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Can I have a life outside my job?
A model for work-life conflict predictors and outcomes

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Abstract

Employees assume several commitments in their work and personal lives, which are likely to become somehow incompatible. These issues are usually addressed as work-family conflict however the present study aimed to contribute to the development of a broader concept: work-life conflict, which does not narrow the study to employees who are married or to those with children. Therefore, a model of predictors and outcomes of work-life conflict was tested, and the potential moderator effect that employee's life priorities may have between the experience of conflict and its negative outcomes was explored. Data was gathered from 325 full-time employees of different occupations and organizations with an online questionnaire. The model was tested via hierarchical multiple regression analysis and results indicate that the number of hours worked per week and the perceived organizational support only predicted the experience of conflict based on time constrains, while being engaged in extra-work activities predicted strain-based work-life conflict. On the other hand, job involvement and perceived pressure to overtime predicted both types of work-life conflict. Regarding consequences of work-life conflict, strain-based conflict was significantly related to psychological symptoms and to affective organizational commitment, while time-based conflict was only positively connected to psychological symptoms. Moreover, results failed to support the moderation hypothesis of life priorities.

Keywords: Work-life conflict; perceived pressure to overtime; psychological symptoms; life priorities.

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Resumo

Os trabalhadores assumem vários compromissos no seu trabalho e na sua vida pessoal, que são passíveis de se tornarem de alguma forma incompatíveis. Estas questões são geralmente abordadas enquanto conflito trabalho-família, no entanto o presente estudo teve como objectivo contribuir para o desenvolvimento de um conceito mais abrangente: conflito trabalho-vida pessoal, que não restringe o estudo a trabalhadores que sejam casados ou que tenham filhos. Neste sentido, foi testado um modelo de antecedentes e consequência do conflito trabalho-vida pessoal, bem como foi explorado o potencial efeito moderador que as prioridades de vida do trabalhador podem exercer entre a experiência do conflito e os seus resultados negativos. Os dados foram obtidos através de um questionário online a 325 trabalhadores a tempo inteiro de diferentes profissões e organizações. O modelo foi testado através de análises de regressão hierárquica múltipla, e os resultados obtidos indicam que o número de horas de trabalho semanal e o suporte organizacional percebido apenas predizem a experiência de conflito com base em constrangimentos temporais, enquanto o envolvimento em actividades extra-trabalho predizem somente o conflito baseado no stress. Por outro lado, o envolvimento com o trabalho e a percepção de pressão para trabalhar horas extraordinárias predizem os dois tipos de conflito trabalho-vida pessoal. Relativamente às consequências do conflito trabalho-vida pessoal, o conflito baseado no stress demonstrou estar significativamente relacionado com os sintomas psicológicos e com a implicação afectiva organizacional, enquanto o conflito baseado no tempo apenas se encontrou positivamente associado aos sintomas psicológicos. Adicionalmente, os resultados não suportaram a hipótese de moderação através das prioridades de vida.

Palavras-chave: Conflito trabalho-vida pessoal; percepção de pressão para horas extraordinárias; sintomas psicológicos; prioridades de vida.

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1. Introduction

People do not work in a vacuum; their job behaviour is highly influenced by experiences in other role domains, and simultaneously their life outside work is likely to be greatly influenced by the work experiences. Among life situations, the workplace stands out as a potentially important source of stress, purely because of the amount of time that is spent in it. One of the first models of occupational stress proposed by Cooper and Marshall (1976) considered that sources of occupational stress could fall into six broad categories: factors intrinsic to the job; role in the organization; relationships at work; career developments; organizational structure and climate; and extra-organizational sources of stress such as home-work interference.

An ongoing global trend of social changes is usually indentified as the reason why the issues surrounding work and family/personal life interactions have received increasing attention over the past twenty-five years. The impact of these social changes can be grouped into changes in the workforce and changes in work itself.

The increase of female labour force participation, the raise of life expectancy and newer values related to improve quality of life, are pointed as the most salient workforce changes that make employees more likely to find themselves struggling to manage the competing demands of work and personal/family domains. In fact, for the last two decades the world has assisted to increasing women participation in the work force that led to a prevalence of dual earner couples, instead of traditional single earner families. Moreover, the shift from traditional families to modern ones raised the number of single parent households. In Portugal, the percentage of woman in the labour force raised considerably in the past two decades, increasing from 49,2% in 1986 to 56,1% in 2010 (Pordata, 2011), most Portuguese families with children, around 60%, are composed by dual-earner couples who work full-time (Organisation for Economic Co-operation and Development (OECD), 2011), and there has also been a raise of single-parent families in the last years - in 1992 there were 203.654 single-parent families and in 2010 the number increased to 346.104 families (Pordata, 2011).

Advances in medicine and the overall quality of life that raises life expectancy in the elderly population, are other social changes contributing for the experience of work and family conflict, since employees, in some cases, need to take care of their parents in addition to their children. Resident population in Portugal has been ageing continuously for the past decades and the average life expectancy kept a positive trend, during the 2007-2009 period

life expectancy at 65 years old reached 18 years and life expectancy at birth was estimated at 78 years (INE, 2010).

There is also a change in attitudes towards what constitutes a successful career: having a highly paid job and a career no longer emerges as the most important and central purpose of individuals' lives. A complete life must now include a successful professional life linked to a successful personal life. According to Inglehart (1990) and Abramson and Inglehart (1995) in many western societies, including Portugal, it is possible to register a shift from more traditional values (e.g. economical and job security) to newer values related to improve quality of life, need for freedom and self-expression, which represents a higher importance given to quality of life and subjective well-being as core values of individuals' lives.

In parallel with these changes in the workforce, work itself has undergone major changes over the last years. New technologies made it possible to perform job tasks from anywhere at any time, and have increased the expectations of quick replies, affecting the organizational productivity. Additionally, the recent trend of downsizing and restructuring organizations, as a response to global competitive pressures and global economical crises, carried profound changes in the nature of careers. There seems to be a sense of uncertainty of continuous employment allied to extensive work pressures that lead employees to feel increasingly pressure to work faster and to work longer hours (Poelmans, Odle-Dusseau & Beham, 2009). The number of Portuguese dissolved companies reached its top in 2010 with a total of 30.135, a much higher number when compared to the 4.062 dissolved companies in 2000 just before the global economical crises began (Pordata, 2011). In addition, long hours of work (45 to 60 of work hours per week) were reported by 15% of Portuguese workers in 2005 (Parent-Thirion, Macías, Hurley & Vermeylen, 2007) and there was an increase tendency in the use of new technologies in Portuguese companies, the computer and internet use raised, respectively, from 81% and 70% in 2003 to 97.2% and 94.1% in 2010 (Pordata, 2011).

Along with social changes the studies on this subject are also driven by the concern that conflict between work and family/life domains can result in reduced performance and poorer health for employees. In fact, different studies demonstrated that the experience of this type of conflict is associated with different negative consequences at organizational and individual levels, such as high levels of absenteeism and symptoms of anxiety and depression (see Allen, Herst, Bruck & Sutton, 2000).

Since social changes are still occurring nowadays, especially those related to population ageing, attitudes shift and changes in how work is done, they will certainly impose challenges for those who desire to balance their work and personal life. In addition, the consequences of

the experienced conflict are real and affect employees' lives in different domains, thus the study of this subject is currently relevant since a deeper comprehension of this phenomenon may contribute to reduce the levels of conflict experienced and subsequently reduce its negative impacts.

1.1 Study Main Goals

Research related to this subject typically defines the difficulties to balance the work and personal domains as work-family conflict, and despite being a widely accepted concept it often narrows the studies to employees who are married and/or have children. Therefore in this work we aim to contribute to the consolidation of a broader and emergent concept, the work-life conflict concept, by demonstrating that it has similar predictors and outcomes as the work-family conflict concept. This broader concept, by not restricting extra-work life to family, allows the study of employees' who feel conflict between their work and their personal life commitments and demands, regardless of whether they are married or have children.

Moreover, most studies also tend to explore the predictors and outcomes of conflict separately, which may limit the comprehension of the links established between the variables contributing for this phenomenon. For this reason, another goal of this study is to explore a model of predictors and outcomes of work-life conflict so that different possible paths of influences may be considered.

1.2 Study Structure

The present study is divided in five sections, being the first one the current introduction. In section 2 it is presented the theoretical background regarding work-family conflict and it is further argued the importance of studying the emergent concept of work-life conflict. Additionally, a model of predictors and outcomes of work-life conflict and its underlying hypotheses are summarized.

Section 3 concerns this study method, and therefore sample characteristics, the procedure of gathering data and the measures used in this study are described. Section 4 presents the study results regarding descriptive statistics and the results of the hypotheses test through the mediation and moderation tests.

Finally, in section 5 the main findings achieved with the current study are discussed. Furthermore, some limitations and contributions of this study are considered, and different suggestions for further researches are drawn.

2. Theoretical Background

2.1 Work- Family Conflict

The broadly cited definition of work-family conflict states that it is “a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role” (Greenhaus & Beutell, 1985, p.77). According to this definition, the conflict between work and family is bi-directional: work can interfere with family and family can interfere with work. For example, a parent may feel that family interferes with work when it is necessary to stay home with a sick child, and conversely, may feel that the work is interfering with family when late work hours make it impossible to arrive home in time to spend time with family members. Empirical researches demonstrated that these are two distinct, but related, constructs which have different antecedents and outcomes (Frone, Russell, & Cooper, 1992a; Frone, Yardle, & Markel, 1997; Netemeyer, Boles & MacMurrian, 1996).

In addition, work-family conflict can be divided into time-based, strain-based and behaviour-based conflict (Greenhaus & Beutell, 1985). Time-based conflict might occur when the roles pressures from the two domains (work and family) compete for a person’s time. Strain-based conflict happens when the stress created by one role domain makes it difficult to accomplish the requirements or demands of another role. At last, behaviour-based conflict is possible to occur when specific behaviour patterns of one role are incompatible with behavioural expectations in another role, to clarify this last type of conflict we can call upon a stereotyped example of a military officer commanding his/her children as if they were soldiers. Some researchers have found evidences for the distinctiveness of these three types of conflict and for their occurrence in both conflict directions: work-to-family and family-to-work, subsequently raising a six-factor structure (Carlson, Kacmar & Williams, 2000; Lapierre et al., 2000; Lapierre & Allen, 2006).

Regarding the comparison between the amount of work-to-family *versus* family-to-work conflict experienced, results consistently show that work-to-family is reported to occur more frequently than family-to-work conflict (e.g. Bellavia & Frone, 2005; Frone, 2000; Frone, Russell & Cooper, 1992b; Frone, Yardley et al., 1997; Grant-Vallone & Ensher, 2001; Grzywacz & Marks, 2000). Thus, it appears that work has a stronger impact on family life than family life has on work. For this reason, the present study only addresses the impact that work may have on an individual’s personal life.

Besides the notion of conflict between work and family domains, recently many researchers have focused their attention on the need of examining how work and family experiences can enrich individuals' lives, hence assuming that there is a positive side of the work-family interface. Frone (2003) defines work-family facilitation as "the extent to which participation at work (or home) is made easier by virtue of the experiences, skills, and opportunities gained or developed at home (or work)" (p.145), while Greenhaus and Powell (2006) definition of work-family enrichment concerns "the extent to which experiences in one role improve the quality of life in the other role". Frone (2003) further proposes a fourfold taxonomy of work-family interface with two dimensions: direction of influence (work-to-family vs. family-to-work) and type of effect (conflict vs. facilitation), which has received evidence for its discriminate validity (e.g. Ayree, Srinivas & Tan; Grzywacz & Butler, 2005). Thus, similar to work-family conflict work-family enrichment may occur in two different directions, and contrary to what happens in conflict, family-to-work enrichment is substantially stronger than work-to-family enrichment (Greenhaus & Powell, 2006). Despite the increasing number of researches related to work and family facilitation, the focus of this work is on conflict and for that reason the facilitation argument will not be further developed nor considered.

2.1.1 Work- Family Conflict Theories

There are different theories that have been evoked in the study of work-family conflict; however we will focus on the two theories that have been central to the development of work-family research, which have simultaneously been the most consensual ones: the ecological systems theory and the role theory.

Ecological Systems Theory

According to Bronfenbrenner (1978) the ecological systems theory offers a model of human development that includes feedback loops between the person and his/her environment. The environment is described as being a hierarchy of four interconnected systems: microsystem, mesosystem, exosystem and macrosystem. The microsystem is the most proximal to the individual and reflects a pattern of activities, roles and interpersonal relations that a person may experience in a given context that includes other people (Bronfenbrenner, 1978). In sequence, the mesosystem is formed by the connection between two or more microsystems, while the microsystem linkages' that form the exosystem must

include at least one that does not contains the individual. At last, the macrosystem can be described as the culture or subculture pattern that is created by the combination of the three previous systems (Bronfenbrenner, 1978). For the study of work-family conflict the most relevant miscrosystems are the home and the workplace, and consequently the most frequent mesosystem studied includes the linkage between those two microsystems. The majority of work-family conflict research is conducted at this level, which implies that the data obtained essentially examines the effects that a person's home and work life have one each other and how these effects occur (e.g. Byron, 2005). At the exosystems level, one example could be the effect of one partner's work experience on the other partner's home experience (e.g. Westmen & Etizion, 1995) however this level is not very frequently studied. The macrosystem level is usually examined through the socio-demographic variables or through comparisons of work-life conflict processes in different countries (e.g. Aryee, Fields & Luck, 1999).

The level of analysis considered in this study, is situated at the mesosystem level, since we are interested in the effects between the work life and the personal life of the individual.

Role Theory

The roots of work-family research lie in role theory, which can be rationally driven from the ecological system theory. A role can be described as a set of activities or behaviours that others expect an individual to perform (King & King, 1990), and for that reason they can be placed at the microsystem level of the ecological system framework.

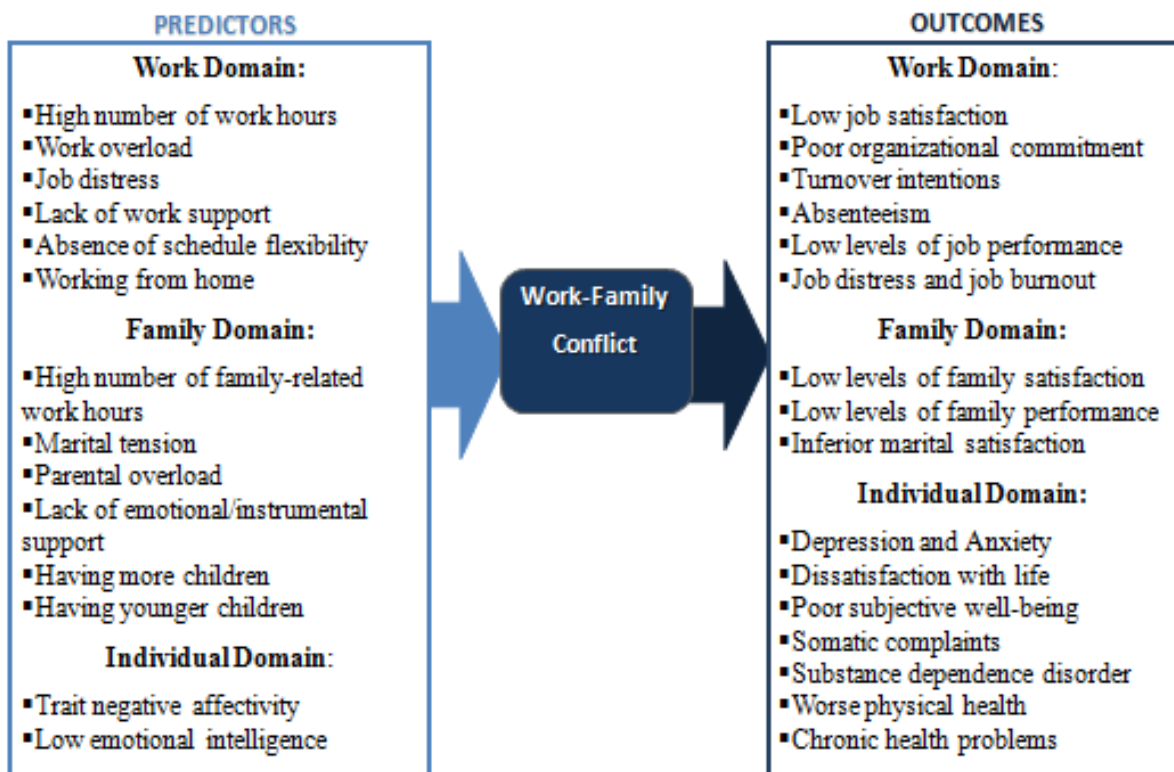
The formal recognition for introducing role concepts into organizational research is usually given to Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964), with the publication of their book, *Organizational Stress: Studies in Role Conflict and Ambiguity*. The role theory assumes that people spend much of their lives participating as members of different groups and organizations (different microsystems) in which they occupy different positions that, in turn, entail distinct roles. These roles are composed by rules or norms that function as blueprints to guide people's behaviour throughout different daily situations. These sorts of blueprints also define what goals and tasks should be accomplished and what type of performance should be pursued. The role theory also assumes that groups often formalize these role expectations and that individuals usually perform in accordance with prevailing norms. For this reason a considerable amount of observable day-to-day social behaviour might be regarded as people carrying out their roles. Moreover, the maintenance of these roles is done by the anticipation that others will apply sanctions if the performance does not conform to the established norms for a given role (Biddle, 1986; King & King, 1990).

Since an individual has different roles to fulfil throughout the several microsystems that he/she takes part on (e.g. friend; brother; son/daughter, mother/father, spouse, worker; human rights activist, volunteer; member of a religious community; etc.), it is almost impossible to meet all the expectations of all roles because these expectations will certainly conflict in some way (Greenhaus & Beutell, 1985). These situations rise what is called role conflicts, meaning that there is conflict between different roles when an individual encounters tensions as the result of their incompatibility. This type of conflict has been defined as interrole conflict (King & King, 1990), which is experienced when pressures arising in one role are incompatible with pressures arising in another role. Greenhaus and Beutell (1985) developed their definition of work-family conflict out of this interrole conflict concept. Their definition, already cited, has guided the majority of research regarding the interference between work and family life, and will also guide the present study.

2.1.2 Predictors and Outcomes of Work- Family Conflict

Many of the researches conducted throughout the last two decades focused on finding which variables might enhance or diminish the conflict felt between work and family domains, and also which are the consequences that conflict holds. The literature refers to these variables as predictors and outcomes, and Figure 2.1 shows the most consistent relationships found between them and work-family conflict. Although some of the links may vary according to the two different types of conflict (work-to-family and family-to-work), for a matter of parsimony the figure only demonstrates a general idea of the associations found, and a more detailed description of the different relationships is further developed.

Figure 2.1: Work-family conflict main predictors and outcomes



Predictors of work-family conflict

The researched antecedents of work-family conflict can be grouped into three different categories: work domain variables, family domain variables and individual factors (adapted from Byron (2005) and from Bellavia & Frone (2005)). Work related variables primarily predict the work-to-family conflict as opposed to family-to-work conflict (Byron, 2005). The most consistent predictor is the amount of time spent working, with results, not surprisingly, showing that higher number of work hours lead to higher levels of work-to-family conflict (e.g. Frone, Yardley et al., 1997; Gallie & Russell, 2009; Geurts, Beckers, Taris, Kompier & Smulders, 2009; McGinnity & Calvert, 2009). Other work stressors, such as job distress, work overload, lack of work support and absence of schedule flexibility, also consistently predict higher levels of WIF (e.g. Byron, 2005; Foley, Hang-Yue & Lui, 2005; Frone, Russel & Cooper, 1992a; Frone, Yardley et al., 1997; Kinman & Jones, 2008; Warner & Hausdorf, 2009). In addition, the use of more forms of technology which allow working from home, also increase the levels of work-family conflict, since the boundaries between the two domains become more permeable (e.g. Lapierre & Allen, 2006; Russell, O'Connell & McGinnity, 2009).

The family related variables have a tendency to predict more family-to-work conflict than work-to-family conflict (Frone, 2003), however the meta-analyses carried out by Byron (2005) showed that these variables have similar relationships with both types of conflict. Spending more time on family-related work, such as childcare and household chores, has been associated with higher levels of family-to-work conflict (e.g. Frone, Yardley et al., 1997). Following the same pattern, family stressors like marital tension, parental workload, lack of emotional and instrumental support from family members, having more children and having younger children, are related to higher levels of family-to-work conflict (e.g. Frone, Russel & Cooper, 1992a; Frone, Yardley et al., 1997; Grzywacz & Marks, 2000; Lapierre & Allen, 2006). There seems to be some scarcity regarding the studies which examine the individual factors that can predict work-family conflict. Nonetheless, the personality characteristic of trait negative affectivity has been found to be positively related to both types of conflict (e.g. Grzywacz & Marks, 2000) and emotional intelligence has been negatively associated with levels of work-to-family and family-to-work conflict (Biggart, Corr, O'Brien & Cooper, 2009; Justino & Santos, 2010; Marques, 2008).

Outcomes of work-family conflict

There are real costs related to work and family conflict for employees and their organizations. Similar to predictors of work-family conflict, the outcomes can be also divided into three main categories: work related outcomes, family related outcomes and individual related outcomes (adapted from Allen et al., 2000 and from Bellavia & Frone, 2005). Regarding work related outcomes, both directions of conflict have a negative influence on affective reactions to one's job (Allen et al., 2000). Some of the most consistent results demonstrate that work-family conflict is related to lower job satisfaction, poorer organizational commitment, turnover intentions, higher rates of absenteeism, lower levels of job performance and higher levels of job distress and job burnout (e.g. Anderson, Coffey & Byerly, 2002; Aryee et al., 2005; Frone et al., 1992a; Frone, Yardley et al., 1997; Netemeyer et al., 1996). Additionally, a Portuguese study demonstrated that work-to-family conflict was positively associated with organizational negative behavioural strategies (Marques, 2008).

In the family domain, some of the most consistent results show that both forms of conflict are associated with lower levels of family satisfaction, decreased performance in the family role and inferior marital satisfaction (Carlson & Kacmar, 2000; Frone, Yardley et al., 1997; Netemeyer et al., 1996). Most of the individual related outcomes involve mental and physical health of those who experience work-family conflict. Both types of conflict have been shown

to negatively affect mental health and well-being, specifically they are associated with depression, general psychological distress, dissatisfaction with life, poor subjective well-being, somatic complaints (e.g. poor appetite, fatigue, trouble sleeping), clinical mood and anxiety disorders, drinking problems and substance dependence disorders (Anderson et al., 2002; Frone et al., 1992a; Frone, Russell et al., 1997; Grant-Vallone & Ensher, 2001; Grzywacz, & Bass, 2003). Research also shows that higher levels of work-family conflict are related to worse physical health especially with chronic health problems such as hypertension, obesity and high cholesterol. In addition, it is also related to less physical activity and less healthful diets (Allen & Armstrong, 2006; Allen et al., 2000; Grzywacz, & Bass, 2003; Frone, Russell et al., 1997).

2.2 Work- Life Conflict

Although the work-family conflict is a widely accepted concept with a solid and well-established definition, it assumes a rather restricted view of the conflict in people lives, by limiting the non-work activities to family ones. Despite all results obtained with this concept, more recently there has been an effort to define and measure a new and broader definition of the conflict between the work domain and the life domain. This emergent concept is usually defined as work-life conflict, assuming that employees who are not parents and/or are not married, may feel the conflict between their work demands and their personal life demands (Kalliath & Brough, 2008). From this point of view, the work-life conflict concept allows the study of all employees who desire to balance their work with the non-work aspects of their lives, such as their family, friends, hobbies, sports, community service, leisure time, etc. Since this concept is more ample, it makes possible to study all of those who have been put aside of research, simply because they were unmarried or childless.

From our point of view, it is necessary to include the study of employees who are not married or do not have children, and also include other aspects of personal life that are not limited to the family roles, since people's lives, interests and choices are not restricted to these two domains (work and family). Departing from the *role theory* and from the *ecological systems theory*, people spend much of their lives being part of different groups and organizations (different microsystems), hence assuming a wide variety of different roles, which are not narrowed to work and family ones, there is much "live" beyond those two microsystems. Therefore it is essential to consider that the demands driven by the work role

may interfere with a broader variety of other roles demands of employees' lives (other than family roles).

The emphasis on family is justified in that family life is generally the most important aspect of a person's life, and that family roles may be more time-consuming, more demanding and more salient in peoples' lives and for that reason it is only worth to study the interference that work may exert on family. Despite this argument seems logical and most research focuses on family life, recent evidence suggests that even employees without families experience conflict between their roles demands and should be included in research, see for example Galinsky, Bond and Friedman (1996), Grant-Vallone and Ensher (2001), Hsieh, Pearson and Kline (2009), Siegel, Post, Brockner, Fishman and Garden (2005).

In order to define the work-life conflict concept for this study we opted to adapt the definition offered by Greenhaus and Beutell (1985) related to work-family conflict. Therefore, work-life conflict in this study is presented as a form of interrole conflict in which the fulfilment of role demands emanating from work domain interferes or is incompatible with fulfilling role demands from personal life domain, and vice-versa. Additionally, this definition is in line with definitions adopted by different authors in their researches, for example, Hsieh, Pearson and Kline (2009), Kinam and Jones (2007), Siegel et al. (2005).

Since we consider the broader concept of work-life conflict, which includes other aspects of personal life not restricted to family issues, the number of microsystems in which individuals are engaged may be higher, hence increasing the number of roles to perform and the level of conflict felt. In fact, if we do not restrict the analysis only to the work and family microsystems and admit that people assume more roles according to their personal interests, such as hobbies, sports, volunteering, religion, politics, etc., it is possible that individuals may feel more antagonistic pressures to fulfil the demands from the all different roles.

Similar to work-family conflict, we assume that conflict between work and other life domains may assume different forms, nonetheless conflict derived from time devoted to the work role (time-based conflict) and conflict derived from the strains produced by this role (strain-based conflict) can be considered the most salient ones, and so they will be consider in this study.

2.3 Work-Life Conflict Predictors and Outcomes

Since the concept of work-life conflict is similar to the work-family conflict definition, it seems likely that some of the most consistent antecedents and outcomes of work-family conflict might also occur with the work-life conflict concept. Thus, the first goal of the

present study is to establish the importance of studying this broader concept of conflict by demonstrating that it can be associated with similar predictors and outcomes.

As previously stated a great amount of research on work and family domains has been focused on potential organizational and individual/familiar predictors of conflict, with the purpose of identifying variables that can lead to conflict and therefore reduce conflict by acting on those variables. Given that we use a broader definition of conflict that does not restrict the non-work activities to family ones, it would be a lack of coherence trying to explore the family related variables usually associated with work-family conflict. In addition, individual factors that can predict work-family conflict have received little attention and results are not well consolidated. For these reasons, this study aims to examine the potential influence that some organizational variables, usually linked to work-family conflict concept, can have on work-life conflict, namely, long working hours and perceived organizational support. Additionally, we explore predictive power of two original variables: perceived pressure to overtime and being engaged in extra-work activities.

Besides the identification of possible predictors of work and family conflict research on this domain has been also precipitated by the negative consequences of conflict on individual and organizational outcomes. For this reason, this study also aims to examine the influence that work-life conflict may exert on two well-established outcomes that have serious costs at the organizational and individual level: affective organizational commitment (organizational outcome) and psychological health (individual outcome). At last, another goal of this study is to investigate the possible influence that employees' life priorities might exert between the experience of conflict and subsequent negative outcomes.

2.3.1 Long Work Hours and Pressure to Overtime

As stated previously, work-life conflict may arise when work demands absorb time that makes it difficult to balance the personal life. From this perspective, time is a limited resource and the work conditions may place competing demands on an individual's time, raising time-based work-life conflict. Therefore, and although the work-life conflict has many potential determinants, the amount of time occupied by the job is one of the most obvious ways for occupational life to affect personal life. From the *role theory* perspective it seems rather logical to expect that a person who spend more time in a role (job) that overloads him/her with responsibilities (work overload), will have less available time to spend in other personal life roles. This work overload occurrence also raises an important concern about how long working hours affect employees' well-being, namely their psychological and physical health.

Long working hours or overtime are rather common in Europe. Results from the fourth European working conditions survey revealed that, in 2005, about 20% of European employees report long working hours - more than 45 hours per week (Parent-Thirion et al., 2007). In Portugal, long working hours are reported by 15% of workers, who have 45 to 60 hours of work per week. Results from the same survey also indicate that those who work more than 48 hours a week are more likely to consider their health and safety at risk because of their work and that their long working hours affects their health. Moreover, almost three times as many workers working long hours compared to other workers, state that their working hours negatively affect their social and family commitments (Parent-Thirion et al., 2007).

Literature results indicate that long working hours have been associated with: i) health problems such as cardiovascular disease, diabetes, disability retirement, fatigue, physiological changes regarding cardiovascular and immunologic parameters, reduced sleep hours; ii) poor lifestyle habits, for example heavy smoking, lack of exercise, inadequate diet; iii) psychological symptoms of distress, depression and burnout (for meta-analytical reviews see: Caruso, Hitchcock, Dick, Russo & Schmit, 2004; Sparks, Cooper, Fried & Shirom, 1997; Van der Hulst, 2003). These negative health outcomes are usually explained through the *effort-recovery model* (Meijman & Mulder, 1998), which postulates that the possible negative consequences of long working hours for health and well-being depend on the possibilities for recovery in the course of the working day (internal recovery) and after work (external recovery), thus working overtime implies that the duration of effort investment is prolonged, while the time left for external recovery is shortened.

In the work-family research, overtime demands have been recurrently studied as antecedents of the work interference with family. For example, Geurts and Demerouti (2003) provided empirical support that long working hours (long regular work hours and overtime hours) are associated with higher levels of work interference with family. In the same line of results, the meta-analytic review conducted by Byron (2005) also revealed that employees who spend more time at work experience more work-to-family conflict. Evidence drawn from European Social Survey studies shows that professional workers are those who work longer hours and experience more work pressure and work-family conflict (MacGinnity & Calvert, 2009) and that work long hours is the working condition that has the most negative impact in balancing work and family demands (Gallie & Russell, 2009).

Although cited studies offer results regarding the work-family conflict concept, given its similarity with the work-life conflict definition presented in this study, similar results are

expected. Thus, we hypothesized that a higher number of weekly working hours will increase the conflict between work and other life domains, and more specifically we expect that the influence of long working hours will be higher for time-based work-life conflict than for strain-based work-life conflict:

H₁: The number of hours worked per week will be more positively associated with time-based work-life conflict, than with work-life strain based conflict.

The impact that work hours have on employees' well being is likely to be influenced by their reasons for working the hours that they do. Long working hours can be due to long contractual hours or overtime hours. Contractual hours refers to the number of hours worked according to one's contract, which means that it refers to the time that employees have reserved to work responsibilities (Geurts, Beckers, Taris, Kompier, & Smulders, 2009). On the other hand, overtime hours are those hours worked on the time that was initially reserved for personal life domains and thus for non-work obligations (Geurts et al, 2009). In Portugal, contractual hours are fixed on 40 hours per week by the Portuguese Labour Code (Bettencourt, 2007), and following the European Worktime Directive, that all EU countries must follow, the average working week (including overtime) should not exceed 48 hours per week (European Commission, 2003).

Although Geurts and colleagues (2009) study demonstrated that high number of contractual hours had the same consequences as overtime hours, for the purpose of this study we will only focus on overtime, since we are interesting in the potential damage that working more hours than what was contractually predetermined might have on employees' well-being.

Depicting from different studies, overtime work can assume different forms. As a direct consequence of the worktime control (employee possibility to control the duration, position and distribution of worktime), Beckers and colleagues (2008) distinguish between two opposite poles of control over overtime work: voluntary and involuntary overtime work. They also differentiate between overtime work that is rewarded (receiving compensations for extra work hours) or not rewarded. The results obtained with their study provided evidence that involuntary overtime work was related to high levels of fatigue and low satisfaction, especially for those employees' who work involuntary overtime without rewards, a group considered by the authors as being in burnout risk. This interaction between autonomy and compensation was also found in other studies: working overtime in combination with a high pressure to work overtime in low rewarded jobs was associated with adverse psychological

symptoms (e.g. burnout, poor recovery) and to work-family conflict (Van der Hulst & Geurts, 2001); fatigued overtime employees reported more adverse work characteristics (high demands in combination with low autonomy and low job variety) than non-fatigued overtime workers (Beckers et al., 2004); overtime hours were related to higher fatigue for employees who experienced high job demands in combination with low autonomy (Van der Hulst, Van Veldhoven & Beckers, 2006); and the positive association between overtime hours and physical health symptoms was higher for employees' who lacked both schedule autonomy and social support (Tucker & Rutherford, 2005).

It seems rather clear that the lack of control over overtime hours and also the pressures to work extra hours have a negative impact on employees' well-being and work-family balance, especially when those hours are not rewarded. Nonetheless, studies have only addressed the pressures to work overtime as direct pressures from supervisors in order to complete work tasks (Van der Hulst & Geurts, 2001), and none (as far as we know) has considered a more subtle way of pressure to work extra hours, such as an organizational culture that implicitly assumes that is derisible to overtime in order to succeed (Wharton & Blair-Loy, 2002).

Organizational culture can be defined as a common frame of reference that is shared by employees, and it is composed by values, beliefs and assumptions that are socially developed, learned and transmitted. These core values shape employees' behaviours, decision making and performance by offering a set of rules and guidelines in terms of perceiving, thinking and feeling the organization (e.g. Quinn & Cameron, 1998; Schein, 1985; Neves, 2001). Given this definition it seems logical to suppose that an overtime organizational culture may exert an implicit pressure to work extra hours, which means that employees may not be formally obliged or asked to work overtime but the consequences of not doing so will be highly undesirable (e.g. poor co-worker relations; sanctions from supervisor; being seen as not committed to the organization; gossiping, etc.). From our perspective this cultural dimension of overtime implies an involuntary overtime work, since employees do not work extra hours because they want to, instead they work extra hours because they feel they are supposed to do so according to their organizational culture.

In addition to actual number of hours worked, we think that the mere perception that it is supposed to work extra hours will lead to the experience of conflict between work and personal life. In fact, employees who feel pressure to overtime against their will (involuntary overtime) may experience a mismatch between actual and desired work hours, and the imposed additional work hours can be considered to induce extra costs (e.g. less leisure and recovery time). Moreover, the sense of lack of personal control over overtime work may

cause stress that makes it difficult to fulfil the demands of personal life roles (strain-based conflict). For the purpose of this study we will refer to this cultural dimension of overtime as perceived pressure to overtime: employees' perception that there is an underlying culture of overtime in their organization, which they ought to follow in order to succeed.

Considering this definition it is expected that the more an employee feels that he/she is pressured to work overtime hours, the more he/she will experiences conflict between his/her work and personal life domains:

H₂: The perceived pressure to overtime will be positively associated with time-based and strain-based work-life conflict.

2.3.2 Perceived Organizational Support for work-life issues

Perceived Organizational Support (POS) has been commonly defined as “employee beliefs concerning the extent to which the organization values their contributions and cares about their well-being” (Eisenberger, Huntington, Hutchison & Sowa, 1986, p. 501), and translates a common concern of employees regarding the organization's commitment to them. The underlying logic behind POS can be driven from *social exchange theory* (Homans, 1958; Blau, 1964) that predicts that when one person treats another well, the reciprocity norm obliges the return of favourable treatment. In an organizational context, when both the employee and the employer apply the reciprocity norm into their relationship, favourable treatment received is reciprocated, leading to beneficial outcomes for both. In simple terms, if employees believe that organization values their contributions and cares about their well-being, then they will feel an obligation to reciprocate with commitment to the organization (Eisenberger et al, 1986; Rhoades & Eisenberger, 2002). Apart from the reciprocity norm, the *organizational support theory* presented by Eisenberger et al. (1986) also expects POS to fulfil socio-emotional needs, leading workers to incorporate organizational membership and role status into their social identity, and to strengthen employees' beliefs that the organization recognizes and rewards increased performance.

A meta-analysis concerning POS consequences conducted by Rhoades and Eisenberger (2002) revealed that it predicted affective commitment, job satisfaction, desire to remain in the organization, job involvement, turnover intentions, absenteeism and positive mood at work. Regarding work and family studies it has been established that organizations and supervisors who are generally supportive can reduce work-family conflict (e.g. Byron, 2005; Frone, 2002; Frone, Yardley et al., 1997; O'Driscoll et al., 2003) and this effect seems to be

consistent across different contexts. Grant-Vallone and Ensher (2001) showed, with an expatriate's sample, that POS was negatively related to employee's work-to-family conflict. With a sample of hospitality employees, supervisor support was also found to diminish work-family conflict (Karatepe & Uludag, 2008), and Foley, Hang-Yue and Lui (2005) demonstrated that POS was negatively related to work-family conflict, and can act as a moderator between role overload and work-family conflict, in a Chinese sample.

In addition, some studies have extended this relationship to specific support for work-family/life issues, following Thompson, Beauvais, and Lyness (1999) definition of organizational support for work-life issues: "the shared assumptions, beliefs, and values regarding the extent to which an organization supports and values the integration of employees' work and family lives" (p. 392). Allen (2001) found that employees who perceived their organization as more family supportive made more use of the work-family available benefits, moreover, they experience less work-family conflict and less turnover intentions, felt more job satisfaction and organizational commitment, than those employees who perceived the organization as less supportive. Following the same pattern of results, Warner and Hausdorf (2009) showed that POS for work-life issues was negatively related to work-family conflict, and that work overload and job control partially mediated the relationship between POS for work-life issues and work-family conflict.

For the purpose of this study we opt to use the concept of Perceived Organizational Support for work-life issues. Since our definition of work-life conflict is similar to the concept of work-family conflict we expect to have the same result's pattern. Employees' who perceived high levels of POS for work-life issues are likely to report lower levels of work-life conflict, since their supportive organization may offer flexible work arrangements or policies that help balance work and personal life (reducing time-based conflict), or may be comprehensive regarding the difficulty of managing all life demands and thus reducing stress associated with the work role (decreasing strain-based conflict). On the other hand, if employees' feel that organization is not accomplishing the reciprocity agreement by not caring about their work and life balance, employees' may experience increasing conflict and ultimately fail to meet the reciprocity norm. For these reasons we expected that POS for work-life issues will decrease the experience of work-life conflict:

H₃: POS for work-life issues will be negatively related to time-based and strain-based work-life conflict.

2.3.3 Extra-Work Activities

From a daily observation, employees seem to be able to conciliate their professional life with other demands in their lives, including activities such as sports, hobbies, volunteering, religion and so on. It is clear that although employees may find difficulties in managing all these activities, they somehow are able to harmonize time pressures. Another aspect that stands out is that employees who are able to maintain activities outside their jobs seem to suffer from less psychological strains and also seem to be less fed up with their jobs. Since in this study we face employees as complex individuals whose outside work life is not limited to family roles, it seemed relevant to better understand the influence that being engaged in other activities could have upon conflict between work and life domains.

From a *role theory* perspective, being engaged in several roles will lead to higher levels of conflict since the fulfilment of all demands is likely to become to some extent incompatible. From this point of view, trying to conciliate the work role with several life-domain roles, for instance family, friend, hobbies, community activities, etc., will certainly contribute to experience strains since employees will feel more opposed pressures to accomplish the demands from all different roles.

However, the relationship between the performance of multiple roles and the experience of conflict does not seem to be as linear as the theory suggests. In fact there are evidences that performing multiple roles may actually contribute to ameliorate employees' lives. Literature regarding work-family enrichment has demonstrated the positive outcomes that playing different roles, work and family ones, may have on employees (e.g. Carlson, Kacmar, Wayne & Grzywacz, 2006; Greenhaus & Powell, 2006). Additionally, even in conflict literature there is evidence that family role may contribute to the prevention of work-family conflict through emotional and instrumental social support (Adams, King & King, 1996; Lapierre & Allen, 2006).

From a *social support* framework, the social environment is not only a major source of stress given that it also provides vital resources for individuals to adapt and cope with potential stressful events. Social support can be seen as a set of personal transactions that involve i) emotional support, which consists of encouragement, understanding, trust and empathy that contributes to the feeling of being loved and cared about; ii) instrumental support, including tangible assistance aimed at solving problem such as doing a job or a chore, loans, gifts and services; and iii) informational support, providing information, advice or feedback about how a person is doing (e.g. Schaefer, Coyne & Lazarus, 1982; Lazarus & Folkman, 1984). Additionally, research investigating the effects of social support

demonstrated that it is indeed related to increased health and well-being (e.g. Beehr & McGrath, 1992).

From this social support perspective it is possible to consider that being engaged in extra-work activities may act as an emotional sustenance. For example, members of sports club, volunteering groups, etc, may take time to listen to employee's concerns and encourage him/her and help him/her to feel better. Consequently this emotional support, available because employee is engaged in social groups besides work, will not cause strain; on the contrary it will have an overall "calming" effect on work-life conflict. For this reason is legitimate to believe that being engaged in different activities that are in line with employee's personal preferences and interests may offer emotional support, which in turn instead of enhancing the conflict between the multiple roles, may act as a protective factor that help prevent strain-based conflict.

Since there are two competing frameworks that predict different outcomes for the extra-work activities effects on work-life conflict, we will not presuppose any specific hypotheses. Instead we assume a more explorative analysis of the effects of this specific variable on work-life conflict.

2.3.4 Life Priorities

According to *identity theory*, the self consists of a collection of identities each of which is linked to role-related behaviours (Stets & Burke, 2000). Identities usually try to respond the question "who am I" and most answers are strictly related to roles that individuals engage, for instance, mother/father, friend, employee, manager, etc., (Stryker & Burke, 2000). Since these identities are directly linked to roles, they give individuals a set of associated meanings and expectations and also provide them behavioural guidance, ideas that are in line with the *role theory* assumptions already described. The most notable feature of this theory is the concept of identity salience. It is assumed that the salience that an individual attach to his/her identity influences how much effort he/she puts into each role, and also influences how well he/she performs in each role (Stets & Burke, 2000). This assumption is based on the idea that the multiple identities within the self exist in a hierarchy of salience, thus identities ranked higher are most likely to be invoked in different situations (Stryker & Burke, 2000). Obviously, there are individual differences in the salience of a particular role/identity as a determinant of self-concept, and this importance assigned to a particular role will be referred in the present study as life priorities.

In simple terms, life priorities can be defined as the extent an individual is more involved with his/her career, or is more involved with his/her family or personal life. For instance, an employee whose life priority is his/her career views it as central to his/her self-concept or sense of identity (Frone & Rice, 1987). The priority given to one role may increase the likelihood of interrole conflict, such as work-family conflict. In fact, high involvement in one role (e.g. work role) may increase the amount of time and mental concern devoted to that role, making it more difficult to fulfil the demands and expectations of another role (e.g. a personal life role) (Greenhaus & Beutell, 1985).

Different studies demonstrated that job involvement was positively related to work-to-family conflict, while family involvement was positively associated with family-to-work conflict (Adams, et al., 1996; Frone & Rice, 1985; Frone et al., 1992a). In addition, Tavares, Caetano e Silva (2007) found that the higher the level of employee's organizational identification (that can be seen as a form of job involvement) the more the job is perceived as interfering with the family, due to employees' increased job dedication behaviours such as higher number of extra working hours. Given the similarity between work-family conflict concept and the definition of work-life conflict and since we will only address the conflict direction of work interference with personal life, it is expectable that higher levels of job involvement will lead to greater work-life conflict.

H₄: Job involvement will be positively associated with time-based and strain-based work-life conflict.

Besides this notion of being an antecedent of conflict, life priorities have been studied as a potential moderator of the relationship between work-family conflict and organizational outcomes (e.g. Carlson & Kacmar, 2000). The underlying logic is that conflict outcomes may not only depend on the level of conflict experienced, instead their expression varies according to the employee life priority. For instance, career-involved employees may tolerate extensive interference of work with their personal life in order to achieve career success. Therefore the possible consequences of the conflict experienced will not be as significant as for those who career is not their priority in life.

This logic seems to have received some empirical evidence. Greenhaus, Parasuraman and Collins (2001) found that the relationship between work-to-family conflict with withdrawal intentions and behaviours was stronger for those employees who were weakly involved in their careers than for those who were highly involved in their careers. Similar results were

obtained by Hsieh, Pearson and Kline (2009): work-to-life conflict had more impact in intention to quit among employees who were highly involved with their personal life. Following this reasoning, we expect that employee's life priorities will moderate the relationship between work-life conflict and its consequences. More precisely, we expected that the influence of work-life conflict on affective organizational commitment, and possibly on psychological symptoms, will be weaker when there is high job involvement, and by the contrary to become stronger when personal life is more valued.

H₅: Employee's life priorities will moderate the relationship between work-life conflict and affective organizational commitment and psychological symptoms.

2.3.5 Affective Organizational Commitment

Organizational commitment can be described "as the psychological state that (a) characterizes the employee's relationship with the organization and (b) has implications for the decision to continue or discontinue membership in the organization" (Meyer & Allen, 1991, p.67). This definition implies that committed employees are more likely to remain in the organization than uncommitted employees. The most well established, studied and accepted model of organizational commitment is the three-component model proposed by Meyer and Allen (1991) which identifies commitment as i) an affective attachment to the organization (affective commitment), ii) a perceived cost associated with leaving the organization (continuance commitment) and iii) an obligation to remain in the organization (normative commitment). The nature of the psychological state for each form of commitment is quite different, and is described by the authors in very simple and illustrative way: employees with a strong affective commitment remain with the organization because they want to, those with a strong continuance commitment remain because they need to, and those with a strong normative commitment stay because they feel they ought to.

Organizational commitment has been associated with several organizational outcomes. Evidence reveals that all three forms of commitment are related to withdrawal cognition, turnover and absenteeism. However, affective commitment has the strongest correlations with the outcomes stated, and also with job performance, organizational citizenship behaviour, and with employee-relevant outcomes, such as stress and work-family conflict. Moreover, correlations between affective commitment and overall job satisfaction and job involvement were quite strong (Meyer, Allen & Smith, 1993; Meyer, Stanley, Herscovitch & Topolnytsky, 2002). Given these results one can conclude that affective commitment has stronger linkages

to organizational-related outcomes than continuance or normative commitment, at least in more individualist cultures, such as European and U.S.A. cultures (Meyer & Allen, 1997). Following this conclusion the present study will only focus on the affective component of organizational commitment.

Different antecedents have been identified for affective commitment, including personal characteristics, organizational related characteristics, and work experiences (Meyer & Allen, 1991). Work-family conflict can fall into the work experiences category and its relationship to affective commitment has received empirical support: as work-family conflict increases, affective commitment decreases (e.g. Allen et al, 2000; Ayree et al., 2005; Siegel et al, 2005).

A possible explanation of the negative effects that conflict has on affective commitment can be drawn from *exchange theory* (Homans, 1958). Based on the principle of reciprocity, the theory conceives that individuals will give back what they perceived to have or have not received from the other party in the relationship. Therefore, the greater the work-family conflict the more employees may conclude that the organization is not treating them well or that the organization does not support or care about employees. As a consequence, employees may reciprocate became less committed to their organization and ultimately manifest their commitment reduction through absenteeism, turnover, reduced effort and performance, etc.

This reciprocity logic is also suitable for the concept of work-life conflict. Again, if employees experience conflict between their work and other domains of their lives, they may assign it to a lack of organizational care, and consequently became less emotional attached and involved with the organization:

H₆: Time-based and strain-based work-life conflict will be negatively associated with affective organizational commitment.

2.3.6 Psychological Health

Experiencing conflict between work and family domains has real costs for employees and their organizations. In fact, mental and physical health symptoms are common outcomes related to work-family conflict, as mention previously.

Different studies have demonstrated that increased levels of conflict are associated with poor general psychological health, as well as poor physical health (Allen et al., 2000). In a 4-year longitudinal study, Frone, Russel et al. (1997) provided initial evidence that work-family conflict may be a causal antecedent of poor employee health. In fact, they found that work-family conflict predicted higher levels of psychological distress (e.g depression), poor

physical health (e.g. hypertension) and heavy alcohol consumption. Through a National Comorbidity Survey conducted in United States, Frone (2000) revealed that work-family conflict is positively associated with clinical significant diagnosis of mood, anxiety and dependence disorders. In the same line of results, Grzywacz and Bass (2003) found that adult mental health is optimized when work-to-family conflict is low and family-to-work facilitation is high, and with an international expatriates sample results also show that increased conflict is associated with higher levels of depression and anxiety (Grant-Vallone & Ensher, 2001). Conflict is also related to more general measures of subjective well-being, with higher levels conflict being associated with lower levels of employee's well-being (e.g. Lenaghan, Buda & Eisner, 2007; Lapierre & Allen, 2006).

The most alarming, and probably most disabling, outcome is the high association between conflict and depression. At the individual level, it is well stated that symptoms of depression can cause severe social dysfunction, affecting all domains of one's life. This negative impact is also quite visible at the organizational level. In fact, different studies demonstrate the consequences that depression has upon workplace productivity, such as: increased absenteeism, increased conflict, increased medical utilization, increased work accidents, increased workforce turnover, increased long and short-term work disability days, and lower job performance (Adler et al., 2006; Elison, Houck, Marcus & Pincus, 2004; Kessler et al, 1999; Kessler, Greenberg, Mickelson, Meneades & Wang, 2001; Lerner & Henke, 2008; Wang et al., 2004). Since depression has a great impact on the organizational level, it is important to devote attention to the study of potential buffers between conflict and the adverse mental health outcomes, as well as to the study of strategies to reduce conflict experience.

The relationship between conflict and psychological distress can be logically driven from Hobfoll's (1989) conceptualization of stress in his *conservation of resources theory*, that specifies that stress or psychological strains are a reaction to the environment. Hobfoll proposes that actual or perceived lack of resources, the threat of losing resources or the lack of resource gain, are sufficient conditions to trigger strains, since they may compromise an individual's belief in his/her own success. These resources include objects, conditions, personal characteristics or energies (Hobfoll, 1989). Work-family conflict has been defined as the individual's perception of the work and family environments in which demands from one role drain resources that are necessary for an individual to fulfil demands in the other role (Greenhaus & Beutell, 1985). This failure to meet role demands may potentially threaten one's ability to maintain or gain valued resources in both work and family domains.

Consequently, perceptions of work-family conflict can, at least theoretically, cause psychological strains, such as depression and anxiety.

This theoretical logic can also be applied to work-life conflict concept. In fact, work life conflict has been defined as the individual's perception that work role demands are incompatible with the accomplishment of personal life role demands, which may lead to disbeliefs about individual's ability to succeed and/or to maintain valued resources (e.g. promotion at work; maintain close relationships with the family; become responsible for the community group; learn to play a musical instrument; etc), and consequently origin psychological strains. Given the similitude involving these two concepts it is expected that, analogous to work-family conflict, work-life conflict will be related to employees' mental health, so that increased conflict is related to higher levels of depression and anxiety symptoms:

H₇: Time-based and strain-based work-life conflict will be positively associated with psychological symptoms of distress.

2.4 Model of Work-Life Conflict

Since we intend to test a model with predictors and outcomes of work-life conflict, it can be seen as a mediator model in which both strain-based and time-based conflict may act as full or partial mediators between predictors and outcomes. For this reason, it is expected that predictors of conflict may have a direct influence on outcomes of conflict, however these relationships might be suppressed or at least weakened through the influence of strain-based and time-based conflict:

H₈: Time-based and strain-based conflicts mediate the relationships between conflict predictors and employee's affective organizational commitment and psychological symptoms.

Because the main concern of this study is not related to the direct influences of predictors on outcomes, no formal hypothesis were elaborated, although we do assume several assumptions according to what has been previously stated about each variable. The assumptions go as follows:

- a) The higher the number of hours worked per week the higher will be the report of psychological symptoms, and the lower will be affective commitment;

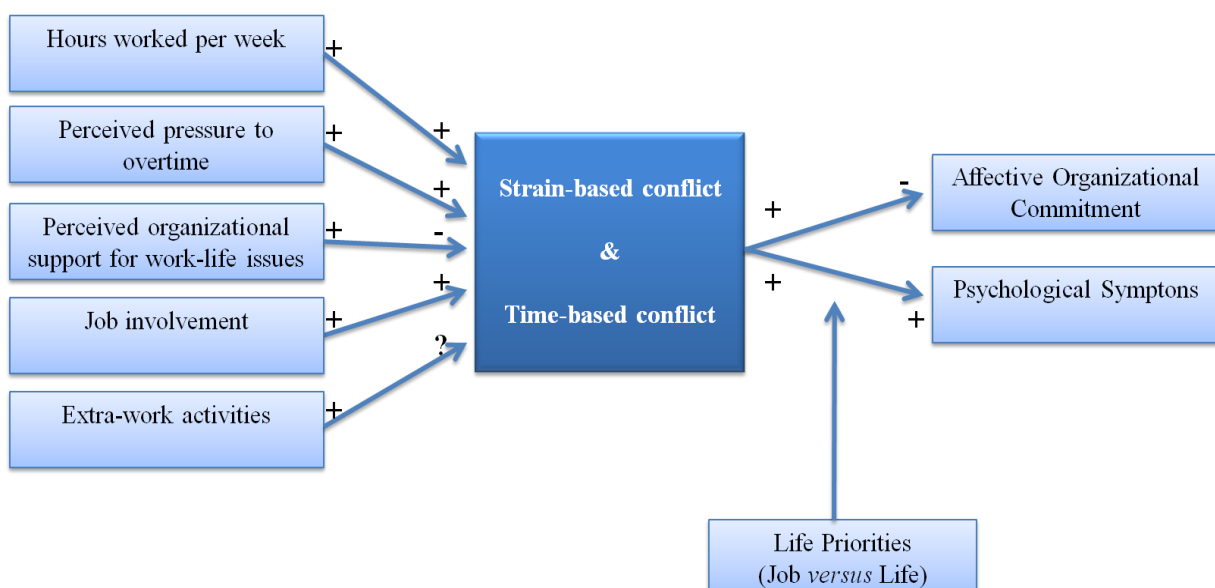
- b) Higher levels of perceived pressure to overtime will lead to more psychological complaints and less affective commitment;
- c) As the perceived organizational support for work-life issues increase, the psychological symptoms will decrease while the affective commitment will increase;
- d) Concerning extra-work activities, and as stated before, we opt to assume an exploratory analysis and therefore no assumptions were made.
- e) The more the job is a employee life priority, the more likely he/she is to feel negative psychological symptoms and less affective organizational commitment;

A graphic overview of the model proposed can be seen in Figure 2.2, which helps to understand the relationship between variables in the model and also all the hypotheses that underlie the present study.

Briefly, the model proposed in this study goes beyond prior literature by:

- a) Contribute to develop of work-life conflict concept and measure its multiple forms, time-based and strain-based, which provides a fine-grained examination of the possible value associated with each of the predictors and outcomes studied;
- b) Accounting simultaneously in one model for predictors and outcomes of the work-life conflict experienced;
- c) Proposing two non-explored variables as antecedents of work-life conflict;
- d) Exploring the potential moderator effect that employees' life priorities may have between the experience of conflict and its negative outcomes.

Figure 2.2: Work-life conflict proposed model



3. Method

3.1 Sample

Data was obtained from a snowball sampling procedure via an online questionnaire composed by full-time employees, over 18 years old. Sample requirements can be justified as follows: i) part-time work do not entail the same negative outcomes that full-time work does, and it is not likely that part-time workers feel pressure to overtime (Parent-Thirion et al., 2007); ii) self-employed workers are not likely to be influenced by organizational variables like those explored in this study; iii) only people over 18 years old or more are legally allowed to work full-time according to the Portuguese Labour Code.

The sample was composed by a total of 325 participants, 66.8% of which were female. Participant's age ranged from 22 to 65 years old and the mean age was around 36 years old. The majority of participants were married (59.7%) followed by single ones (34.2%) and a minority were divorced (6.2%). Only 24.3% of participants had preteen children at their care (under 10 years old) 15.5% had teenagers at their care, and the majority 60.3% didn't have any children. Also the large majority of participants did not have dependent adults at their care (94.8%).

Regarding participants' qualifications 15.4% studied until high-school, and the large majority had an academic degree: 59.7% completed a bachelor degree and 21.2% a Master or PhD degree. A minority of participants occupied a director/manager position (14.18%), 22.5% were low-skilled white collar employees and the majority (62.8%) were high-skilled white collar employees. The average hours worked per week were 43.5 hours and only a small minority of participants were shift-workers (7.7%). When asked about their engagement in extra-work activities, 57.5% of participants report some type of activity outside work (e.g. sports; cultural activities).

3.2 Procedure

The questionnaire was created using Qualtrics software for online researches, which provided a hyperlink to the online questionnaire. This link was via e-mailed to personal contacts that met the participant's requirements: full-time workers over 18 years old. In the email participants were informed that the study goal was to analyse how people manage to balance their professional activity with their personal/family interests and responsibilities. In addition the confidentiality and anonymity of their responses was guaranteed, and an email address was available in order to clarify any questions that participants might have about the

study. Participants were also asked to forward the email to personal contacts of their own that might fit the participants' requirements and would be available to answer the survey. Gathering data through this procedure led to a snowball sample.

We opted to collect the data through an online questionnaire for different reasons. First, it allows the collection of a great amount of data in a short period of time, and it prevents the existence of missing data, since there is an option that does not let participants carry on the questionnaire if any question is left blank. In addition, Qualtrics software permits that only fully completed questionnaires are saved. Another asset of this method is avoiding the mistakes that may occur while inserting data in the database, since this software automatically exports data to PAS-W database.

As any other method, online questionnaires/surveys have their own limitations. It can be argued that it makes it difficult to control who answers the questionnaire because the researcher may lose track of the displayed link, however, and in order to control this, we built in different control questions to ensure that data analysis would only include participants who met the established requirements. Nonetheless, a major limitation of this method is the total absence of control regarding the conditions under which participants answer the survey. This lack of control may imply that other variables not considered by us might interfere with answers given. However, one must accept as probable that the extraneous answering conditions will vary randomly across the sample and thus, a stable extraneous pattern of answers would be unlikely.

3.3 Data Analysis Strategy

Because solutions generated from principal component analysis differ little from those derived from factor analysis (Field, 2009; Hair, Black, Babin & Anderson, 2010) we opted to assess the psychometric proprieties of the instruments using principal component analysis (PCA), since it is considered a psychometrical strong procedure and is conceptually less complex than factor analysis (Field, 2009). We considered the indicators of *Kaiser-Meyer-Olkin* measure of sampling adequacy (KMO), Bartlett's test of sphericity and communalities values, following Field's (2009) recommendation. The factor matrices were submitted to a *varimax* rotation or to an *oblimin* rotation, according to whether or not the theory suggested that factors should be correlated (Tabachnik & Fidell, 2007), and Kaiser's criterion was used to extract factors. The internal consistency of the variables was calculated using Cronbach's alpha reliability coefficient, which according to Nunnally's (1978) "rule of thumb" must be equal or higher than 0.7.

Descriptive statistics of all variables and their intercorrelations were calculated and the impact that control variables might have on work-life conflict was tested through ANOVAS or *t-tests* for means comparisons. Hierarchical multiple regression analysis were used to test the hypothesized relationships between predictors and work-life conflict (Hypothesis 1 to 4), and the subsequent outcomes of conflict (Hypothesis 6 and 7). Since, the model proposed can be seen as a mediation model, we follow the three-step procedure to test mediation effects (Hypothesis 8) proposed by Baron and Kenny (1986). Finally, Hypothesis 5 that predicts the existence of a moderation effect of employees' life priorities was also tested through hierarchical multiple regression following the procedures proposed by Baron and Kenny (1986) for moderation tests. The statistic software for social sciences, PASW-SPSS (Statistical Package for the Social Sciences) version 18, was used to conduct all statistical analysis.

3.4 Measures

The online questionnaire was composed by a total of 43 items corresponding to the following scales: work-life conflict; perception of pressure to overtime; perceived organizational support for work-life issues; life priorities; affective organizational commitment; psychological symptoms. All items were rated using a 6-point Likert scale ranging from 1 (Totally Disagree) to 6 (Totally Agree).

Controls commonly used in work and family domains research were measured to help avoid statistical confounds. Controls included sex, age, marital status, occupation, educational level, children and dependent adults at employees' care. Some of the questions, such as occupation and number of hours worked per week, were also used to ensure that only participants who met the established requirements were include in the analysis.

3.4.1 Control Questions

Participants' sex was coded as a dummy variable, 0 for female and 1 for male, and the same logic was used to code shift-work (0 for non-shift workers and 1 for shift-workers). Age was measure by asking participants their current age, and afterwards we created four age categories (22-30; 31-40; 41-50; over 50) in order to simplify further analysis. Marital status and qualification questions were composed by a set of pre-determined options from which participants must select the appropriate one.

Participants' were asked to write the number and age of dependent children and dependent adults at their responsibility. For offspring the answers were grouped into three different

categories: participants who have children under 10 years old; teenagers (11-18 years old); and participants without children. The reason for this division lays in the finding that parental role demands are generally highest when the family life cycle includes preteen children (Parasuraman et. al, 1996). The answers concerning the existence of dependent adults were split between those who have dependent adults at their care, and those who don't (codes of 0 and 1, respectively). Responses given to the item concerning participants' occupation were clustered into three groups (director/manager position; high-skilled white collar employees and low-skilled white collar employees), which were created based on the Portuguese Classification of Professions (INE, 2011). This classification system clusters occupations according to their level of required skills.

3.4.2 Work-Life Conflict

Although there is some agreement in the definition of the relatively new concept of work-life conflict, researchers use a wide variety of scales to measure it. We could not find a measure that has been consistently used and validated across studies. When using this concept, researchers tend to create brief measures for their study purpose, or adapt items randomly from work-family conflict existing scales. For this reason, we chose to adapt the well-established multidimensional 18-item scale of work-life conflict, developed by Carlson et al. (2000), which considers both directions (work-to-family and family-to work) for the three forms of work-family conflict defined by Greenhaus and Beutell (1985): time-based, strain-based and behaviour-based conflict. These scales have shown good internal consistency in several studies, for example in Allen and Armstrong (2006) study the alphas were .87 for family-to-work, and .88 for work-to-family, and Boyar, Maertz, Mosley and Carr study (2008 -34) found values of .94 and .86 for family-to-work and work-to-family, respectively.

Since we are only concern about the interference of work in personal life, and since the behavior-based items did not raise consistent results (Lapierre et al., 2005), we translated into Portuguese and customized to the work-life conflict concept the items related to time-based and strain-based work-to-family conflict. Therefore the work-life conflict scale was composed by three items relative to time-based work-life conflict (e.g. "My work keeps me from my extra-work activities more than I would like.") and three items relative to strain-based work-life conflict (e.g. "Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy").

A principal component analysis was conducted on the six items with oblique rotation (*oblimin*) providing the two factor solution expected, with three items on each factor (KMO=

.850, Bartlett's test of sphericity $\chi^2 (15) = 1310.13, p < .001$). The two factors, namely Strain-based conflict and Time-based conflict explain 82.6% of total variance (see Table 3.1), and as predicted they are related to each other (factor intercorrelations of .562). Both factors showed to have good internal consistency, $\alpha = 0.90$ and $\alpha = 0.87$ respectively.

Table 3.1: Oblimin pattern matrix of work-life conflict

Work-Life Conflict	Strain-based conflict	Time-based conflict
Due to all the pressures at work, when I come home I am too stressed to do the things I enjoy.	.937	-.033
I am often so emotionally drained when I get home from work that it prevents me from contributing to important people in my life.	.934	-.004
When I get home from work I am often too frazzled to participate in my personal life activities/responsibilities	.864	.075
My work keeps me from my personal life activities more than I would like.	-.111	.953
The time I must devote to my job keeps me from participating equally in my personal life responsibilities and activities.	.045	.884
I have to miss family/personal life activities due to the amount of time I must spend on work responsibilities	.190	.768
% of variance explained	65.9%	16.8%
Factor correlations		
Strain-based conflict	1.00	.562
Time-based conflict	.562	1.00

3.4.3 Long Work Hours and Pressure to Overtime

To assess participants' average number of hours worked per week, it was included a single item that asked participants how many hours in total they usually worked per week. Following what is defined by Portuguese Labour Code, we considered that participants who exceeded the number of maximum work hours defined by law, 40 hours per week, might be working overtime hours.

Items to measure perceived pressure to overtime were created for this study purpose, since we could not find any existing scale that measured our definition of it. All items were theoretically derived to assess employees' perceptions regarding the extent they felt that in their organization subsists an overtime culture that exerts an implicit pressure on them to work extra hours. In order to ensure content validity, literature on overtime hours were reviewed and ideas for item content came from articles and questions used by Beckers et al.

(2008), Tucker and Rutherford (2005), Van der Hulst and Geurts (2001), Van der Hulst et al. (2006). Since we were interested in evaluating employees' perceptions on their organizations, items were created following a similar grammatical structured as that employed by Eisenberger et al. (1986) on their perceived organizational support scale. All items were constructed so that higher scores would indicate more perceived pressure to overtime, and no reversed scored were needed.

Usually when developing a new scale, the items initially generated are submitted to a pre-test in order to select items to include in the final questionnaire. Nevertheless due to time constraints the use of this methodology was not possible, so we opted to submit the 10 items generated to four independents judges who were full-time workers. Judges were asked to choose the five items they thought to best represent employees' perception of pressure to overtime that was prompted by an underlying organizational culture that implicit demands to work extra hours. Inter-judges agreement was of 75% and a total of 5 items were retained for the study (e.g. "In this organization I feel pressured to work more hours than I would like to.")

A principal component analysis was conducted (see Table 3.2), on the five selected items with orthogonal rotation (*varimax*) providing, as expected, a one factor solution of perceived pressure to overtime (KMO= .856, Bartlett's test of sphericity $\chi^2(10) = 1043.32, p < .001$). These five items explain 72.9% of total variance and provided a very good reliability coefficient, $\alpha = 0.90$.

Table 3.2: Varimax rotated matrix for perceived pressure to overtime

Perceived Pressure to Overtime	
In my organization, employees are expected to overtime, whether or not it is paid.	.882
In my organization it is valued to leave workplace after the contractual hours.	.874
I feel that in this organization there is a message that a successful employee only leaves the workplace after his/her boss.	.855
I feel that in my organization there is a belief that employees who work the stipulated hours do not take their jobs seriously.	.847
In my organization I feel pressured to work more hours than I would like to.	.808
% of variance explained	72.9%

3.4.4 Perceived Organizational Support for Work-Life issues

In order to measure the employees' perception of organizational support for work and life issues we opted to use and translate into Portuguese the six-item scale developed by the Canadian Aging Research Network used in Warner and Hausdorf (2009) study with good

internal consistency ($\alpha = 0.92$). This scale is an adaptation of Eisenberger et al. (1986) original scale of perceived organizational support, and assesses employees' perceptions of general organization support for balancing work and life domains (e.g. "This organization believes that employees who take a leave of absence for personal/family reasons are not as serious about their jobs"). Since items were written in negative sentences, the scores were reverted in order to ease further analysis, so that higher scores mean more perceived organizational support.

A first principal component analysis with orthogonal rotation (*varimax*) revealed the need to exclude two ambiguous items (5 and 6) due to their very low communality scores. The subsequently factor analysis (see Table 3.3), provided, as expected, a one factor solution of perceived organizational support for work-life issues (KMO = .838, Bartlett's test of sphericity $\chi^2(10) = 733.16, p < .001$) with four items accounting for 73.9% of total variance, and revealing a good internal consistency $\alpha = 0.88$.

Table 3.3: Varimax rotated matrix for perceived organizational support for work-life issues

Perceived Organizational Support for work-life issues	
In order to succeed in this organization, employees have to put their family/ life second (R).	.887
This organization frowns on employees who cut back on their hours of work for personal/family reasons (R).	.879
This organization believes that employees who take a leave of absence for personal/family reasons are not as serious about their jobs (R).	.851
People with personal/family responsibilities do not do as well in this organization. (R)	.821
% of variance explained	73.9%

3.4.5 Extra-Work Activities

In order to evaluate the possible protector effect of being engaged in activities outside work (that revert to personal benefit), participants were asked to indicate the extra-work activities they were engaged in. To ease further analysis the answers were subsequently coded into two groups of participants, those who were engaged in any kind of extra-work activity and those who were not. This variable was further dummy-coded: not having any kind of extra-work activity was coded with 0 and being engaged with some sort of extra-work activity was coded as 1. From a descriptive point of view, 57.5% of participants were engaged in some type of activity outside work, and the most prevalent activities described include: sports;

cultural activities (e.g. reading, movies, and theatre); religious activities; studying and volunteering.

3.4.6 Life Priorities

The measure of employee's life priorities was assessed with two scales: job involvement and personal life involvement. Job involvement was measured by three questions adopted and translated from Lodhal and Kejner's (1965) job involvement scale ($\alpha = 0.79$). This scale was also adapted and used by Greenhaus et al. (2001) and Hsieh et. al (2009), both showing acceptable reliability coefficients, $\alpha = 0.79$ and $\alpha = 0.70$ respectively. Personal life involvement scale was assessed with a parallel set of three items, with the word "job" being substituted by "personal life". This procedure has been successfully used by Greenhaus et al. (2001) and Hsieh et al. (2009), that obtained good internal consistency, $\alpha = 0.84$ and $\alpha = 0.81$ respectively. Sample items for both scales are: "Most of the important things that happen to me involve my job" and "Most of the important things that happen to me involve my personal life (e.g. family, friend, hobbies, etc.)".

A principal component analysis was conducted on the six items with orthogonal rotation (*varimax*) providing the two factor solution expected, with three items on each factor (KMO = .705, Bartlett's test of sphericity $\chi^2 (15) = 558.89, p < .001$). The two independent factors, namely Job involvement and Life involvement account for 67.8% of total variance (see Table 3.4), and revealed acceptable values of internal consistency, $\alpha = 0.72$ and $\alpha = 0.78$ respectively.

Table 3.4: Varimax rotated matrix for life priorities

Life Priorities	Life involvement	Job involvement
The majority of satisfaction in my life comes from my personal life	.857	-.113
Most of the important things that happen to me involve my personal life.	.839	-.132
I am very personally involved with my personal life.	.779	-.117
The majority of satisfaction in my life comes from my job	-.108	.866
I am very personally involved with my job.	-.020	.759
Most of the important things that happen to me involve my job.	-.273	.753
% of variance explained	44.3%	23.5%

3.4.7 Affective Organizational Commitment

To assess the extent of employees' affective organizational commitment the six-item revised version of affective commitment scale was used (Meyer & Allen, 1997; Meyer et al., 1993) originally developed by Allen and Mayer (1990). This scale has shown good internal consistency in different studies, for instance, $\alpha = 0.87$ in Meyer et al. (1993) and $\alpha = 0.86$ in Aryee et al. (2005). Items include statements about employee's willingness to remain in the organization and sense of being part of the organization (e.g. "I would be very happy to spend the rest of my career with this organization"; "I do not feel like "part of the family" at my organization").

A principal component analysis was conducted (see Table 3.5) on the six items with orthogonal rotation (*varimax*) providing, as expected, a one factor solution of affective commitment (KMO= .865, Bartlett's test of sphericity $\chi^2 (15) = 1177.10, p < .001$) that explains a total of 64.2% of total variance, showing a good internal consistency $\alpha = 0.88$.

Table 3.5: Varimax rotated matrix for affective organizational commitment

Affective Organizational Commitment	
I do not feel "emotionally attached" to this organization. (R)	.886
I do not feel like "part of the family" at my organization. (R)	.875
I do not feel a strong sense of "belonging" to my organization. (R)	.874
This organization has a great deal of personal meaning for me.	.775
I would be very happy to spend the rest of my career with this organization.	.712
I really feel as if this organization's problems are my own.	.657
% of variance explained	64.2%

3.4.8 Psychological Health

Psychological health problems were assessed using a short form of the General Health Questionnaire with 12 items, the GHQ-12 (McDowell & Newell, 1996). This is a standardized screening test for detecting minor psychiatric disorders in the general population, and the items refer to respondents' emotional state (depression, anxiety) and coping ability. Banks et al. (1980) and Tucker and Rutherford (2005) studies provided evidence for the suitability of using this scale with employees' samples, obtaining good reliability coefficients ($\alpha = 0.82, \alpha = .89$ and $\alpha = 0.88$, respectively). Moreover, Banks et al. (1980) and also Ye (2009), found that a Likert scale performed better than the original bimodal scoring method in terms of score distribution. For this last reason, in the present study we opted to maintain the 6-point

Likert scale used before and some items were score-reversed so that higher scores were associated with poorer psychological health.

Some controversy has surrounded the factor structure of GHQ-12, and different studies have reported models including one to three factors (e.g. Banks et al., 1980; Shevlin & Adamson, 2005). A two-factor model based on wording effects has been receiving some support (Andrich & Van Schoubroeck, 1989; Kilic et al., 1997; Ye, 2009) which means that positively and negatively worded items cluster on separate factors. This wording effect has also been described to occur with other scales, such as Rosenberg Self-Esteem Scale, and the effects are not solved through reversing the items scores (Ye, 2009).

A principal component analysis was conducted on the twelve items with oblique rotation (*oblimin*) providing a two factor solution (KMO= .885, Bartlett's test of sphericity $\chi^2(66) = 1678.74, p < .001$), namely Positive Worded and Negative Worded with six items each that explains 56.9% of total variance (see Table 3.6). This factor structure based on wording effects is in line with that proposed by Ye (2009) however from a theoretical point of view this division lacks sense and in practical terms makes it difficult to proceed with further analysis.

Since a one-dimensional structure is also suggested by several authors (e.g. Banks et al., 1980; Shevlin & Adamson, 2005) and underlies the scale construction (McDowell & Newell, 1996) a higher order factor analysis was conducted using the Schmid –Leiman solution (SLS). The SLS “allows the calculation of direct relations between higher order factors and primary variables [items] and the provision of information about the independent contribution of factors of different levels to variables (Wolff & Preising, 2005, p. 48).

The first-order analysis already reported revealed that the two factors obtained are somewhat related since factor intercorrelations were .328, which is confirmed by a second-order principal component analysis, where a single factor (Symptoms) is obtained (Table 3.7).

Table 3.6: Oblimin pattern matrix of GHQ-12 (first-order factor analysis)

Item	First Order Factors	
	Positive Worded	Negative Worded
4.Capable of making decisions	.851	-.131
3.Play useful part in things	.833	-.068
1.Able to concentrate	.682	.108
8.Face up to problems	.682	.205
12.Reasonably happy	.531	-.103
7.Enjoy day-to-day activities	.489	.365
5.Constantly under strain	-.261	.832
2.Lost sleep over worry	-.095	.806
9.Sad and depressed	.338	.637
6.Could not overcome difficulties	.377	.571
10.Loss of confidence in self	.463	.510
11.Thinking of self as worthless	.360	.505
% of variance explained	43.4%	13.5%
Factor correlations		
Positive Worded	1.00	0.328
Negative Worded	0.328	1.00

Table 3.7: Oblimin pattern matrix of GHQ-12 (second-order factor analysis)

First Order Factors	Symptoms
Positive Worded	.884
Negative Worded	.884

The SLS conducted provided evidence that it is possible to consider a higher order construct (see Table 3.8). First, the high order factor accounts for 81.4% of the variance explained which means that this factor represents an appropriate generalization of the relation between variables. In addition, since it explains a higher percentage of variance extracted, then first order factors are of little interest (Wolff & Preising, 2005). Second, all items have higher loadings on the higher order factor (Symptoms) than on first-order factors which means that they probably best represent the higher order construct rather than two differentiated factors.

For the reasons provided, further analysis were conducted using this higher order factor of psychological symptoms which showed good internal consistency, $\alpha = .86$.

Table 3.8: Schmid–Leiman solution results

Items	Higher Order Factor	First Order Factors	
	Symptoms	Positive Worded	Negative Worded
1.Able to concentrate	.636	.398	-.061
2.Lost sleep over worry	.675	.389	-.032
3.Play useful part in things	.699	.319	.051
4.Capable of making decisions	.784	.319	.096
5.Constantly under strain	.378	.248	-.048
6.Could not overcome difficulties	.755	.229	.171
7.Enjoy day-to-day activities	.505	-.122	.389
8.Face up to problems	.629	-.044	.377
9.Sad and depressed	.861	.158	.298
10.Loss of confidence in self	.839	.176	.267
11.Thinking of self as worthless	.861	.217	.239
12.Reasonably happy	.765	.168	.236
% of variance explained	81.4%	10.4%	8.2%

4. Results

4.1 Descriptive Statistics

Table 4.1 displays the means, standard deviations, scale reliabilities and correlations for all variables. As scales ranged from 1 (Totally Disagree) to 6 (Totally Agree), it is possible to conclude that participants reported moderated levels of both strain and time-based conflict, although time-based ($M=3.42$) was slightly higher than strain-based ($M=3.25$). Regarding organizational predictors of conflict, participants also experienced moderated levels of perceived pressure to overtime and perceived organizational support (POS) for work-life issues. On the other hand, the mean of worked hours per week was somewhat higher than what is defined by Portuguese law, and this fact may indicate a propensity to work extra-hours on this particular sample. Affective commitment was relatively high ($M= 4.02$), at least when compared to other variables, whereas the report of psychological symptoms was reasonably low (which reveals that this sample may not consistently suffer from minor psychiatric disorders). In addition, it is possible to realize that participants reported higher levels of involvement with their personal lives, than with their jobs ($M= 4.72$ and $M= 3.65$, respectively).

Table 4.1: Means, standard deviations, correlations and scale reliabilities

Variables	1	2	3	4	5	6	7	8	9	10
1. Hours worked per week										
2. Pressure to overtime	.25**	(.91)								
3. POS	-.13*	-.66**	(.89)							
4. WLC strain-based	.20**	.52**	-.39**	(.91)						
5. WLC time-based	.33**	.49*	-.39**	.59**	(.87)					
6. Affective Commitment	-	-.38**	.42**	-.25**	-	(.89)				
7. Psychological Symptoms	-	.41**	-.39**	.58**	.35**	-.48**	(.87)			
8. Job involvement	.19**	-	.17**	-	.14*	.51**	-.25**	(.73)		
9. Life involvement	-.17**	-	-	-.16**	-	-	-	-.31**	(.78)	
10. Extra-work activities	-	-	-	-.19**	-	-	-.13*	-	-	
Mean	43.55	3.48	3.79	3.25	3.42	4.02	2.54	3.65	4.72	0.49
SD	7.88	1.32	1.22	1.22	1.13	1.09	.71	.86	.80	.58

* $p < 0.05$; ** $p < 0.01$

Note: “Hours worked per week range from 30 hours to 80 hours”, all other variables range from 1 to 6; coefficient alpha reliabilities are reported between parentheses on the main diagonal; for “hours worked per week” and “extra-work activities” coefficient alpha reliabilities are not applicable; non-significant values are represented by “-”.

As expected, the two types of work-life conflict were positively correlated ($r = 0.59, p < 0.01$). In addition, participants who reported higher levels of both types of conflict, reported lower levels of POS for work-life issues, higher levels of perceived pressure to overtime and higher number of worked hours per week. Regarding conflict outcomes, both types of conflict were negatively correlated with affective organizational commitment, but only strain-based conflict showed to have a significant negative correlation ($r = -0.25, p < 0.01$). Moreover, strain-based conflict is more strongly positively related to psychological symptoms of depression and anxiety than time-based conflict.

The results also show a direct relationship between predictors and outcomes of work-life conflict. Actually, participants who felt more pressured to overtime reported higher levels of psychological symptoms and lower affective commitment. Within the same line of logic, the report of greater POS for work life issues was accompanied by more affective commitment and less psychological symptoms. A catchy result was the especially high negative correlation between perceived pressure to overtime and the POS for work-life issues ($r = -0.66, p < 0.01$), which seems to be rather logic to the extent that if employees feel a subjective pressure to overtime reasonably they cannot feel that their organization supports their attempts to balance the professional life with the personal life

It should also be noted a strongly and positive relation between job involvement and affective commitment ($r = 0.51, p < 0.01$) and as expected job involvement was positively related to work-life conflict, namely to time-based conflict ($r = 0.14, p < 0.05$). Moreover, extra-work activities showed a significant, though relatively low, link to strain-based conflict, and this association showed to be a negative one ($r = -0.19, p < 0.01$).

4.2 Control Variables

We ran *t-tests* and ANOVA to check the influence of control variables on work-life conflict. No differences on time-based and strain-based conflict due to participants' sex, age, marital status, occupation, qualification, type of work (shift vs. non shift work) were found. In addition, there were no work-life conflict differences between those who had children at their care and those who did not. Likewise, no differences were found for dependent adults. Therefore, none of these variables was entered as control in subsequent analysis.

4.3 Model Test

In order to test all hypotheses (except hypothesis 5)¹ we followed the three-step procedure to test mediation effects proposed by Baron and Kenny (1986). Our model contains both predictors and outcomes of a central variable (work-life conflict). For that reason we were also interested in investigating the extent that work-life conflict (mediator) accounts for the relation between its predictors and outcomes, which is consistent with the definition of a mediation model (Baron & Kenny, 1986), so procedures proposed by those authors appeared to be appropriated to run the analysis.

According to Baron and Kenny (1986), Step 1 of the procedure states that regression weights of predictors on mediators should be statistically significant. Step 2 implies that predictors must significantly affect the outcomes variables. Finally Step 3 states that mediators must relate to outcomes variables when controlling for the predictors, therefore full mediation exists when a previous (Step 2) significant relation between predictors and outcomes variables is no longer significant in Step 3, yet if this relation is held significant but weaker, then a partial-mediation is occurring.

The first step is reported on Table 4.2 and concerns Hypothesis 1 to 4 which are related to the effects that predictors might have on both types of conflict. The regression tests revealed that perceived pressure to overtime accounted for a significant of unique variance associated with strain-based work-life conflict ($\beta = 0.45, p < 0.01$) and time-based work-life conflict ($\beta =$

¹ In order to ease further reading and comprehension, we relist the hypothesis:

H₁: The number of hours worked per week will be more positively associated with time-based work-life conflict, than with work-life strain based conflict;

H₂: The perceived pressure to overtime will be positively associated with time-based and strain-based work-life conflict;

H₃: POS for work-life issues will be negatively related to time-based and strain-based work-life conflict;

H₄: Job involvement will be positively associated with time-based and strain-based work-life conflict;

H₅: Employee's life priorities will moderate the relationship between work-life conflict and affective organizational commitment and psychological symptoms;

H₆: Time-based and strain-based work-life conflict will be negatively associated with affective organizational commitment;

H₇: Time-based and strain-based work-life conflict will be positively associated with psychological symptoms of distress;

H₈: Time-based and strain-based conflicts mediate the relationships between conflict predictors and employee's affective organizational commitment and psychological symptoms.

0.35, $p < 0.01$), which supports H₂ that states that perceived pressure to overtime is positively associated with both types of work-life conflict. On the other hand, the average number of hours worked per week and the POS for work-life issues were only significant predictors of time-based conflict ($\beta = 0.18$, $p < 0.01$ and $\beta = -0.16$, $p < 0.05$, respectively) showing no significant association with strain-based conflict. These results partially support H₁ and H₃ that predicted that higher number of hours worked per week led to higher work-life conflict, and that the perception of greater organizational support for work-life issues diminished the conflict felt. Corroborating H₄ was the significant and positive association between job involvement and both types of conflict, though a stronger link existed for time-based conflict ($\beta = 0.10$, $p < 0.05$ for strain-based conflict and $\beta = 0.17$, $p < 0.01$ for time-based conflict). Finally being involved in extra-work activities decreased the levels of strain-based conflict.

Table 4.2: Regression analysis of strain-based and time-based work-life conflict on predictor variables

	Strain-based WLC	Time-based WLC
Predictor Variables (Step 1)		
Extra-work activities	-0.16**	-0.07
Hours worked per week	0.05	0.18**
Pressure to overtime	0.45**	0.35**
POS	-0.07	-0.16*
Job Involvement	0.10*	0.17**
AdjR² (Block)	0.306**	0.314**
F (df)	29.597(5.319)	30.724 (5-319)

* $p < 0.05$; ** $p < 0.01$

Table 4.3 refers to Step 2, concerning the direct effects of conflict predictors on conflict outcomes, and Step 3, regarding the mediation tests of both mediators on both outcomes. Since, strain-based and time-based conflict did not have the same predictors there was a need to divide the results in Table 4.3 according to two mediation models. Thus for time-based mediation model extra-work activities was discarded, while for strain-based mediation the number of hours worked per week and the POS for work-life issues were left aside.

In step2, regarding time-based mediation, the number of hours worked per week did not significantly influence psychological symptoms or affective commitment. On the other hand, perception of pressure to overtime raised the number of psychological complaints ($\beta = 0.26$, $p < 0.01$) and diminished affective commitment ($\beta = -0.20$, $p < 0.05$), whereas POS for work-life issues decreased psychological symptoms ($\beta = -0.17$, $p < 0.05$) and increased participants'

feeling of being emotionally attached to their organizations ($\beta= 0.22, p < 0.01$), which corroborates some of the assumptions regarding the direct effects of predictors on outcomes. Additionally, the more the participants' acknowledge their job as their life priority, the more affective organizational commitment they experienced ($\beta= 0.44, p < 0.01$) and, surprisingly and against our expectation, the less psychological symptoms they reported ($\beta= -0.20, p < 0.01$). Thus, some of the assumptions regarding the direct effects of predictors on outcomes received support, while other had the reversed effect.

On Step 3, although time-based conflict significantly and positively influenced psychological symptoms ($\beta= 0.23, p < 0.05$) it did not predict affective commitment, corroborating H₇ but not H₆. Thus, for affective commitment there was neither full nor partial mediation, and for psychological symptoms the influence of time-based conflict was not strong enough to fulfil the requirements for a partial mediation (Baron & Kenny, 1986). When time-based conflict was entered in the equation there was a minor decrease of perceived pressure to overtime and POS for work-life issues effects on psychological symptoms, although job involvement effect became slightly stronger. Moreover, job involvement still represented the best predictor of psychological symptoms ($\beta= 0.24, p < 0.01$) and affective commitment ($\beta= 0.43, p < 0.01$), therefore H₈ was not fully supported.

Strain-based mediation results for Step 2 indicate that perception of pressure to overtime and job involvement showed similar patterns to those found for time-based conflict. The perceived pressure to overtime raised the number of psychological complaints ($\beta= 0.29, p < 0.01$) and diminished affective commitment ($\beta= -0.33, p < 0.01$), and a higher job involvement led to more affective organizational commitment ($\beta= 0.47, p < 0.01$) and to lower reports of psychological symptoms ($\beta= -0.26, p < 0.01$). Again, assumptions regarding the direct effects of perception of pressure on outcomes received support, while job involvement had the reversed effect. In addition, being engaged in extra-work activities decreased psychological symptoms ($\beta= -0.10, p < 0.05$) and had no significant relation with affective organizational commitment.

Table 4.3: Regression analysis of affective commitment and psychological symptoms on predictor and mediator variables

	Psychological Symptoms		Affective Commitment	
	Step 2	Step 3	Step 2	Step 3
Time-based WLC Mediation				
Hours worked per week	0.05	-0.02	0.05	0.04
Pressure to overtime	0.26**	0.18*	-0.20*	-0.22**
POS	-0.17*	-0.13*	0.22**	0.23**
Job Involvement	-0.20**	-0.24**	0.44**	0.43**
Time-based WLC	-	0.23**	-	0.06
AdjR² (Block)	0.222**	0.258**	0.384**	0.385**
F (df)	24.073 (4.320)	23.487 (5.319)	51.529 (4.320)	41.535(5.319)
Strain-based WLC Mediation				
Extra-work activities	-0.10*	-0.01	0.05	0.03
Pressure to overtime	0.39**	0.11*	-0.33**	-0.26**
Job Involvement	-0.21**	-0.26**	0.47**	0.48**
Strain-based WLC	-	0.53**	-	-0.13*
AdjR² (Block)	0.215**	0.405**	0.359**	0.369**
F (df)	30.651 (3.321)	56.613 (4.320)	61.615 (3.321)	48.430 (4.320)

* $p < 0.05$; ** $p < 0.01$

Note: Standardized regression coefficients are reported.

Step 3 results for strain-based mediation model regarding affective commitment revealed that although strain-based conflict significantly decreased employee's emotional attachment to their organization ($\beta = -0.13$, $p < 0.05$) its influence was not strong enough to fulfil the requirements for a partial mediation (Baron & Kenny, 1986), since job involvement effect became slightly stronger when strain-based conflict was entered in the equation. On the other hand, the mediation model of strain-based conflict on psychological symptoms received some support. While perceived pressure to overtime continued to influence psychological symptoms ($\beta = 0.11$, $p < 0.05$), though its influence decreased, the relationship between extra-work activities and psychological complaints became non significant ($\beta = 0.01$, $p < 0.6$) when strain-based conflict entered in the equation. In addition, although job involvement effects increased from Step 2 to Step 3, strain-based conflict best predicted psychological symptoms ($\beta = 0.43$, $p < 0.01$) and this mediation model accounted for 40,5% of the variance in psychological complaints. Thus H₈ received some sort of support, whereas H₇ was fully supported. These results showed that extra-work activities only influence psychological symptoms through strain-based conflict experience (full mediation) and that strain-based

conflict accounts in some degree for the relation between perceived pressure to overtime and the report of psychological complaints (partial mediation). The significance of this indirect effect is supported by the *Sobel* test that shows a significant reduction of the effect that extra-work activities (*Sobel* test= 2.02, $p=0.04$) and perceived pressure to overtime (*Sobel* test= 6.18, $p<0.01$) have on psychological symptoms upon the addition of strain-based conflict

4.4 Moderation Test

With the purpose of testing the hypothesis that life priorities (life involvement *versus* job involvement) moderate the relationship between work-life conflict (time-based and strain-based) and both psychological symptoms and affective organizational commitment, we conducted hierarchical multiple regression analyses following the procedures proposed by Baron and Kenny (1986). We performed the analyses with psychological symptoms and affective organizational commitment as outcome variables using the following procedure (see Table 4.4): first, strain-based work-life conflict, time-based work-life conflict (predictors), and also life involvement and job involvement (moderators) were entered to test the main effects; secondly the interaction terms of both types of conflict with both life priorities (total of 4 possible interactions) were entered in the equation, which allows the test of the moderation effect.

Results show that only strain-based work-life conflict and job involvement had a significant association with psychological symptoms and affective commitment. These results are in line with those found for the main effects in the mediation model in which the predictive power of strain-based conflict was higher for psychological symptoms than for affective commitment, and the association of job involvement was more pronounced with affective commitment than with psychological symptoms.

Concerning the moderation effect, results in Table 3.4 reveal that none of the four interaction terms show any moderating effect of life priorities, thus H₅ was not corroborated.

Table 4.4: Moderator hierarchical regression results for life priorities

	Psychological Symptoms	Affective Commitment
Main effects		
Strain-based WLC	0.54**	-0.29**
Time-based WLC	0.05	0.04
Job Involvement	-0.31**	0.51**
Life Involvement	-0.08	0.01
Interaction Terms (Step 3)		
Strain-based WLC × Job Involvement	0.04	-0.07
Strain-based WLC × Life Involvement	0.07	-0.06
Time-based WLC × Job Involvement	-0.05	0.01
Time-based WLC × Life Involvement	-0.05	0.11
AdjR² (Block)	0.404**	0.321**
F(df)	28.429 (8.324)	20.187 (8.316)

* $p < 0.05$; ** $p < 0.01$

4.5 Results Overview

Figures 4.1 and 4.2 provide an overview of all results obtained with the integrated model test. Solid lines represent the hypotheses tested concerning predictors and outcomes of strain-based and time-based conflict, whereas dashed lines correspond to direct effects of predictors on outcomes. Additionally, variables that failed to have significant associations are represented in lighter grey. Because strain-based and time-based conflict had different predictors, the two mediation models tested are represented in two separate figures. In the figures: standardized regression coefficients are reported; coefficients in parentheses correspond to the effect of predictors on outcomes when controlling the work-life conflict (Step 3 of the mediation test); and significant levels must be read as follows: * $p < 0.05$ and ** $p < 0.01$.

Figure 4.1: Obtained model for mediation with strain-based conflict

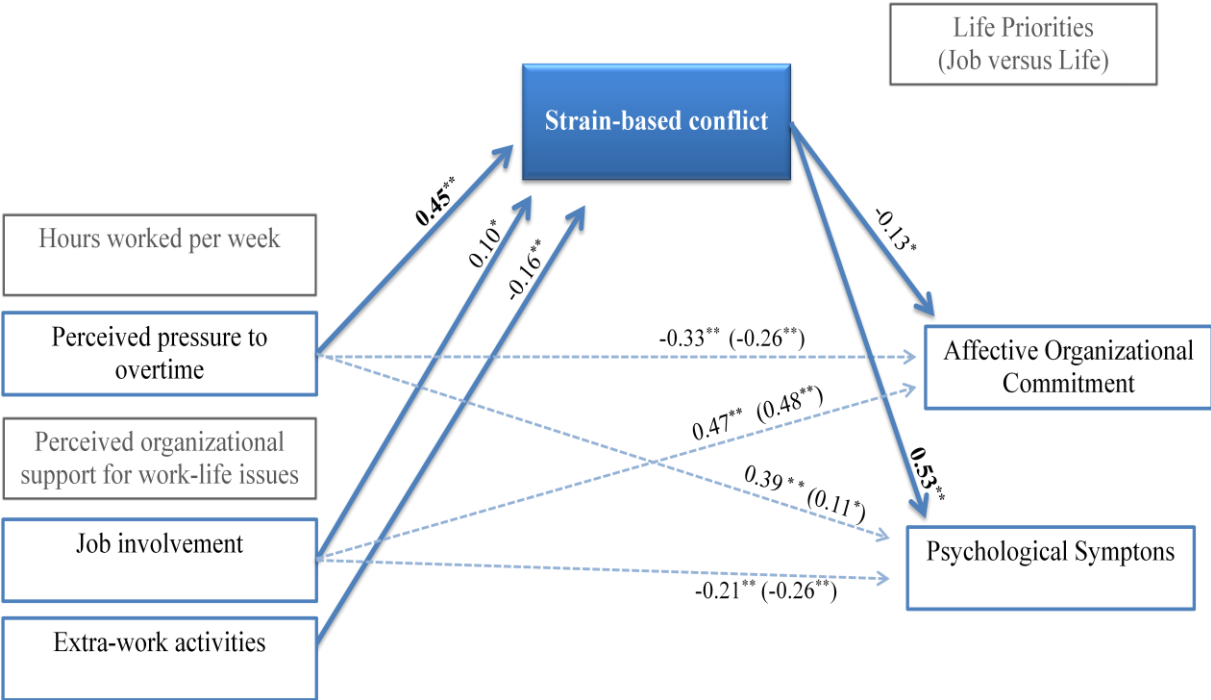
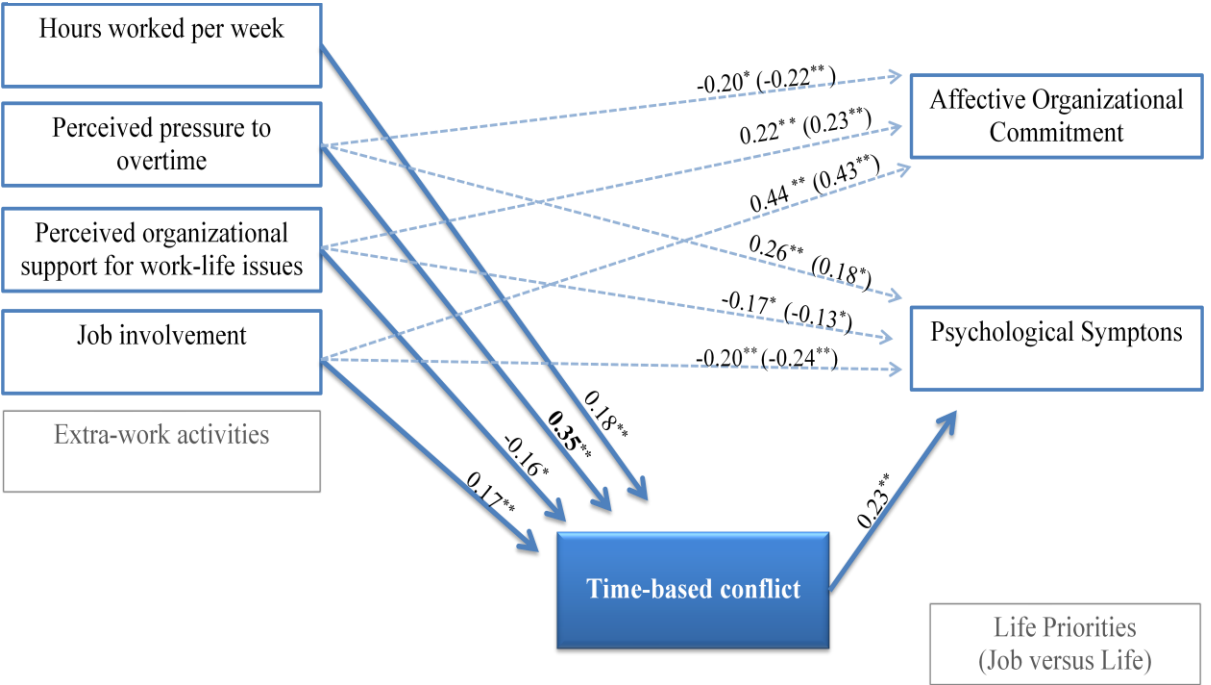


Figure 4.2. Obtained model for mediation with time-based conflict



5. Discussion of Results and Conclusion

This study main goal was to further develop the concept of work-life conflict by demonstrating that it may be associated with similar predictors and outcomes of the traditional concept of work-family conflict. Additionally, we proposed an integrate model of predictors and outcomes of the conflict experienced, so that all relationships between variables could be taken into consideration.

5.1 Work-life Conflict

The results obtained showed no evidences for differences in the experienced work-life conflict regarding employees' marital status or if they had or not had children at their care - a big percentage of participants were not married (around 34%) and the majority did not have children (60.3%) - reinforcing the pertinence of studying conflict between work and other life domains in a wider perspective that does not restrict life outside work to family roles. Also this result highlights the importance of studying the interrole conflict in all employees of an organization, and not only those who apparently could be thought as having real motives to feel that conflict because their family responsibilities. In fact, work-life conflict is seen as a stressful situation created by the impossibility to accomplish all demands of different life roles, and therefore its evaluation depends on employees' perceptions given that it this the meaning constructed by the person about what is happening the crucial fact that leads to activation of stress responds, and not the situation *per se* (Lazarus & Folkmam, 1984).

The study provided some support to the assumption that work-life conflict has similar antecedents and consequences to work-family conflict, yet they vary according to the type of conflict experienced. In other words, results demonstrated that time-based and strain-based work-life conflict are two different, tough correlated, concepts that have different predictors and also lead to slightly different consequences.

5.1.1 Work-life Conflict Predictors

Not surprisingly, the number of hours worked per week only predicted the experience of conflict based on time constrains between multiple roles on employees' lives, and showed no significant relation to strain-based conflict. These results make sense, since time is a limited resource and the direct consequence of spending more hours working is the impossibility to devote time to other life domains. Also, these results are in line with Geurts and Demerouti

(2003), and with MacGinnity and Calvert (2009) studies that showed that higher number of working hours are associated with higher levels of work interference with family.

Following the same pattern, POS for work-life issues only predicted time-based conflict. From a theoretical perspective, feeling that the organization supports and helps employees' attempts to balance all life spheres would also contribute to reduce strain-based conflict. Nonetheless these results might be due to the measure of POS for work-life issues that emphasized a more tangible kind of organizational support based on time matters, and did not focus organizational efforts for reducing strains. From this perspective, employees' may have felt that POS for work-life issues was primarily concerned with instrumental assistance that helps balance the time between work and other life domains, instead of feeling that organizational support can also assume practices that help to deal with strains caused by having multiple roles to perform. In short terms, literature results show that POS prevents conflict between work and other life domains as a whole (e.g. Allen, 2001; Frone, 2002; Warner & Hausdorf, 2009) however when we take into consideration different types of conflict (at least with the measure we used) it seems that POS only has influence over time-based conflict, showing that employees' may feel that this type of support is essentially manifested through flexible work arrangements and comprehension for time-related issues, such as leave absences, flexible starting and finishing work hours, etc.

As predicted, job involvement increased both strain and time based conflict. In fact, it seemed that if employees' central self-concept or sense of identity is their job, then their high involvement will increase the amount of time and mental concern devoted to work domain, making it difficult to conciliate all other life spheres. Thus, results obtained in this study are in line with literature findings for work-family conflict concept (e.g. Adams et al., 1996; Frone et al., 1992a).

Perceived pressure to overtime appeared to be the best predictor of both time and strain based conflict, so that the more an employee feels pressure to work overtime hours, the more he/she is likely to feel increased time and strain constrains when trying to conciliate work role with other life roles. Perceived pressure to overtime was defined in this study as employees' perception that there is an underlying organizational culture of overtime, which they ought to follow in order to succeed, and the weight of this organizational culture seemed to overlap all other conflict antecedents. Actually, results obtained provided evidence that the mere perception that one is pressure to work overtime hours against his/her will is more prejudicial than the real number of hours worked. The sense of lack of personal control over one's time leads undoubtedly to time-based conflict, since balancing time demands become more

difficult (if not even impossible) when one does not feel in control over his/her time. Additionally, the feeling that there is an implicit pressure to work extra-hours appears to have an even stronger impact on strain-based conflict: the lack of control *per se* generates stress; keep thinking about the consequences of not corresponding to that overtime culture raises strains that may interfere with the performance of personal life activities; finally, corresponding to organizational expectations by overtime against one's will, also increase strains because it became harder to fulfil demands of other life roles. Therefore, it seems that this particular organizational influence has a great impact on the experience of conflict, since an overtime organizational culture may impregnate employees' lives, thus making them feel conflict between their work and other life domains, whether or not they actually work those overtime hours. For this reason, we believe that further studies should also approach this perspective of overtime.

Regarding extra-work activities, results pointed towards a *social support* framework rather than *role theory* perspective. In truth, being engaged in activities outside work decreased the conflict experienced, contrary of what would be expected by *role theory* that advocates that the more roles someone has to perform, the more interrole conflict he/she may experience. Moreover, extra-work activities were only significantly related to strain-based conflict. Thus apparently employees can successfully manage time to work and to perform other activities, and being engaged in such activities decrease the strains that work raises. One possible explanation for this fact is that employees may find some sort of emotional support in those activities outside work exerting an overall calming effect on employees' lives. Consequently being engaged in extra-work activities can be faced as a coping strategy to deal with work stress or as a protective factor for strain-based conflict.

Unquestionably, these effects of extra-work activities may occur for other reasons not related to any sort of social support. The majority of the extra-work activities reported in this study were related to sports, religious activities, volunteering and cultural activities. For instance, physical activity has been consistently related to mental well-being and positive affect (e.g., Daley & Parfitt, 1996; Thøgersen-Ntoumani & Fox, 2005; Wininger, 2007) and some authors attribute this results to exercise's anxiolytic effect (e.g., O'Connor, Raglin, & Martinsen, 2000); furthermore, religious coping strategies were shown to be associated with psychological adjustment to stress (e.g., Ano & Vasconcelles, 2005). Hence, this variable needs to be further explored, although results obtained with this study were quite interesting and promising.

5.1.2 Work-life Conflict Outcomes

Regarding work-life conflict outcomes, both strain and time based conflict increased the likelihood of feeling symptoms of depression and anxiety. We found that strain-based work-life conflict was most strongly related to psychological health, and its predictive strength may be attributable to participants generally valuing their personal life more than their work. Also, it appears that having difficulty participating in personal life activities because of strenuous work conditions (strain-based conflict) is more stressful to employees than being unable to participate in such activities because of conflicting work-related time demands (time-based conflict), given that the predictive power of strain-based conflict was higher than time-based conflict. Since work can be viewed as an inescapable aspect of one's life, feeling that it "gets in the way" of personal life is likely to lead to poorer psychological health. This idea supports the *conservation of resources* theory (Hobfoll, 1989) that assumes that stress ensues when people feel that circumstances at work threaten their ability to obtain or maintain valued resources. Therefore, feeling that work role demands are incompatible with the accomplishment of personal life role demands may lead to disbeliefs about individual's ability to succeed and/or to maintain valued resources (e.g. promotion at work; maintain close relationships with the family; become responsible for the community group; learn to play a musical instrument; etc), and consequently origin psychological strains such as depression and anxiety. In addition, these results are in line with those found in the work-family conflict literature (e.g. Frone, 2000; Frone, Russel & Cooper, 1997; Grant-Vallone & Ensher, 2003) and provide evidence that experience conflict between work and personal life domains has real cost for employees psychological health.

Contrary to expectations only strain-based conflict seemed to decrease the feelings of emotional attachment with the organization, and its predictive power was somewhat disappointing. Results seems to indicate that being unable to fulfil personal life demands due to work-related time constrains does not have impact on affective organizational commitment, while strain-based work-life conflict is likely to raise the sense that the organization is not treating them well, and thus employees may reciprocate became less committed. Thus, it appears that strain-based conflict highlights the principle of reciprocity advocate by the *exchange theory* (Homans, 1958) while time-based conflict does not activate that clue. Moreover our results only partially support previous ones found in the work-family conflict literature by Allen et al. (2000) and Ayree et al. (2005) for example, although they considered conflict as a whole (not divided into time and strain-based conflict) which may explain the results discrepancies between their studies and ours.

On the other hand, the predictive power of strain-based conflict was somewhat residual, and the direct effect of some predictors on affective commitment was much stronger, namely: job involvement, perceived pressure to overtime and POS for work-life issues. Indeed, it appears that being highly involved with one's job has more strength when accounting for affective commitment. Actually, if one's identity salience is work role, it means that there will be a high investment, effort and performance in that particular role; as a result it seems logical that affective commitment will also increase, even if it only happens for congruence sake. Regarding perceived pressure to overtime and POS for work-life issues impact on affective commitment, it appears that reciprocity norm is acting: if employees feel that their organizational cares about them, by supporting their attempts to balance their work and non-work activities and by not pressuring them to work overtime hours, then employees will reciprocate that care by demonstrating more commitment to the organization. Briefly, in this study affective organizational commitment appears to be at the same level as work-life conflict, meaning that it is best explained as direct consequence of predictors than a consequence of work-life conflict itself.

5.1.3 Work-Life Conflict Moderator

Finally, the moderator effects of life priorities did not raise the expected results, which indicate that the expression of conflict outcomes did not vary according to the employee life priority, being it the job or the personal life. Ours results failed to follow the moderator pattern of life priorities found in other studies (Greenhaus et al., 2001; Hsieh et al., 2009), however it should be noted that in such studies the outcome measure was the intention to quit and not the affective commitment or psychological symptoms. Perhaps, the influence of employees' life priorities may be stronger when accounting for a more planned action (e.g. withdrawal intentions and behaviours) instead of non-tangible states, as emotional attachment to the organization and feelings of depression and anxiety. It may be the case, that when dealing with more emotional and subjective measures, other moderators may act. Additionally, life priorities might influence the previous path in conflict, in other words they may moderate the influence that predictors might have on work-life conflict, a perspective that received some support with Boyar et al. (2008) study, that showed that perceived work demand had a stronger relationship with work-to-family conflict for employees whose family was more central than work.

5.2. Limitations and Future Research

Every study as its limitations and the present one is no exception.

5.2.1 Sample and Procedure

As previously mentioned, the online questionnaire makes it impossible to control who answers the questionnaire and also the conditions under which participants answer it, and thus other variables that we could not control might be interfering with the answers given and consequently with the results obtained. Additionally, and although data was anonymous, we must consider the potential effect of social desirability bias. It may be the case that the tendency to answer in a manner that will be viewed favourably by others may have influenced some results. For instance, participants may have reported less psychological symptoms than the real ones, because they may consider that is not desirable to feel depressed or anxious, on the other hand the levels of affective commitment and life involvement might have been overstated to give the idea that one behaves idealistically. Given the two reasons stated above, results must be interpreted with caution.

Sample characteristics may also have biased participants' responses, in fact, the sample can be considered socio-demographically differentiated given that the majority of participants are high qualified (academic degree) and fall into the occupational category of high-skilled white collar employees. These sample characteristics may bias the levels of work-life conflict felt, since participant's social status may enable the existence of instrumental help that decrease the conflict experienced; for instance they might have money to pay for a housemaid, or those (few) with children may pay for schools with extended hours that also offer transport, etc. Moreover, given the distinctiveness of this sample, our findings may not be generalized to work settings other than white-collar employees with some sort of academic degree. We believe that further studies should be extended to different occupational categories, to different geographic regions and to different socio-demographical status. It may be the case that different occupations, different social status and different geographic regions (e.g. living in the city *versus* countryside), may be associated with distinct types of support that help employees cope with work-life conflict, or perhaps they may be related to dissimilar antecedents and consequences of conflict. In addition, it might be interesting to compare results in different types of organizations, including multinationals, public companies and not-for-profits, and also explore how self-employed and employees differ in the experience of work-life conflict. Therefore, it is important to study these different groups to better understand this phenomenon in Portugal so that tailored measures can be applied.

Data was collected using a cross-sectional design, which implies that no conclusion can be drawn regarding the causal directions of the relationships found. Although from a theoretical perspective some of the relationships only make sense in the proposed direction, for instance it is not likely that the experience of conflict lead to perceived pressure to overtime, other links found are not so clear. For example experience conflict may lead to psychological symptoms and, on the other hand feeling depressed and anxious may also predispose employees to feel more conflict. Therefore, these causal assumptions should be taken with extreme caution. Using repeated measures, conducting longitudinal studies and natural field experiments (for example when corporate restructuring occurs or when employee starts a new job) are desirable methods to examine causality and should be considered in further researches, although we know that their applicability is not always easy.

5.2.2 Measures

Another limitation of this study was the inability to test simultaneously the work-family conflict concept with the work-life conflict concept, in order to ascertain the convergent and discriminant validity of work-life conflict. Actually, to test these two concepts simultaneously we would necessarily limit our sample to married employees with children since work-family conflict concept only suits such sample. Thus, we would be incoherent with our premise that intends to explore the levels of conflict in all employees. Moreover, testing the two concepts in one questionnaire would certainly lead to some kind of interference between the two measures, given the similitude of their operationalization.

The measure of perception of organizational support for work-life issues was clearly a disadvantage since it only comprises a more tangible kind of organizational support based on time matters, which might be the explanation why it had no impact on strain-based work-life conflict. In further studies it should be important to consider a measure of organizational support that embraces a more instrumental support, for time matters for example, and also a more emotional support that helps coping with work related stress, so that the potential influence of organizational support on the different types of conflict will be better considered. Given that we used organizational variables, such as perceived organizational support and affective commitment that can be influenced by employees' organizational tenure it is relevant to control this issue in further researches. In fact, organizational tenure may influence responses given to POS and affective commitment, and tenure can also influence the experience of work-life conflict; for instance someone who has recently started to work may experience more conflict because he/she is still managing to balance all life domains, or it

might be the case that someone who work for a long time experience greater conflict because he/she would like to devote more time to other life spheres. Moreover, and given the controversy related to the GHQ-12 measure due to its different factor structures found in diverse studies, it would be relevant that in further studies more stable measures of anxiety and depression may be included. At last, we believe that it is pertinent to better develop and test the perceived pressure to overtime measure, given the interesting results obtained with it.

In addition, our study was limited to few work-life conflict predictors and outcomes, and only one moderator variable was considered, therefore a considerable number of variables were not reckoned. In the work-family conflict literature a wider number of possible antecedents are taken into account, and so it would be valuable to further explore the potential predictor effect that such variables might have on the concept of work-life conflict, for instance work overload (e.g. Lapierre et al., 2005), flexible work arrangements (e.g. Russell et al., 2009), instrumental and emotional support (e.g. Lapierre & Allen, 2006). Additionally, the two newer variables introduced, namely, perceived pressure to overtime and extra-work activities, revealed to have a good predictive power of work-life conflict and therefore we think that is worth to further investigate them.

Within the same logic, numerous outcomes of work-family conflict are described in the literature, and given their impact at the organizational and individual level they should also be explored with samples of employees who do not have children. For example, at organizational level it should be evaluated the impact of work-life conflict on job satisfaction (e.g. Allen, 2001), intention to quit (e.g. Greenhaus et al., 2001), absenteeism (e.g. Thomas & Ganster, 1995), performance (e.g. Frone, Yardley et al., 1997), and at the individual level it would be interesting to examine conflict impact on subjective well-being (Warner & Hausdorf, 2009), somatic complaints and physical health (e.g. Allen & Armstrong, 2006) and even on substance dependence disorders (e.g. Frone, 2000). Additionally, we must consider that experience conflict may involve less evident or severe complaints that might be hard to diagnose and recognize, perhaps a sense of unspecified general discomfort regarding life or work, that is not severe enough to be recognized as depression or anxiety. Therefore, we think that it is important to consider more subjective and less severe individual outcomes in further researches. Furthermore, there may be some confusion between the perception of conflict and the consequences of it; participants may only perceive conflict when they experience the consequences of it, and those consequences might not be as severe as those measured by us.

Regarding potential moderators of work-life conflict and its outcomes, it would be relevant to explore variables already studied within the work-family conflict framework, such as

emotional intelligence (e.g. Lenaghan et al., 2007), procedural fairness (Siegel et al., 2005), personality characteristics (e.g. Kinnunen, Vermulstb, Gerrisb & Mäkikangasa, 2003) and coping styles (e.g. Rantanen, Mauno, Kinnunen & Rantanen, 2011). In addition, we think it could be pertinent to study the moderator effect that different types of social support may have on the relationship between conflict and its outcomes, and we also believe that it is important to consider that the moderation effects may occur in the relationship between predictors and work-life conflict, rather than between work-life conflict and outcomes, as previously mentioned regarding life priorities effects in this study.

Despite the limitations mentioned, this study also provides a relatively comprehensive model of antecedents and outcomes of work-life conflict in a Portuguese sample that can be useful in future research and, hopefully, these contributions will help stimulate continued growth in the work-life conflict literature.

5.3 Research Implications for Theory and Practice

Balancing work and personal life domains is usually a challenge for employees who simultaneously seek for a successful and rewarding career, allied to a fulfilling personal life that allows the development of affective relationships and also the engagement in activities that are in line with personal interests. Organizations also have an important role to play in order to provide conditions that facilitate employees balancing act between work and personal life spheres. Therefore, both employees and organizations share the responsibility to encounter balancing solutions that will certainly contribute to employees' well-being and organizational effectiveness.

From a theoretical perspective this study provided evidence for the importance of keeping studying this broader concept of conflict, since results revealed that employees feel that their work interferes with their life outside work, and also that life outside work is not necessarily restricted to family responsibilities. Furthermore, this study emphasizes the pertinence of studying the different types of conflict (strain-based and time-based) given that their predictors and antecedents differ, a tendency also found by Lapierre et al. (2005), which provides a finer-grained comprehension of the work-life conflict phenomena. A further theoretical contribution of this study is the promising results found with two non previously explored variables, namely: extra-work activities and perceived pressure to overtime. In fact, exploring employees' engagement in activities outside work might open the door to studies

regarding effects of social support (not restricted to family support) on work-life conflict, or how the participation in activities aligned with personal interests may act a coping strategy to deal with work-life conflict, or even how extra-work activities can be a protective factor that prevents the feeling of interrole conflict based on psychological strains. Perhaps, the study of this variable might also be useful for the work-life/family enrichment framework (e.g. Greenhaus and Powell, 2006). On the other hand, results obtained with the perceived pressure to overtime variable could provide the basis for studies that evaluate the influence of particular patterns of organizational culture that might enhance the experience of work-life conflict.

From a practical point of view, we believe that this study reinforces the idea that the experience of work-life conflict has real organizational and individual costs, revealing that it is worth to keep finding organizational practices and policies that help employees better integrate their work and personal life responsibilities. Strain-based work-life conflict was most consistently associated with reduced organizational commitment and increased psychological symptoms, than time-based work-life conflict. This is important given that the focus of organizational interventions designed to help employees balance work and family/personal life has been on the role of time, such as flexible scheduling and working from home, which are not always associated with reduced levels of conflict. In fact, flexible work arrangements cannot be seen as a whole, since they have different implications. While part-time work and flexitime decrease conflict, job sharing and working from home seems to increase it (e.g. Breugh & Frye, 2001; Russel et al., 2009). Consequently, it seems quite relevant to consider more psychologically oriented interventions in organizations, which may focus on tools for managing and coping with workplace stressors. This type of interventions could have the dual benefit of minimizing strain-based work-life conflict and improve employees' psychological health and commitment to the organization, moreover they could empower employees' with personal skills that would be accessible to other work and life contexts in a daily basis. Additionally, it appears that organizational culture may play an important role when accounting for the experience of work-life conflict, thus it seems that it may be worth to take some organizational characteristics into consideration when designing practices to help balancing work and life spheres. For instance, it may be pointless to implement organizational interventions to cope with workplace stressors if the underlying culture still conveys the message that in order to succeed it is necessary to work overtime hours, which transmits a message of incoherence to employees that may lead to negative organizational consequences. Therefore, measures regarding employees' perceptions about

different aspects of their organizations, such as culture, supervisor, practices, etc., could be used as tools to help determine if an intervention is needed, and also to create tailored interventions to specific organizational characteristics and to specific employees needs.

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