizational research because it seeks to understand what is and foster the best of the human nature. It is a perspective of Positive Psychology, with specific hub on the organizational contexts. This does not mean that traditional studies can be accused of focusing on “negative” or undesirable states, but positive events usually receive less attention. The interest of POS is in exceptional, virtuous, life-giving, and flourishing phenomena. It encompasses attention to the enablers (e.g., processes, capabilities, structure, methods), the motivations (e.g., unselfishness, altruism, contribution without regard to self), and the outcomes or effects (e.g., vitality, meaningfulness, exhilaration, high-quality relationships) associated with positive phenomena (Cameron, Dutton & Quinn, 2003,).

In this study, we will focus our attention on job motivation. More specifically, we will investigate what psychological factors stimulate self-determined types of motivation, in the Portuguese culture, by exploring a motivation theory encompassed by this positive phenomena.

1.1. Self-Determination Theory

Self-Determination Theory's (SDT; Deci and Ryan, 2000; Ryan & Deci, 2003) is a motivation theory that has focused on the social-contextual conditions that facilitate versus

hinder the natural processes of self-motivation and healthy psychological developments (Ryan & Deci, 2000). Like other theories of motivation such as Maslow's hierarchy of needs or McClelland's theory of needs, SDT emphasizes the motivating potential in the satisfaction of needs. The theory argues that all individuals, regardless of their culture, are endowed with a set of basic organismic psychological needs. The fulfilment of those needs promotes optimal functioning and more intrinsically motivated behaviours. Deci and Ryan (1980, 1991, 2000) proposed three basic needs; autonomy, competence, and relatedness.

The need for autonomy is a central point in SDT. The work of deCharms (1968) on internal and external perceived loci of control was part of the original thinking about the need for autonomy, and it might be taken to mean that individuals need to engage in autonomous self-regulatory activities to a sufficient extent or well-being will suffer (Pittman & Zeigler, 2007).

The need for competence, in the tradition of White's (1959) analysis of effectance motivation, refers to a need for effective interaction with the environment.

The need for relatedness has not received as much empirical attention by SDT research, perhaps because it's a more recent addition to SDT. It refers to the need for belongingness, social bonding, attachment, meaningful relationships. The need for relatedness has been studied through its role as a source of support for autonomy and competence (e.g., Ryan & Grolnick, 1986; Ryan, Stiller & Lynch, 1994), and is seen in SDT as an important influence on the ability to engage in the pursuit of autonomy and competence (Ryan & LaGuardia, 2000), considering the importance of the nature of relationships between individuals and socializing agents.

Another important aspect of SDT as well as other need theories is the theoretical assumption on how the different needs are structurally related to each other. For instance, in Maslow's hierarchy of needs, commonly portrayed in a familiar pyramidal figure composed by five levels representing five types of needs, the basic structural assumption is that some needs take the primacy over others, and those more basic to existence must be satisfied before others will be addressed (Maslow, 1943). Once the most basic needs are satisfied we can go up the pyramid and strive for the higher needs. It is a hierarchical structure. Another kind of theoretical structure is root need structure, in which a single need is identified as the most important one. This root need is either more important than the others, one to which the others are closely related to or the one which the others are derived from (Pittman & Zeigler, 2007). Steven's and Fiske's (1995) Core Social Motives Theory is an example of such a root

need approach, where belonging is the root need, the essential core social motive, and the other four needs (understanding, controlling, enhancing self, and trusting) are all said to be in service to, facilitating, or making possible effective functioning in social groups. Another type of need structure is the check and balance structure. The Cognitive-Experiential Self-Theory (CEST; Epstein, 1992, 1993, 1994; Epstein & Pacini, 1999) is a representation of such structure. Epstein proposes that people process information via two fundamentally different (although related) systems, rational and experiential, the latter affected mostly by emotions, relying on intuition and heuristic cues, and the rational assumed as wholly conscious and affect-free, driven instead by analytical thinking and socially mediated knowledge. These two systems function in a check and balance mechanism, serving to moderate the strengths of the needs (to maximize pleasure and minimize pain; to maintain stable, coherent conceptual system for organizing experience; to maintain relatedness to others; to maintain a positive sense of self-esteem) and keep the behaviour within the adaptive limits, not allowing it to be dominated by one need in particular (Pittman & Zeigler, 2007).

In contrast, SDT is regarded as an independent list structure. Although it is clearly stated that all three needs must be satisfied, the theory does not specify any structural organization among the needs. There is no hierarchical structure, no root need that is said to be more basic or more important than the others, no system checks and balances. All three needs must be satisfied for optimal performance according to the theory, but each need has its independent set of requirements. Deci and Ryan (2000) also provided a very clear elaboration of how they use the “need” concept:

Human needs specify the necessary conditions for psychological health or well-being and their satisfaction is hypothesized to be associated with the most effective functioning” and that “we assert that there are not instances of optimal, healthy development in which a need for autonomy, relatedness, or competence was neglected, whether or not the individual consciously valued those needs. In short, psychological health requires satisfaction of all three needs; one or two are not enough. (pp.229)

As a motivation theory, SDT also bears its authenticity. As was previously said, SDT is an approach on human motivation and personality that uses traditional empirical methods while

employing an organismic metatheory that highlights the importance of humans' evolved inner resources for personality development and behavioural self-regulation (Ryan, Kuhl & Deci, 1997; *cit. in* Ryan & Deci, 2000). Above all, SDT is an intrinsic motivation theory. However, given the idiosyncratic nature of SDT, it is better that we start with an explanation of the nature of motivation, according to the authors.

Motivation is an old and central issue in the field of psychology, as it is at the core of biological, cognitive and social regulation, and because of its consequences on the human behaviour. It is a permanent concern to those in roles that imply guidance, leadership, management, coaching, educating and others. Although often treated as a singular construct, one must assume that people are moved to act by very different types of factors, with highly varied experiences and consequences. For instance, people can be motivated because they enjoy an activity or because there are external pressures. They can be compelled to action by an abiding interest or by a reward. They can act out of personal commitment to exceed or out of from fear of being surveilled (Ryan & Deci, 2000).-According to SDT, it is possible to distinguish a contrast between internal motivations and external pressures. The issue of whether people stand behind a behaviour out of their interests and values, or do it for reasons external to the self, is a matter of significance in every culture (e.g., Johnson, 1993) and represents a basic dimension by which people make sense of their own and other's behaviours (deCharms, 1968; Heider, 1958; Rand & Connell, 1989; *cit in* Ryan & Deci, 2000). Comparisons between people whose motivation is self-determined¹ (literally, self-authored or endorsed) and those who are merely externally motivated for an action typically reveal that those whose motivation is self-determined, have more interest, excitement, and confidence, which in turn is manifested as enhanced performance, persistence and creativity (Deci & Ryan, 1991; Sheldon, Ryan, Rwansthorpe & Ilardi, 1997), and as heightened vitality (Nix, Ryan, Manly & Deci, 1999), self-esteem (Deci & Ryan, 1995) and general well-being (Ryan, Deci & Grolnick, 1995). Because of the differences between self-determined and external regulation, a major focus of SDT has been to supply a more differentiated approach to motivation, exploring what kind of motivation is being exhibited at any given time. Whereas the satisfaction of the three needs is associated with greater internal motivation and well-being, if these needs are not satisfied people's motivation will have a propensity to

¹ Some author also refer to self-determined types of motivation as internal, authentic, autonomous. For the sake of the readers' understanding, we will only use the term "self-determined" in this thesis.

become more external (oriented towards rewards and punishment) and their well-being diminishes (e.g., La Guardia, Ryan, Couchman & Deci, 2000; Lynch, Plant & Ryan, 2005). By understanding what forces compel a person to act, SDT has identified several types of motivation, each with particular consequences for learning, performance, personal experience, and well-being.

1.1.1. Intrinsic Motivation

The fullest representations of humanity, according to SDT, show people to be curious, vital, and self-motivated. At their best, they are agentic and inspired, striving to learn; extend themselves; master new skills; and apply their talents with responsibility (Ryan & Deci, 2000). Regardless of the fact that the human spirit can easily be diminished or broken and that some individuals deny growth, self-improvement and responsibility, it seems to be more normative than exceptional that most people show considerable effort, agency, and commitment in their lives, which suggest some very positive and persistent features of human nature. For instance, developmentalists acknowledge that from the time of birth, humans are active, curious, and playful, even in the absence of specific rewards (e.g., Harter, 1978; *cit in* Haidt, 2006). Perhaps no single phenomenon reflects the positive potential of the human nature as much as intrinsic motivation. The construct of intrinsic motivation describes this natural proclivity toward integration, mastery, spontaneous interest, and exploration that is crucial to cognitive and social development and that represents a principal source of pleasure and vivacity during life time (Csikszentmihalyi & Rathunde, 1993; Ryan, 1995). To be intrinsically motivated to act is, ultimately, a state of mind. Csikszentmihalyi (1990) describes the mental state in which we find ourselves when absorbed in an intrinsic experience as “flow”. The concept of flow is described as a state in which people are so focused on an activity that nothing else seems to matter. The pleasure felt during the experience is so great that people will commit to it, simply for reason of doing it, no matter the costs (Csikszentmihalyi, 1990). As Csikszentmihalyi states, flow is the way people describe their state of mind when their consciousness is harmoniously organized and people wish to continue what they are doing for the task itself” (1990, pp.6). The concept of flow and its research focus on what constitutes the good life. The experience of flow is one of the answers to that question. Viewed through the experimental lens of flow, a good life is one that is characterized by complete absorption in what one does (Nakamura & Csikszentmihalyi, 2005). Naturally, this sort of absorption with an experience is only

achieved when someone is, if not totally at least partially, intrinsically motivated to act. Nevertheless, even though we accept intrinsic motivational tendencies as inherent to the human nature, it is clear that maintenance and enhancement of this propensity requires supportive conditions, as it can fairly readily be disrupted by various nonsupportive conditions. As such, SDT is not concerned with what causes intrinsic motivation; it examines the conditions that bring out and protract, versus suppress and reduce this inherent proclivity (Deci & Ryan, 2000). A subtheory within SDT was developed to explain the variability in intrinsic motivation.

The Cognitive Evaluation Theory (CET) is “framed in terms of social and environmental factors that facilitate versus undermine intrinsic motivation, using language that reflects the assumption that intrinsic motivation, being inherent, will be catalyzed when individuals are in conditions that conduce towards its expression” (Ryan & Deci, 2000, pp. 70). In other words, it will thrive if circumstances allow it.

CET focuses on the fundamental needs for competence and autonomy and was formulated to integrate results from initial laboratory experiments on the effects of rewards, feedback, and other external events on intrinsic motivation, and was tested and extended by field studies in various settings (Ryan & Deci, 2000). The theory argues that social context events (e.g., feedback, communications, rewards) that conduce toward feelings of competence during action can enhance intrinsic motivation for that action. Optimal challenges, effectance-promoting feedback, and freedom from demeaning evaluations were all found to facilitate intrinsic motivation, whereas negative performance feedback diminishes it (Deci, 1975). Moreover, research by Vallerand and Reid (1984) showed that these effects are mediated by perceived competence. CET further specifies, and studies have shown it (Fisher, 1978; Ryan, 1982), that feelings of competence will not enhance intrinsic motivation unless sense of autonomy is also present, or at least, some sense of internal perceived locus of causality (deCharms, 1968). Therefore, people need not only to experience competence or efficacy, but they must also experience behaviour as self-determined for intrinsic motivation to be in evidence. The idea that autonomy drives one’s motivation to act is not actually new, though unusual in motivation theories. The Job Characteristics Model (Hackman & Oldman, 1980) already considered autonomy as an important factor to achieve high motivation at work. The model states that there are five core job characteristics that promote motivation (skill variety, task identity, task significance, autonomy and feedback). The model argues that, besides the other four characteristics, it is important that a job offer some degree of

substantial freedom, independence and free will to the individual, in planning its work and determining what procedures to use. In SDT, autonomy concerns the need to feel oneself able to make personally meaningful choices, to take initiative, and to pursue personally held goals and ideals. It does not refer to being independent, selfish or detached, but rather to a feeling of volition and self endorsed engagement of behaviour (Vansteenkiste, Lens, Soenens & Luyckx, 2006) that can accompany any act whether dependent or independent, individualistic or collectivistic (Decy & Ryan, 2000). Moreover, other studies also show that when people feel they are rolling fast enough towards achieving their goals or when they have a sense of optimism regarding their goals, health benefits accrue (Scheier, Weintraub & Carver, 1986).

The need for competence is more widely acknowledged than the need for autonomy. White (1963) argued that the need for competence is a basic organismic propensity, underlying self-esteem and self-confidence. Bandura's Self-Efficacy Theory (1977) showed that self-efficacy, the feeling that one can bring out desired outcomes, is an important determinant of psychological health. Moreover, other studies also show that when people feel they are rolling fast enough towards achieving their goals or when they have a sense of optimism regarding their goals, health benefits accrue (Scheier, Weintraub & Carver, 1986).

Most research on the effects of environmental conditions on intrinsic motivation has focused on the issue of autonomy versus control, rather than that of competence, though research on this issue has been a bit more controversial. It began with repeated demonstrations that extrinsic rewards undermine intrinsic motivation. Deci (1975) interpreted these results in terms of reward facilitating a more external perceived locus of causality (i.e., diminished autonomy). A later meta-analysis (Deci, Koestner & Ryan, 1999) confirmed that, in spite of claims to the contrary by Eisenberger and Cameron (1996), all expected tangible rewards made contingent on task performance do reliably undermine intrinsic motivation. Moreover, research has shown that not only rewards, but threats, deadlines, directives, pressured evaluations, and imposed goals also diminish intrinsic motivation because they conduce toward an external perceived locus of causality (Deci & Ryan, 2000). Acknowledgement of feelings, and opportunities for self-direction on the other hand, were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy (Deci & Ryan, 1985).

We have only been referring to the effect autonomy and competence have on intrinsic motivation at work, but the same effects can be seen in many other domains of life. For example, studies have shown that teachers who are autonomy supportive (in contrast to

controlling) catalyze in their students greater intrinsic motivation, curiosity, and desire for challenge (e.g., Deci, Nezlek & Sheinman, 1981; Flink, Boggiano & Barrett, 1990; Ryan & Grolnick, 1986). Other studies have shown that autonomy supportive parents, relative to controlling parents, have children who are more intrinsically motivated (Grolnick, Deci & Ryan, 1997). In other domains, such as sport and music, autonomy and competence support by parents and mentors also incite more intrinsic motivation (e.g., Frederick & Ryan, 1995).

It is clear that autonomy and competence supports are highly significant for producing variability in intrinsic motivation. However, relatedness also bears its expression. While in infancy, intrinsic motivation is readily observable as exploratory behaviour and, as it is suggested by attachment theorists (e. g., Bowlby, 1979; *cit in* Ryan & Deci, 2000), it is more evident when the infant is securely attached to a parent. Studies of mothers and infants have shown that security and maternal autonomy support predict more probing behaviours in the infants (e.g., Frodi, Bridges, & Grolnick, 1985; *cit in* Ryan & Deci, 2000). SDT hypothesizes that a similar dynamic occurs in interpersonal settings over the life span, with intrinsic motivation more likely to prosper in a context where a sense of security and relatedness exist. Aderson, Manoogia and Reznick (1971) found that when children work in an interesting task to them with an adult with whom they are not comfortable with, is not sociable and fails to respond to their approaches, it lowered their intrinsic motivation to complete the task. Ryan and Grolnick (1986) observed lower intrinsic motivation in students whose teachers were perceived as cold or uncaring. Some intrinsically motivated behaviours are happily performed in isolation, suggesting that proximal relational supports may not be necessary for intrinsic motivation, but a secure relational base does seem to be important for the expression of intrinsic motivation to be in evidence (Ryan & Deci, 2000).

Summarizing, CET suggest that social environments can facilitate versus forestall intrinsic motivation by supporting versus thwarting people's innate psychological needs. Strong links between intrinsic motivation and the satisfaction of the needs for autonomy and competence have been demonstrated. Moreover, some works suggest that satisfaction of the need for relatedness may also be important for intrinsic motivation. For instance, individuals can volitionally turn to others for emotional support (Ryan, LaGuardia, Solky-Butzel, Chirkov, & Kim, 2005), they can feel supported to willingly pursue their personal commitments and interest (Soenens & Vansteenkiste, 2005), or they can stick on to social norms and request because they value doing so (Ryan, 1993; *cit in* Vansteenkiste, et al., 2006; Vansteenkiste, Zhou, Lens & Soenes, 2005; *cit in* Vansteenkiste, et al., 2006).

It is important to remember though, that people will only be intrinsically motivated for activities that already hold some intrinsic interest for them, whether it is novelty, challenge, or have aesthetic value. For activities that do not hold such appeal, the principles of CET do not apply, because the activities won't be experienced as intrinsic to begin with. In order to understand the motivation for those activities, we will need to go deeper into the nature and dynamics of extrinsic motivation.

1.1.2. The Regulation of Extrinsic Motivation

Although intrinsic motivation is an important type of motivation, it is not the only type or even the only type of self-determined motivation (Deci & Ryan, 1985). Much of what people do is not intrinsically motivated. After early childhood, the freedom to be intrinsically motivated is severely reduced by social pressures to do activities that are not interesting and to assume new responsibilities (Ryan & LaGuardia, n.d.; *cit. in* Ryan & Deci, 2000).

The real question about nonintrinsically motivated behaviours is how individuals obtain the motivation to fulfill those activities and how this motivation affects ongoing perseverance, behavioural quality, and well-being. Whenever a person tries to foster certain behaviours in others, the others' motivation can range from amotivation to active personal commitment. These different motivations reflect differing degrees to which the value and regulation of the requested behaviour have been internalized and integrated (Ryan & Deci, 2000). According to SDT, internalization refers to people assimilating values or regulations, and integration refers to a transformation of that regulation into their own. Internalization and integration "come to action" whenever we find ourselves in a setting with prescribed values and behaviours, many of which hold no interest to us, and therefore are not spontaneously adopted. (Ryan & Deci, 2000). SDT has addressed the issues of the processes through which such nonintrinsically motivated behaviours can become truly self-determined and the ways in which the social environment influences those processes.

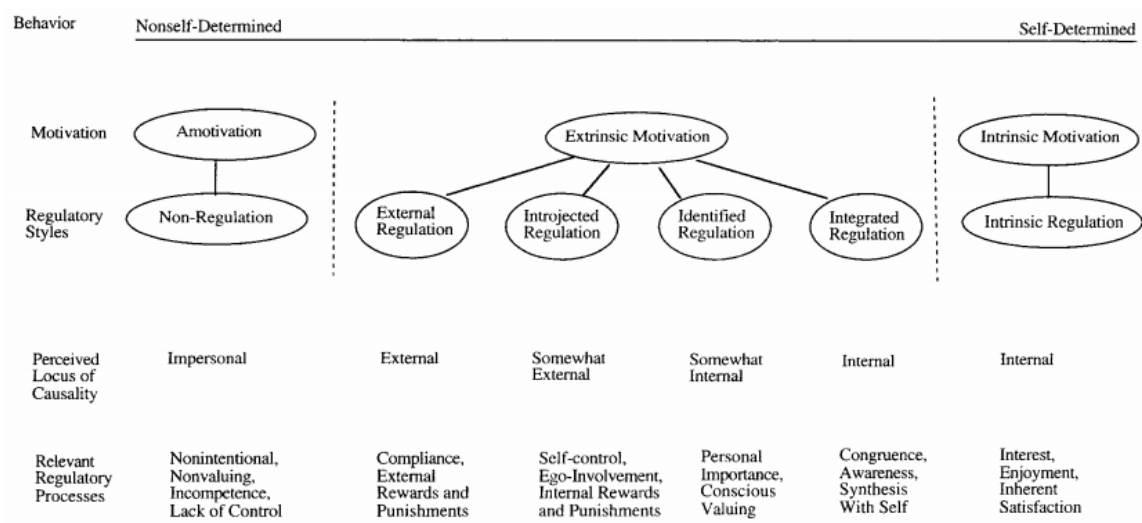
The term extrinsic motivation, according to the authors, contrasts with intrinsic motivation because it refers to the performance of an activity because of other outcomes than the satisfaction of doing the activity itself. Though some authors regard extrinsically motivated behaviours as invariably nonautonomous, SDT proposes extrinsic motivation can vary greatly in its relative autonomy (Ryan & Connell, 1989; Vallerand, 1997).

Whithin SDT, Deci and Ryan (1985) introduced a second subtheory, designated the Organismic Integration Theory (OIT), which details the different forms of extrinsic

motivation and the contextual factors that either endorse or hamper internalization or integration of the regulation for these behaviours. We present, in Figure 1, an illustration of the OIT taxonomy of motivational types, arranged from left to right, in terms of the degree to which the motivations emanate from the self.

Figure 1

The Self Determination Continuum Showing Types of Motivation with Their Regulatory Styles, Loci of Causality and Corresponding Processes (Ryan & Deci, 2000)



At the left end of the self-determination continuum, is amotivation. When amotivated, people will either not act at all or they'll do it without intent. It represents a complete absence of motivation. Amotivation results from not valuing an activity (Ryan, 1995), not feeling competent to do it (Bandura, 1986), or not expecting to yield a desired outcome (Seligman, 1975). Next to amotivation, OIT describes five distinct types of motivation. At the right end, is intrinsic motivation to which we have already referred to. It is highly autonomous and represents the prototypic instance of self-determination. Between intrinsic motivation and amotivation, are the extrinsically motivated behaviours, varying in the extent to which their regulation is self-determined.

The extrinsically motivated behaviours that are least self-determined are referred to as externally regulated. They are performed to satisfy an external demand or reward. External regulation is the type of motivation focused on by operant theorists such as Skinner (1953), and it's the one that typically contrasted with intrinsic motivation in early laboratory and field studies (Deci & Ryan, 1994). Commonly, individuals experience externally regulated

behaviours as controlled or alienated, and their actions have an external perceived locus of causality (deCharms, 1968).

The second type of extrinsic motivation is introjected regulation. Introjection involves taking in a regulation, but not fully accepting it as your own. It is a relatively controlled form of regulation in which behaviours are performed to avoid guilt or anxiety, or even to attain ego enhancements such as pride (Ryan & Deci, 2000). In other words, introjection represents regulation through dependent self-esteem (Deci & Ryan, 1995). Even though in introjected motivation the enactment of behaviours is not dependent on specific external contingencies, introjected regulation is still considered relatively controlled (rather than self-determined) because people still feel they are acting because they have to and not because they want to (e.g., Assor, Roth & Deci, 2004). In some studies, external motivation (interpersonally controlled) and introjected (intrapersonally controlled) have been combined to form a controlled motivation composite (e.g., Williams, Grow, Freedman, Ryan & Deci, 1996).

A more self-determined, form of extrinsic motivation is regulation through identification. Identification reflects a recognition of a behavioural goal or regulation as relevant and worthy, such that the action is perceived and accepted as personally important.

The most self-determined of the four types of extrinsic motivation is integrated regulation. It occurs when identified regulations have been evaluated, found to be congruent with one's personal values and needs, and fully internalized. Actions characterized by integrated motivation share a great number of similarities with intrinsic motivation, although they are still considered extrinsic because they are done to acquire separable outcomes rather than to indulge in their inherent enjoyment. In some studies, identified, integrated and intrinsic forms of regulation have been combined to form an autonomous motivation composite (Ryan & Deci, 2000).

As people internalize regulations and assimilate them to the self, they experience greater autonomy in action. This process may occur in stages over time, however, OIT authors do not claim that it implies a developmental continuum (Deci & Ryan, 1985), so that people may have to go through each stage, one by one, regarding a particular regulation. It is possible to internalize a new behavioural regulation at any point of this continuum depending on prior experiences and present situational factors (Ryan, 1995).

It is clear though, the more internalized motivations have greater association with positive outcomes. Demonstrations of positive outcomes associated with more internalized motivations have emerged in diverse domains such as education (Grolnick & Ryan, 1987;

Connell & Wellborn, 1991; Vallerand & Bissonette, 1992; Miserandino, 1996), health care (Ryan, Plant & O'Malley, 1995; Williams et al., 1996; Williams, Rodin, Ryan, Gronick & Deci, 1998; Williams, Freedman & Deci, 1998), religion (Ryan, Rigby & King, 1993), physical exercise (Chatzisarantis, Biddle & Meek, 1997), political activity (Koestner, Losier, Vallerand & Carducci, 1996), environmental activism (Green-Demer, Pelletier & Menard, 1997), and intimate relationships (Blais, Sabourin, Boucher & Vallerand, 1990), among others.

2. The present investigation

The present study sought to understand how SDT would apply work motivation within the Portuguese culture, a collectivist culture (Hofstede, 1980; Rego & Cunha, 2007). We have discussed how SDT understands the various types of motivation and how satisfaction of the three needs will help foster intrinsic motivation. However, SDT as we presented it, was developed and studied in a specific type of culture, the North-American culture. Contrary to many Eastern cultures, the United States represents a prototype of an individualistic culture (e.g., Triandis, 1995). Therefore, the importance of the needs may vary according to cultural aspects. Various relativistic cross-cultural researchers have criticized SDT's universalistic viewpoint and especially its view regarding autonomy's universal positive effects (e.g., Ford, 1992; Iyengar & DeVoe, 2003; Markus & Kitayama, 1991, 2003). These cross-cultural psychologists argue that autonomy corresponds less with Eastern cultures that embrace collectivistic (instead of individualistic) values (Triandis, 1996), and that autonomy is less relevant for individuals who hold an interdependent (instead of independent) self-concept (Markus & Kitayama, 1991). According to these cross-cultural perspectives, autonomy strivings will conflict with the development of socially harmonious and interdependent relationships in collectivistic societies (Cross & Gre, 2003). Consistent with such a claim, a variety of studies (Cialdini, Wosinka, Barrett, Bunter & Gornik-Durose, 1999; Kim & Markus, 1999) has shown that individuals from collectivistic societies are more apt to follow social patterns and expectations than to act upon their individual, exclusive preferences (e.g., Kitayama, Snibb, Markus & Suzuki, 2004) compared to individuals coming from individualistic societies.

These criticisms of SDT are, however, based on a specific definition of autonomy, and not the one proposed by STD. Within these cross-cultural perspectives, autonomy is equated with the pursuit of individualism and self-direction, the development of an independent self,

unconstrained by others' expectations. Such point of view suggests that the pursuit of autonomy and relatedness will be conflictuous. Furthermore, such an autonomy-relatedness conflict might even be more prevalent among individuals in collectivist cultures, because collectivistic person's concern of expression of individuality will oppose the cultural value of maintaining social bonds. Because of its conflict with the relatedness-striving, which is emphasized in collectivistic cultures at large, pursuing independence, individuality and autonomy would create inner tension and result in lowered adjustment and well-being (Burroughs & Rindfleisch, 2002; Sagiv & Schwartz, 2000). Therefore, individuals living in collectivistic societies might better focus on pursuing relatedness to increase their well-being and optimal functioning, because the culture at large highly values the development and maintenance of social bonds (Vansteenkiste, Lens, Soenens & Luyckx, 2006).

Portugal was characterized by Hofstede (1980) as collectivist and "anecdotal evidence shows that people continue to value tight family and organizational bonds and strong interpersonal relationships" (Rego & Cunha, 2007, pp. 21). More recent data from the GLOBE project (Jesuino, 2002; House et al. 2004) continues to classify the country as (in-group) collectivist. Moreover, Rego and Cunha, regarding the Portuguese labouring culture, also state that "the group interaction/cooperation is an important source of positive emotions, not because cooperation leads to higher productivity, but because it grants satisfaction of affiliative, social and belonging needs" (2007, pp. 30). Leaving aside for the moment the mentioned discrepancies in the use of the term autonomy we propose that it is plausible to assume, contrary to SDT's general claims, that compared to previous findings obtained in US-contexts, in the Portuguese culture the need for relatedness would have relatively higher relevance than the need for autonomy or competence as supporting condition of the feeling to be intrinsically motivated to do one's job.

To examine this possibility empirically, we test the hypothesis that relatedness would have a greater effect on intrinsic and the more self-determined types of extrinsic motivation at the work place than autonomy or even competence.

However, we do not agree with many cross-cultural studies, that autonomy will be conflictuous in a collectivist culture. We agree with some authors supportive of SDT that argue that feeling autonomous in one's relationships contributes to a sense of security in those relationships (LaGuardia, Ryan, Couchman & Deci, 2000) and that individuals who act upon their personal interests and values experience their relationships as more open, honest and satisfying (Hodge et al., 1996; *cit in* Vansteenkiste, et al., 2006), regardless of how

collectivistic the cultural context. Other researches have shown a positive correlation between autonomy and relatedness as well (Vansteenkiste, Lens, Soenens & Luyckx, 2006). It is also possible for individuals to feel autonomous when they follow a choice made by others, as long as they agree with it and accept this choice (Bao & Lam 2008). For people from collectivist cultures, it is also possible to feel motivated when acting on demands of in-group other's because they can internalize such demands. The degree of internalization moderates the effect of freedom of choice on motivation (Ryan & Deci, 2000)

Based on this reasoning, we hypothesize that autonomy would have a greater effect on the intrinsic motivation and the more self-determined types of extrinsic motivation, when relatedness satisfaction is high as compared to when relatedness satisfaction is low. Thus, a two way interaction between autonomy and relatedness would have a significant positive effect on these types of job motivation in the Portuguese cultural context.

We tested the two hypotheses in a correlational study conducted in Portugal. With a questionnaire we collected data on experienced satisfaction with autonomy, competence and relatedness at work at the one hand and participants different types of job motivation on the other hand.

3. Method

3.1. Participants

The sample used in this study was collected from many different working places in Portugal (organizations, shopping malls, book publishers) and is composed by workers from many different areas of expertise. A total of 102 people participated in this study, 69 of which were women (67,6%) and 33 were men (32,4%). The age of the participants varied from 18 to 61 years, with an average of 31,4 years. 39,2% of the sample were between 18 and 25 years old, 30,4% between 26 and 35, 17,6% between 36 and 45, 7,8% between 46 and 55, and the remaining 4,9% were between 56 and 61 years. The participants were from several parts of Portugal, though most of them were from Lisbon.

Preliminary analysis revealed that the data of one participant had to be removed as this participant deviated more than three standard deviations from the mean of the rest of the sample on the amotivation scale. Thus, all analyses were run with the data of the remaining 101 participants.

3.2. Procedure and questionnaire

The participants were asked to fill in a questionnaire composed by Portuguese versions of two scales, the Basic Need Satisfaction at Work Scale (BNSW, Baard, et al., 2004; Deci, et al., 2001; Vansteenkiste, et al., 2007), and the Work Extrinsic and Intrinsic Motivation Scale (WEIMS, Deci & Ryan, 2000). The BNSW, which was translated from English to Portuguese, was used to measure in what way one's work environment does truly satisfy each of the SDT's three needs. It is a 21 item scale with three subscales, each using ratings from 1 to 7 (1= not at all; 4= somewhat true; 7= very true). The autonomy subscale had 7 items (e.g., "I am free to express my ideas and opinions on the job."), three of which are reversed items (e.g., "When I am at work, I have to do what I am told.") and an acceptable internal consistency ($\alpha = .61$). The competence subscale also had 6 items (e.g., "People at work tell me I am good at what I do."), three reversed items (e.g., "I do not feel very competent when I am at work") and an acceptable internal consistency ($\alpha = .67$). Finally, the relatedness subscale is a 8 item scale (e.g., "People at work care about me"), also with three reversed items (e.g., "There are not many people at work that I am close to") and had good internal consistency ($\alpha = .85$).

The WEISM, which was also translated from English to Portuguese, was used to measure which of the types of motivation, as distinguished in SDT, the participants have towards their work. This scale is composed by 18 items introduced as possible answers to the introductory question ("Why Do You Do Your Work?"). Participants are asked to what degree they feel the items correspond to their own personal experience. The answers are measured by means of 7 points scales (1= Does not correspond at all; 4= Corresponds moderately; 7= Corresponds exactly). The scale is divided into six subscales, with three items each, one for intrinsic motivation, one for amotivation, and one for each of the four types of extrinsic motivation's regulations. The scales for intrinsic motivation subscale (e.g., "because I derive much pleasure from learning new things.", $\alpha = .71$), integrated regulation (e.g., "because it has become a fundamental part of who I am.", $\alpha = .74$), identified regulation (e.g., "because I chose this type of work to attain a certain lifestyle.", $\alpha = .77$) and introjected regulation (e.g., "because I want to succeed at this job, if not I would be very ashamed of myself.", $\alpha = .71$) had satisfactory internal consistency. Internal consistency of the external regulation subscale (e.g., "for the income it provides me.") was slightly lower, but still acceptable ($\alpha = .61$). Lastly, the amotivation subscale (e.g., "I don't know, too much is expected of us") had no satisfactory internal consistency ($\alpha = 0,46$) as the first item had very low Item-total correlation ($r = .18$).

Therefore, we removed this problematic item from the scale, which then had a consistency of $\alpha=0,52$. Scale indices were calculated as the average of the respective items.

All the questionnaires were hand delivered to the participants and directly collected from them. Only the participants from organizations and book publishers were contacted beforehand. The rest of the participants were contacted on the spot. The participants were told that this study was about life satisfaction, work satisfaction and job motivation. We asked each of them to carefully read the instructions and protocols presented on the questionnaires. After filling in the questionnaires participants were thanked and debriefed.

4. Results

4.1. Preliminary analyses

Intercorrelations between the different scales and the descriptives can be found in Table 1 and 2. Amotivation and identified motivation assumed average values significantly below the scale-midpoint of four, integrated motivation did not significantly differ from the scale midpoint. All other scales had means significantly above the scale midpoint. Moreover, the three need satisfaction scales were positively correlated with each other. The same is true for all five types of motivation.

Unexpectedly, some of the motivation types were even positively correlated with amotivation, which might indicate a certain tendency of Acquiescence response bias. This might be due to the fact that like the original scales the motivation scales did not have reversed items. This fact has to be taken into account when interpreting eventual results that are similar across all 6 motivation scales. Moreover, in order to control for eventual shared variance of the predictor variables we conducted the hypotheses tests in a GLM and in subsequent multiple regression analyses.

Table 1
Correlations between Scales

Variables	1	2	3	4	5	6	7	8	9
1.Autonomy	1,00								
2.Competence	,53**	1,00							
3.Relatedness	,31**	,49**	1,00						
4.Intrinsic Motivation	,23*	,49**	,23*	1,00					
5.Integrated Regulation	,25*	,36**	,028	,62**	1,00				
6.Identified Regulation	,28**	,32**	,063	,60**	,74**	1,00			
7.Introjected Regulation	,15	,40**	,11	,67**	,68**	,57**	1,00		
8.External Regulation	,04	,27**	,23*	,33**	,52**	,43**	,24*	1,00	
9.Amotivation	-,32**	-,27**	-,18	,14	,20*	,00	,17	,04	1,00

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 2
Descriptive Statistics

	Intrinsic Motiv.	Integ. Regulation	Ident. Regulation	Introj. Regulation	Ext. Regulation	Amotv.	Aut.	Comp.	Reltd.
Mean	4,88	4,10	3,54	4,54	4,33	2,78	4,79	5,38	4,92
Std. Deviation	1,37	1,49	1,67	1,60	1,35	1,31	,89	,95	1,12
Minimum	1,00	1,00	1,00	1,00	1,00	1,00	2,14	3,00	1,63
Maximum	7,00	7,00	7,00	7,00	7,00	7,00	6,57	7,00	7,00

4.2. Hypothesis test

4.2.1. Effects on the 5 motivation types

To check the effects of need satisfaction on the types of motivation predicted by the SDT model in the Portuguese culture we used a mixed General Linear Model (GLM) with all 5 types of motivation (excluding amotivation) as repeated measures (i.e., type of motivation as within subjects factor) and the three need satisfaction variables (needs) as continuous predictors. Besides the main effects of the three needs on the types of motivation, we also included all two way interactions of the needs and their three way interaction as predictors in the model. Following recommendations of Aiken & West (1991) for testing interactions in multiple regressions, all three predictor variables were centered before the analysis.

As SDT states that all three needs have to be satisfied in order to allow for behaviour that is intrinsically motivated, SDT would expect differential main effects of all three needs (autonomy, competence and relatedness) on different types of motivation, resulting in interactions of all three needs with the within-subject factor type of motivation. Moreover, in our specific hypotheses we also predict that the two-way interaction between autonomy and relatedness interacts with the more the more intrinsic types of motivation.

A first analysis revealed that the three-way interaction of the three needs did not have any effect. Therefore, we removed the three-way interaction from the GLM. Analysis of the between-subject effects showed first a main effect of competence, $F(1, 93) = 14.00, p < .001$, which was qualified by a two-way interaction with autonomy, $F(1, 93) = 5.37, p = .024$. Moreover, there was a main-effect of type of motivation, $F(4, 376) = 19.15, p < .001$, which interacted with autonomy, $F(4, 376) = 2.43, p = .047$, and with the two-way interactions of autonomy with competence, $F(4, 376) = 2.48, p = .044$, and with the interaction of relatedness with competence, $F(4, 376) = 2.49, p = .043$.

In order to elaborate these effects we conducted multiple regressions for the effects of the three predictor variables and their two-way interactions on the different types of motivation. In each regression we included the main effects of the need satisfaction scales in the first step and then added the all two-way interactions in the second step. For intrinsic motivation, the second step marginally increased the explained variance, $F_{\text{change}(3,94)} = 2.27, p = .085$. That is why we interpreted the second step model, $Adj.R^2 = .17, F(3,94) = 4.40, p = .001$. Of the three basic needs, only competence had a significant main effect ($\beta = 0.38; t_{(94)} = 2.97; p = .004$) which was qualified by the two way interaction with autonomy ($\beta = 0.31; t_{(94)} = 2.57; p = .012$). For integrated regulation, the second step did not increase the explained variance,

$F_{\text{change}(3,94)} = 0.816$, $p = .488$, meaning there were no interactions with significant effects, so we only interpreted the first step, $Adj.R^2 = .13$, $F_{(3,97)} = 6.38$, $p = .001$. Of the three basic needs, only competence had a significant main effect ($\beta = 0.45$; $t(97) = 3.58$; $p = .001$) on integrated regulation. On identified regulation, the second step significantly increased the explained variance, $F_{\text{change}(3,94)} = 3.68$, $p = .015$. That is why we interpreted the second step model, $Adj.R^2 = .18$, $F_{(6,94)} = 4.63$, $p < .001$. Of the three basic needs, only competence had a significant main effect ($\beta = 0.34$; $t(94) = 2.72$; $p = .008$) which was qualified by the two way interaction with autonomy ($\beta = 0.35$; $t(94) = 2.92$; $p = .004$). For *introjected regulation*, similar to what happened with integrated regulation, the second step did not increase the explained variance, $F_{\text{change}(3,94)} = 1.64$, $p = .184$, meaning there were no interactions with significant effects, so we only interpreted the first step, $Adj.R^2 = .12$, $F_{(3,97)} = 4.80$, $p = .004$. Of the three basic needs, only competence had a significant main effect ($\beta = 0.46$; $t(97) = 3.60$; $p = .001$) on introjected regulation. Lastly, for external regulation, the second step marginally significantly increased the explained variance, $F_{\text{change}(3,94)} = 2.58$, $p = .058$. That is why we interpreted the second step model, $Adj.R^2 = .14$, $F_{(6,94)} = 3.65$, $p = .003$. Of the three basic needs, both competence ($\beta = 0.30$; $t(94) = 2.32$; $p = .023$) and autonomy ($\beta = -0.25$; $t(94) = -2.07$; $p = .042$) had a significant main effect, though autonomy's main effect on external regulation was actually negative. Competence's main effect was also negatively qualified by the two way interaction with relatedness ($\beta = -0.24$; $t(94) = -2.02$; $p = .046$).

4.2.2. Effects on amotivation

Regarding amotivation, we ran a univariate GLM including both the main effects and possible interactions between the need satisfaction scales as predictors. There was only a marginal main effect of autonomy, ($F_{(7,93)} = 3.49$; $p = .065$) and no other main effects nor two-way or three-way interaction. The parameter-estimates showed that the main effect of autonomy on amotivation was negative ($B = -0.46$; $SE = 0.247$; $t(93) = 1.867$; $p = .065$).

To sum up, we have two main results. First, although Portugal is considered a collectivist culture, for which cross-cultural researchers' critique of SDT would have predicted a particularly strong effect of relatedness on the more self-determined types of motivation, relatedness had no significant impact on these types of motivation. Therefore, we can conclude that our first hypothesis is not supported by our data. Second, the two way interaction between autonomy and relatedness is not significant in predicting any kind of

motivation, which is contrary to what we predicted. As such, we conclude that our second hypothesis is also not supported by our data.

Before discussing these results, however, for a thorough analysis of the significant interactions we obtained in our investigation, we ran a Simple Slope Analyses through Multiple Regression. Through the Simple Slope Analysis, we tried to understand how one need satisfaction varied as a function of the level of another need satisfaction (e.g., which effect would satisfaction with autonomy have on the job motivation of someone with either high or low level of satisfaction regarding competence needs?).

4.2.3. *The Simple Slopes Analysis*

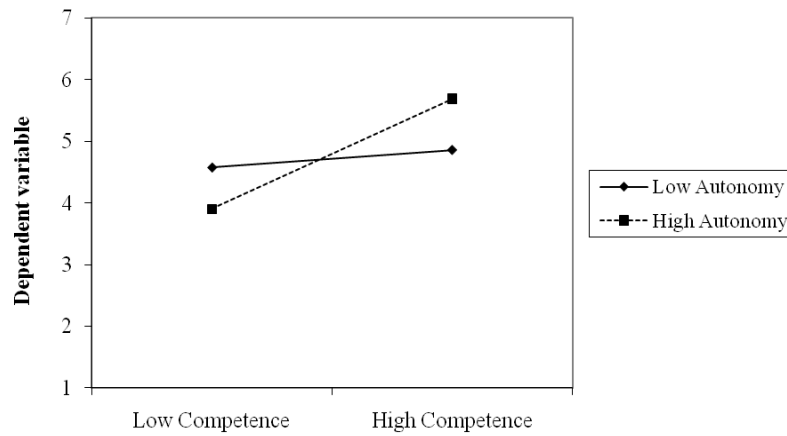
The simple slope analyses were run as multiple regressions including always the centered values of the need-satisfaction scales involved in the interaction (i.e. autonomy and competence for intrinsic and identified motivation; competence and relatedness for external motivation) as predictors together with the interaction that was to be analyzed. Main effects for one of the need satisfaction scales were estimated at points either one standard deviation above or below the mean of the moderating need satisfaction scale (see Aiken & West, 1991, for details about simple slope analyses).

The Simple Slope Analyses concerning effects on intrinsic motivation showed that when competence was high (+1 SD above the mean), autonomy had a positive main effect on intrinsic motivation, though not significant ($F_{(3,97)} = 7,87; \beta = 0,22, p = .158$). However, when competence was low (-1 SD below the mean), autonomy had a negative main effect on intrinsic motivation, though again not significant either ($F_{(3,97)}=7,87; \beta = -0,14, p = 0,306$). Thus, although the interaction between autonomy and competence means that the two autonomy effects for high and low competence are significantly different from each other, each of them is not significantly different from 0.

Interpreting the interaction in a different way, we tested for the effects of competence satisfaction for high and low values of autonomy. If autonomy was low, competence has a significant main effect ($F_{(3,97)}=7, 87; \beta= 0,28, p = 0,033$). However, when autonomy was high, competence had a much stronger significant main effect on intrinsic motivation than when autonomy is low ($F_{(3,97)}=7,87 \beta=0,63, p < 0,001$).

Graphic 1

Effects of the different interactions of competence and autonomy on intrinsic motivation

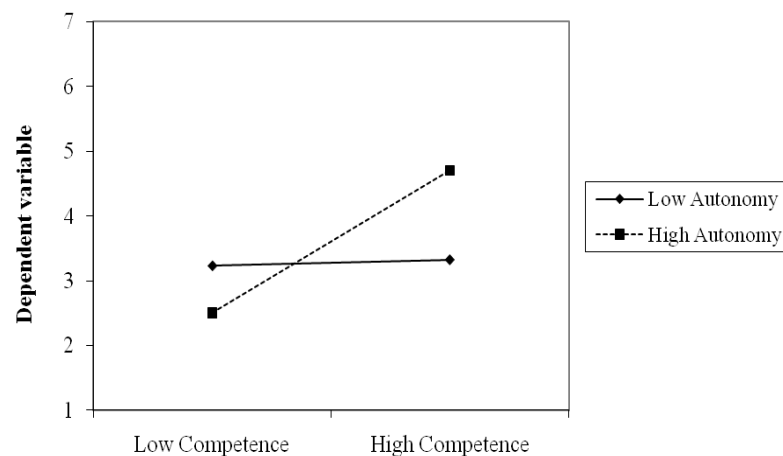


For identified regulation, the Simple Slope Analysis, regarding the interaction between autonomy and competence, showed that when competence was low, autonomy had a negative main effect on identified regulation motivation, but not significant ($F_{(3,97)}=7,32; \beta=-0,07, p = 0,624$). On the other hand, when competence was high, autonomy had a positive and also significant main effect on identified regulation ($F_{(3,97)}=7,32; \beta = 0,39, p = .013$).

Testing for competence when autonomy had high and low values, the analysis showed that, if autonomy was low, competence had a no significant main effect on identified regulation ($F_{(3,97)}=7,32; \beta=0,12, p = 0,344$). But when autonomy was high, competence did have a strong significant main effect on identified regulation ($F_{(3,97)}=7,323; \beta=0,58, p = .001$).

Graphic 2

Effects of the different interactions of competence and autonomy on identified regulation

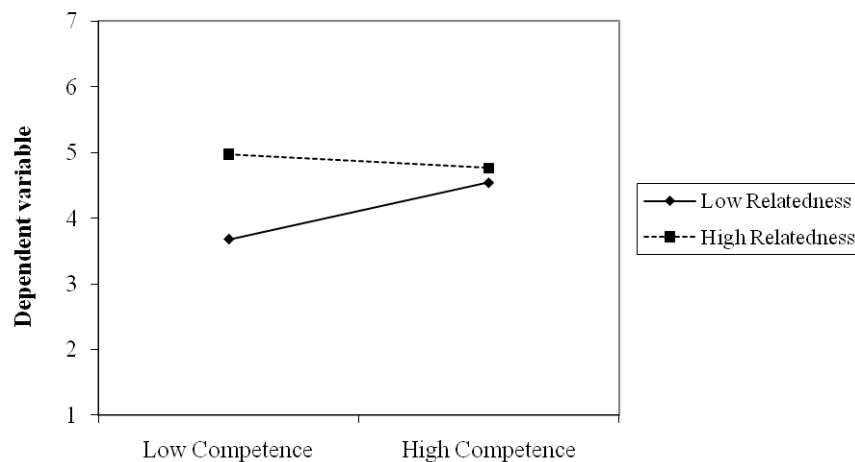


At last, pertaining to external regulation, the Simple Slope Analysis for the interaction between relatedness and high and low values of competence showed that, when competence was high, relatedness had a negative, but not significant main effect on external regulation ($F_{(3,97)}=5,57; \beta=-0,081, p = .564$). In contrast, however, when competence was low, relatedness had a positive and significant main effect on external regulation ($F_{(3,97)}=5,57; \beta=0,30, p = .038$).

Interpreting the interaction for the effects competence for high and low relatedness, the analysis showed that, when relatedness was high, competence had no significant main effect on external regulation a ($F_{(3,97)}=5,57; \beta=0,02, p = .919$). When relatedness was low, however, competence had a strong and significant main effect on external regulation ($F_{(3,97)}=5,57; \beta=0,386, p = .003$).

Graphic 3

Effects of the different interactions of competence and relatedness on external regulation



5. Discussion

The present study examined whether relatedness, being a need highly relevant in collectivist cultures, would have a greater impact on the more intrinsic types of job motivation, than the other basic needs central to SDT, as indirectly suggested by some cross-cultural studies (Cialdini, Wosinka, Barrett, Bunter, & Gornik-Durose, 1999; Kitayama, Snibb, Markus, & Suzuki, 2004). Secondly, we tested whether or not a two-way interaction of satisfaction in terms of autonomy and relatedness would have a significant effect on job

motivation, particularly on the intrinsic types of motivation, as many SDT supporters suggest a positive correlation between autonomy and relatedness (Vansteenkiste, Lens, Soenens, Luyckx, 2006; LaGuardia, Ryan, Couchman & Deci, 2000).

The results showed that none of our hypotheses was supported by our data. Relatedness-satisfaction had no significant main effect, neither in predicting intrinsic motivation nor any of the four types of external regulations. Out of the three basic needs, only competence-satisfaction had significant positive main effects on every type of motivation. Therefore, we conclude that our first hypothesis is not supported by the data and, contrary to many cross-cultural claims, satisfaction in terms of relatedness does not have a significant impact on job motivation of the Portuguese. In the approach of Rego and Cunha (2007), group interaction and cooperation was regarded as an important source of positive emotions in the Portuguese culture because it lead to satisfaction of social needs and feelings of belongingness, and not because it lead to higher productivity. Our data shows that not only does relatedness not significantly promote intrinsic types of motivation but also that, of the three basic needs, competence was the only one that significantly promoted intrinsic types of motivation at the work place. These results do not tell us that relatedness is not important to feeling intrinsically motivated. In fact, relatedness-satisfaction was positively correlated with intrinsic motivation. Rather, they tell us that, satisfaction with relatedness does only effect intrinsic types of motivation via its relation to satisfaction with other basic needs (e.g., competence). Thus, relatedness alone does not promote self-determined types of motivation at the work place.

Our results also revealed no significant effects for the interaction of the three needs in promoting intrinsic motivation or any of the more intrinsic regulations, which allows us to conclude that the present study does not confirm SDT's universalistic needs model, which states that the satisfaction of the three needs is necessary requirement for intrinsic motivation (Deci & Ryan, 2000). These results are consistent with our suggestion that the importance of the basic needs may vary according to the cultural aspects. Although our first hypothesis was not supported by the data, the results show a main effect of only one of the three needs (competence), which might indicate that the three needs do not have the same influence on the intrinsic types of motivation or any other type of motivation. Moreover, the results also show that the three-way interaction of the needs is not significant in determining any of the self-determined motivations, which means that SDT at least in its stronger claims does not apply to our Portuguese sample, and perhaps not to Portuguese culture.

The fact that competence, and not relatedness was the basic need with a single main effect on self-determined types of motivation indicates that optimal challenges, effectance-promoting feedback, positive outcomes, and other events that conduce towards feelings of competence are more effective in promoting motivation at work, than social bonds or feelings of belongingness that promote relatedness.

For our second hypothesis, since many studies showed a positive interaction between autonomy and relatedness and expecting relatedness to have a strong effect on the job motivation of the Portuguese, we believed that the interaction between autonomy and relatedness would have significant effects on the more self-determined types of motivation. The results proved us wrong, as none of the types of motivation was significantly influenced by this interaction. .

Whereas the interaction between autonomy and relatedness was not significant, the interaction between autonomy and competence did have significant effects on two of three more self-determined types of motivation, intrinsic and identified regulation. Also, a two-way interaction between competence and relatedness had a significant, though negative, effect on extrinsic motivation. This suggests that, though autonomy and relatedness did not have significant main effects, they are still important in determining job motivation in the Portuguese culture, as the interactions of each with competence had significant effects on certain types of motivation. The results referring to the effects of the autonomy/competence interaction on intrinsic motivation and identified regulation are consistent with SDT's subtheory, CET (Deci and Ryan, 1985) and the findings regarding the importance of autonomy and competence in enhancing intrinsic motivation. These interactions show that autonomy promotes self-determined motivations, even though the context is a collectivist culture. This contradicts many cross-cultural studies that regard autonomy as a conflicting need in collectivist societies (Burroughs & Rindfleisch, 2002; Sagiv & Schwartz, 2000). Therefore, we can conclude that at least in the work context autonomy is not a conflicting need with the social strivings and norms of the Portuguese culture, even though it is regarded as a collectivist culture. We must, however, take into account that our research focused solely on job motivation and not general-life motivation or well-being.

Still with regard to autonomy, there are two other very important effects which are the main effects on external regulation and amotivation, even though the latter was only marginally significant. Both main effects were negative, which suggests, albeit autonomy had no significant main effects in determining the self-determined types of motivation, that the

lack of autonomy will increase external regulation and amotivation at work. Inversely, the satisfaction of autonomy decreases amotivation and external regulation. These results suggest that autonomy is important, even in collectivist societies, as it increases the relative relevance of self-determined motivations by diminishing external regulation of motivation and amotivation, contrasting, once again, with the cross-cultural studies that consider autonomy a conflicting need within collectivist societies.

The Simple Slopes Analyses also support our claim about the importance of autonomy in the Portuguese culture. These results showed that the main effect of competence on intrinsic motivation, when moderated by autonomy, was significantly stronger when the level of autonomy was high than when it was low. The same applies to the main effect of competence on identified regulation, which was significant only when autonomy was high. These findings tell us that high autonomy increases the main effect of competence in promoting intrinsic motivation and identified regulation at work. Conversely, a low level of autonomy diminishes the main effect of competence on intrinsic motivation, even if it does not eliminate it completely. Moreover, autonomy had a significant main effect on identified regulation when competence was high. The results from these Simple Slopes are consistent with SDT's universalistic view that autonomy yields universal positive effects. Consistent with CET, these results can be interpreted in a basis of the locus of causality (deCharms, 1968). While feelings of competence enhance intrinsic motivation, one must experience some degree of autonomy, or at least an internal perceived locus of causality, to feel intrinsically motivated for that action. Even if someone feels quite competent at an activity, if there are no self-chosen activities and goals that are concordant with one's intrinsic interests (Deci & Ryan, 1985) and values (Kasser & Ryan, 1996) then that person will not be intrinsically motivated to act. Freedom of choice and self-determined behaviours are important of competence to promote intrinsic motivation. In our sample, we assume that the experience of autonomy produces this self-determining effect on competence, therefore increasing the main effect of competence on intrinsic motivation and identified regulation.

The Simple Slope Analysis for external regulation showed that the interaction of competence with relatedness may mean that one need satisfaction can compensate for the lack of the other. The relatedness main effect on external regulation was only significant when competence was low, and the competence main effect was only significant when relatedness was low. These finding could mean that, if a person does not feel competent at work, one can compensate this lack by fostering meaningful relations and social bonds in

one's work place and, by this, at least externally regulate her motivation. Conversely, if someone experiences an absence of meaningful relations and sense of belonging at the work place, one can still feel motivated by feeling competent at what one does.

5.1. Limitations and future directions

A number of limitations must be mentioned. First of all, in this study we intended to measure the effects predicted by SDT and its critics not only on job motivation, but also on general-life satisfaction within the Portuguese culture. However, the scales to measure basic need satisfaction in general revealed a low internal consistency, for which reason we decided to remove them from this study. Therefore, although our results contradict or support some of the theories and studies we mentioned earlier, we cannot generalize the results since we focused exclusively in job motivation while the majority of other studies focused on general-life satisfaction and well-being. Future research should try to measure which of the needs of SDT are important for general-life satisfaction and well-being in the Portuguese culture.

Moreover, although we referred to a many cross-cultural studies, this study was not a cross-cultural one. More precisely, we did not collect comparable data from different cultures (i.e., higher or lower on collectivism). That is why our data does not allow us to make any definite conclusions regarding SDT's applicability in collectivist cultures in general.

Another limitation concerns our sample. As it was not representative of the Portuguese population generalizations of our results should only be done with caution. The fact that this study was only cross-sectional is another limitation. Collecting correlational data in one single moment in time does not allow any conclusions about causal effects.

The fact that the data was collected solely by answering questionnaires is a serious limitation of our results, since people often have a tendency to pick the most socially expected answer and not always the one reflecting their true opinions. Nevertheless, the results provide nevertheless useful insights in possible relations between the key-concepts of SDT in the work-context in Portugal, which might inspire future research that uses more rigorous methodologies than self-reports.

It might be interesting to further investigate the concrete nature of the three-way interaction. As SDT suggests, a three-way interaction may exist because the satisfaction of the three needs is necessary to enhance self-determined behaviours. In our sample, however, this was not the case. This might suggest that, in the Portuguese culture, the three way interaction

might be significant if we explore it in different patterns. For instance, we might get a significant three-way interaction if a pattern suggests that motivation is only low if the three needs are not satisfied. The fact that in our sample only two needs had to be satisfied to enhance intrinsic motivation seems to suggest other possible complicated patterns that do not necessarily fit in SDT's maximal satisfaction claim.

We believe this study is very relevant in understanding the importance of autonomy in collectivist culture's work environments, often regarded as related-supportive. Autonomy has been regarded as conflicting with and contradicting of collectivist social patterns. However, in our results we have seen how importantly autonomy is regarded in promoting self-determined job motivations. By understating what promotes self-determined types of motivation in working environments, and what needs must be fulfilled and in what way, these results may help increase intrinsic motivation and consequently promote well-being in the work place.

Despite the fact that our results didn't support SDT's major claim that the satisfaction of the three needs leads to more self-determined types of motivation, a wide number of studies reveal SDT's claim is consistent with other collectivist cultures, where the three-way interaction of the three basic needs has a significant effect on self-determined motivations. This may suggest that, within collectivist cultures, there are cultural aspects specific to only some collectivist cultures, responsible for hindering SDT's effect on self-determined motivations. A research on this matter would help to advance the understanding of how intrinsic motivation flourishment is facilitated in different collectivist cultures.

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Appendix A – Curriculum Vitae

DADOS PESSOAIS

Nome: Diogo Patrício Varandas da Costa
Data de nascimento: 27 de Março 1986
Nacionalidade: Portuguesa
E-Mail: dpv_costa@hotmail.com

FORMAÇÃO ACADÉMICA

2010: Actualmente, concluindo o programa de Mestrado em Psicologia Social e das Organizações do Instituto Universitário de Lisboa (ISCTE-IUL). Tese de Mestrado intitulada *Intrinsic Motivation at work: the importance of autonomy supportiveness in the Portuguese Culture* e orientada pelo Professor Sven Waldzus.

2005-2008: Licenciatura em Psicologia, ISCTE (Instituto Superior de Ciências do Trabalho e da Empresa).

EXPERIÊNCIA PROFISSIONAL RELEVANTE

Desde Julho 2009: Psicólogo, INFOTESTE S.A., Lisboa

A INFOTESTE S.A. é uma empresa precursora da implementação de serviços especializados em Psicologia, (Tráfego, Aeronáutica, Neuropsicologia e Reabilitação), fazendo recurso das mais avançadas e inovadoras tecnologias em meios de psicodiagnóstico e terapia informatizados, devidamente aferidos à população portuguesa, através do Sistema de Testes de Viena (VTS).

Área de especialidade e responsabilidade:

Psicologia do Tráfego, Neuropsicologia e Aeronáutica, que implicam a *aplicação dos testes* e acompanhamento do cliente durante todo o processo de avaliação, análise dos resultados,

entrevista psicológica e consequente *avaliação do perfil psicológico* para complemento dos resultados cognitivos e psicomotores.

2008, 2007, 2004: Sports Leader, *Ardmore Language Schools*, Reading, Reino Unido. O Ardmore Group é responsável por vários núcleos, especializados no ensino da língua inglesa, que pretendem oferecer uma experiência divertida e pedagógica para crianças e jovens dos 6 aos 18 anos, provenientes de todo o mundo. Este grupo não limita os seus núcleos apenas ao Reino Unido, mas também aos Estados Unidos da América e ao Canadá.

Responsabilidades e tarefas:

O Sports Leader (1ª experiência formal liderança de grupos e equipas), é responsável por um grupo de estudantes, *organiza e planeia* as actividades lúdicas, *acompanha* os estudantes nas visitas turísticas, *lecciona língua inglesa nas aulas*, sempre que o professor se ausenta e assegura-se do bem-estar de todos os estudantes.

2007 - 2008: Venda e atendimento ao público, Feira do Livro de Lisboa, **Editorial Presença**, Lisboa.

A Editorial Presença é uma das principais editoras nacionais, sendo a editora responsável pela distribuição inúmeros best-sellers nacionais e internacionais, nas mais variadas áreas.

2008-2009: Professor de Inglês, **See Learning Centre**, Lisboa.

O See Learning Centre, é um grupo de centros de apoio a estudantes, nas várias áreas académicas, com especialização no ensino da língua inglesa, e certificado para a preparação de alunos para os exames do British Council: First Certificate in English (FCE), Certificate Advanced in English (CAE) e Proficiency Certificate in English (PCE). É o único concorrente nacional do *Wall Street Institute* e da *Cambridge School*. Promove o intercâmbio de alunos portugueses para o estrangeiro, com a finalidade de desenvolverem as suas capacidades na língua inglesa e de estudantes estrangeiros para Portugal, com a finalidade de aprenderem a língua portuguesa.

VOLUNTARIADO RELEVANTE:

2006-2008: Professor nas aulas de Competências Sociais e Cidadania pelo **NUPIC (Núcleo de Psicologia e Intervenção Comunitária)** em escolas abrangidas pela Junta de Freguesia de Carnide, nomeadamente em bairros mais carenciados como o Bairro da Horta Nova e Bairro Padre Cruz.

O NUPIC foi criado com o objectivo de dar resposta à Freguesia de Carnide, no que diz respeito a necessidade de intervenção psicológica. Entre outros serviços prestados na Freguesia, nas escolas o NUPIC realiza Avaliação Psicológica gratuita, promove programas de Desenvolvimento de Competências Pessoais e Sociais e participa em algumas parcerias, como é o caso do projecto “Educar Carnide a Tempo Inteiro”, em que o NUPIC é responsável por leccionar a disciplina de “Competências e Cidadania”, no período de enriquecimento curricular

Responsabilidades e tarefas:

O professor voluntário era, juntamente com outra psicóloga, responsável por planear e leccionar as aulas de “Competências e Cidadania”, acompanhando ao longo de um ano lectivo, uma ou duas turmas no máximo.

2007-2008: Membro Dirigente do Departamento Cultural e Desportivo do Núcleo de Alunos de Psicologia do ISCTE (**NAPSI**)

O NAPSI é um grupo criado por iniciativa de alguns alunos do curso de Psicologia, com o intuito de apoiar e facilitar a integração de novos alunos, promover a interacção dos alunos do curso com os seus colegas e com colegas de outras universidades e participar activamente na formação académica e pessoal de todos os alunos.

Responsabilidades e tarefas:

Desenvolver, planear e organizar actividades que permitissem aos alunos ter contacto com realidades da nossa área profissional, de um modo diferente do que é apresentando nas suas aulas, (através de ciclos de conferências, workshops, acções de formação) e que promovessem os princípios sociais apregoados pela nossa área (organização de feiras de solidariedade, campanhas de promoção da saúde, semanas de luta contra a SIDA).

LINGUAS:

Português: língua nativa

Inglês: *First Certificate in English* (FCE), British Council, 2002.

Espanhol: nível médio, falado, escrito.

OUTRAS COMPETÊNCIAS:

Bons conhecimentos de informática na óptica do utilizador (Word, Excel e Powerpoint) Bons conhecimentos de Estatística e Análise de Dados (SPSS)

OUTRAS FORMAÇÕES

- **Junho de 2001**

- Curso de Primeiros Socorros, com a duração de 15 horas, obtido no Centro de Formação do Subgrupo Hospitalar Capuchos/Desterro

- **Novembro de 2005**

- Workshop de Interpretação para a TV, com duração total de 24 horas, obtido na NBP (Nicolau Breyner Productions) Produção de Vídeo

HOBBIES:

Professor de Guitarra

Praticante de Natação

Desportista federado de Karaté

Participação musical ocasional em concertos e eventos musicais.

Participação em peças de teatro, anúncios e castings televisivos

Appendix B – Questionnaire



As perguntas que se seguem, fazem parte de um estudo experimental, da responsabilidade do CIS (Centro de Investigação e Intervenção Social) – **ISCTE-Instituto Universitário de Lisboa** - que visa analisar a satisfação no trabalho e na vida em geral, na sociedade portuguesa, bem como a sua motivação no trabalho. **Para tal, pedimos a sua colaboração.**

Este questionário é **anónimo** e quaisquer dados recolhidos são **confidenciais**, sujeitos apenas a análise por parte do CIS. Deste modo, pedimos-lhe que seja o mais sincero(a) possível. Relembramos que **não há respostas correctas ou erradas**. Caso não saiba a resposta, escolha a que mais se aproxima da sua opinião pessoal.

Desde já, agradecemos a sua colaboração.

Sentimentos que tenho

Por favor, leia cada uma das seguintes frases, pense de que maneira se relaciona com a sua vida e indique quão verdadeira é para si, numa escala de 1 a 7, que apresentamos de seguida:

1	2	3	4	5	6	7
totalmente			verdade de certa			totalmente
mentira			forma			verdade

1. Sinto que sou livre para decidir como quero viver a minha vida.
1 2 3 4 5 6 7
2. Gosto verdadeiramente das pessoas com quem interajo.
1 2 3 4 5 6 7
3. Normalmente, não me sinto muito competente.
1 2 3 4 5 6 7
4. Sinto-me pressionado na minha vida.
1 2 3 4 5 6 7
5. Pessoas que conheço dizem-me que sou bom naquilo que faço.
1 2 3 4 5 6 7
6. Relaciono-me com pessoas com quem estabeleço contacto.
1 2 3 4 5 6 7
7. Sou bastante reservado(a) e não travo muito contacto social.
1 2 3 4 5 6 7
8. Geralmente, sinto-me livre para expressar as minhas ideias e opiniões.
1 2 3 4 5 6 7
9. Considero as pessoas com quem interajo regularmente minhas amigas.
1 2 3 4 5 6 7

10. Tive a oportunidade de aprender novas competências recentemente.
- 1 2 3 4 5 6 7
11. No meu dia-a-dia, frequentemente tenho de fazer o que me mandam.
- 1 2 3 4 5 6 7
12. Na minha vida, há pessoas que se importam comigo.
- 1 2 3 4 5 6 7
13. Na maioria dos dias, experimento uma sensação de realização pessoal naquilo que faço.
- 1 2 3 4 5 6 7
14. As pessoas com quem interajo diariamente tendem a ter os meus sentimentos em consideração.
- 1 2 3 4 5 6 7
15. Na minha vida, não tenho muitas oportunidades de mostrar aquilo de que sou capaz.
- 1 2 3 4 5 6 7
16. Não há muitas pessoas de quem seja realmente chegado.
- 1 2 3 4 5 6 7
17. Sinto que posso ser quem realmente sou em situações do dia-a-dia.
- 1 2 3 4 5 6 7
18. As pessoas com quem interajo regularmente não parecem gostar muito de mim.
- 1 2 3 4 5 6 7
19. Frequentemente, não me sinto muito capaz.
- 1 2 3 4 5 6 7
20. Não há muitas oportunidades para decidir por mim mesmo como fazer as coisas na minha vida diária.
- 1 2 3 4 5 6 7
21. As pessoas são, geralmente, muito amigáveis comigo.
- 1 2 3 4 5 6 7

Quando estou no trabalho

As perguntas seguintes dizem respeito aos sentimentos que experimentou no trabalho durante o último ano. (Se está neste trabalho há menos de um ano, tenha em consideração todo o seu tempo de trabalho até agora). Por favor, indique quão verdade cada uma das seguintes frases é para si, atendendo à sua experiência neste trabalho. Lembre-se que o seu patrão nunca saberá como respondeu às questões. Use a seguinte escala para responder aos itens.

1	2	3	4	5	6	7
totalmente			verdade de certa			totalmente
mentira			forma			verdade

1. Sinto que posso acrescentar alterações relativamente ao modo como fazer o meu trabalho.

1 2 3 4 5 6 7

2. Gosto verdadeiramente das pessoas com quem trabalho.

1 2 3 4 5 6 7

3. Não me sinto muito competente quando estou no trabalho.

1 2 3 4 5 6 7

4. As pessoas no trabalho dizem-me que sou bom naquilo que faço.

1 2 3 4 5 6 7

5. Sinto-me pressionado no trabalho.

1 2 3 4 5 6 7

6. Dou-me bem com as pessoas no meu trabalho.

1 2 3 4 5 6 7

7. Sou muito recatado quando estou no trabalho.

1 2 3 4 5 6 7

8. Sou livre de expressar as minhas ideias e opiniões no trabalho.
1 2 3 4 5 6 7
9. Considero as pessoas com quem trabalho minhas amigas.
1 2 3 4 5 6 7
10. No meu trabalho, pude aprender aptidões novas e interessantes.
1 2 3 4 5 6 7
11. Quando estou no trabalho, tenho de fazer o que me dizem para fazer.
1 2 3 4 5 6 7
12. A maioria dos dias, sinto uma sensação de realização pessoal no desempenhar das minhas funções.
1 2 3 4 5 6 7
13. No meu trabalho, os meus sentimentos são tidos em consideração.
1 2 3 4 5 6 7
14. No meu trabalho, não tenho muitas oportunidades de mostrar aquilo que sou capaz.
1 2 3 4 5 6 7
15. As pessoas no meu trabalho preocupam-se comigo.
1 2 3 4 5 6 7
16. Não há muitas pessoas no meu trabalho a quem seja muito chegado(a).
1 2 3 4 5 6 7
17. No meu trabalho sinto que posso ser quem realmente sou.
1 2 3 4 5 6 7
18. As pessoas com quem trabalho não parecem gostar muito de mim.
1 2 3 4 5 6 7
19. Frequentemente, não me sinto muito capaz quando estou a trabalhar.
1 2 3 4 5 6 7
20. Não há muitas oportunidades para eu decidir como fazer o meu trabalho.
1 2 3 4 5 6 7

21. As pessoas, no trabalho, são muito amigáveis para comigo.

1 2 3 4 5 6 7

Porque é que faz o seu trabalho?

	Não corresponde de todo		Corresponde moderadamente			Corresponde exactamente					
	1	2	3	4	5	6	7				
1. Este foi o trabalho que escolhi para adquirir um determinado estilo de vida.					1	2	3	4	5	6	7
2. Pelos benefícios que este me confere.					1	2	3	4	5	6	7
3. Faço a mim mesmo(a) a pergunta. Não pareço ser capaz de desempenhar na perfeição tarefas verdadeiramente importantes.					1	2	3	4	5	6	7
4. Porque tenho bastante prazer em aprender coisas novas.					1	2	3	4	5	6	7
5. Por se ter tornado uma parte fundamental de mim.					1	2	3	4	5	6	7
6. Porque tenciono ser bem sucedido(a) neste emprego, caso contrário ficaria muito envergonhado(a).					1	2	3	4	5	6	7
7. Porque escolhi este trabalho para atingir os meus objectivos de carreira.					1	2	3	4	5	6	7
8. Pela satisfação em experimentar desafios interessantes.					1	2	3	4	5	6	7
9. Porque me permite ganhar dinheiro.					1	2	3	4	5	6	7
10. Por ser uma parte do modo como escolhi viver a minha vida.					1	2	3	4	5	6	7
11. Porque quero ser muito bom neste trabalho, caso contrário ficaria muito desapontado(a) comigo.					1	2	3	4	5	6	7
12. Não sei porquê, somos sujeitos a condições de trabalho irrealistas.					1	2	3	4	5	6	7
13. Porque quero ser um “vencedor” na vida.					1	2	3	4	5	6	7
14. Por ser o tipo de trabalho que escolhi para atingir alguns objectivos importantes para a minha vida.					1	2	3	4	5	6	7
15. Pela satisfação quando sou bem sucedido ao realizar tarefas difíceis.					1	2	3	4	5	6	7
16. Porque este trabalho me confere segurança e estabilidade.					1	2	3	4	5	6	7
17. Não sei, esperam demasiado de mim.					1	2	3	4	5	6	7
18. Porque este trabalho é uma parte da minha vida.					1	2	3	4	5	6	7

Seguidamente, pedimos-lhe que responda a algumas perguntas sobre a sua pessoa:

Sexo: F M

Idade: _____

Profissão: _____

Grau de escolaridade: _____

Há quanto tempo trabalha nesta profissão? _____

Se desejar receber mais informações sobre este estudo, ou pretenda esclarecer qualquer dúvida referente ao mesmo, poderá dirigir as suas perguntas para o seguinte e-mail:

Diogo Costa: *dpv_costa@hotmail.com*

Muito Obrigado pela sua colaboração neste
estudo, em nome do CIS