

French and British Perceptions on Stress at Work and the Role of Job Demand and Enhanced Coping Resources.

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**Thesis submitted to the Nottingham University Business School
Institute of Work, Health and Organisations
For the Degree of Doctor of Philosophy**

September 2001.



ACKNOWLEDGMENTS

Special thanks goes to Dr Chris Mellor, my husband. His constant support and clarity of mind helped me throughout the research. As a physicist, Chris influenced me to look at psychological issues in a rigorous, systematic and consistent manner. I am very grateful for his invaluable help.

I also thank my two supervisors, Professor Tom Cox and Dr Amanda Griffiths who, through constructive comments and encouragement helped me in this noble enterprise.

I would also like to thank the team of researchers at the Institute of Work, Health and Organisations, especially Dr Phil Leather, Dr Louise Thomson, Ray Randall and Dr Di Beale for their valuable support and also Sarah Dale and Sarah Cox for their contribution to the research.

I am also very grateful to Dr Paddy Riley for his valuable expertise in statistical analyses, to Dr Jankowitch from Teeside University for his generous support in the analysis of repertory grids, to Sue Townsend and Professor Maureen Pope from Reading University in allowing me to use their Repertory grid software.

Thanks to the French and British organisations that gave me access to their employees and their personal records and particularly ALMC Consultants for allowing me to evaluate their training.

Finally, I would like to thank the Economic and Social Research Council that partially supported this research through a grant (no R00429734709).

ABSTRACT

The aim of this research was first to identify the differences in the perceptions of stress among French and British managers. A second aim was to examine the levels of stress and the role of job demand, support, relationships at work and coping on well-being. Lastly, it was to evaluate the effects of coping resources on well-being.

Interviews indicated that differences exist in the understanding of stress. British managers attributed causes of stress more to workload and deadlines, decision latitude and lack of information. French managers viewed relationships at work as a primary cause of stress, followed by incidents and organisational culture. Unclear job role was a similar and important source of stress in both samples. There was no evidence that French managers were more stressed than the British or that they viewed stress as an 'individual issue' as found in previous research.

Regression analyses performed on a matching sample of managers (N=156), revealed that job demand had main effects on well-being and intention to quit the organisation in both national samples. However, as already suggested through the interviews, relationships at work turned out to be predictors of intention to quit the company only for the French managers. The UK managers in the repertory grid exercise more often mentioned the term coping in relation to stress than did the French managers. Only in the UK sample, were coping strategies correlated with well-being. While problem-oriented coping strategies correlated positively with well-being, emotion-focused strategies correlated negatively with well-being, confirming previous findings in studies on coping.

A longitudinal test of the relationship between job demand and well-being and the moderating effects of coping resources among a French sample (N=150) indicated that some coping resources improved after a training intervention but had no direct or interactive effects on well-being. Only job demand was a significant predictor of well-being. Limitations of the study and implications for further cross-cultural research are discussed.

Keywords: work-related stress, job demand, coping resources, cross-cultural research.

Preface

Stress is recognized as one of the most serious occupational health hazards of our time (Cummins, 1990) and has become a worldwide issue affecting developing as well as developed countries (Haratani and Kawakami, 1999). In terms of academic research, there is a large body of scientific evidence about what causes stress and the effects on individuals' and organizations' health. However, there is still little comparative research (Smulders, Kompier and Paoli, 1996), particularly on how people cope with stress given the resources available to them.

At the European level, the European Foundation has actively promoted stress research in recent years. Although there is an existing common legislative framework in the European Union (E.U.) countries and increasing efforts towards shared knowledge and research, there is a lack of comparable quantitative occupational health and safety data (European Foundation, 1997).

Comparisons are worth pursuing in the context of a growing phenomenon of global organizations, diverse work forces and an accompanying need for improved communication between geographically dispersed work groups (Scullion, 1994). Moreover, if specific legislation and more guidance on stress are to be disseminated especially between the E.U. countries, it is important to understand how stress is perceived in E.U. organisations in order to match the legislation and guidance with cultural differences.

The present research investigates stress in two countries, France and the UK. These two countries share similarities in terms of GNP, population size, democratic system, European Union membership and have also differences in terms of Monetary Union membership, language and dominant religious culture, etc. Strong cultural differences exist that can explain stress reactions and how people cope with stressful situations. The few Franco-British studies that have been carried out on stress focused on the role of job demand, job support and strain among employees or on coping strategies among

teachers. Few published comparative studies have been reported on stress and coping strategies among managers from both countries.

The comparative research described in this thesis is an answer, although rather modest due to its exploratory nature, to the perceived need for comparative stress studies with a particular focus on a middle managerial population. Middle managers have 'boundary roles' and past research show that they are more prone to develop illness than employees because of the conflicting roles they have to fulfill (Margolis, Kroes and Quinn, 1974).

The research is also an answer to the need to better understand coping mechanisms. Previous studies have shown that people cope better with stress when they have more coping resources available to them, being either personal or provided by the organization (Leiter, 2000). However, the role of these resources has rarely been evaluated fully and through a longitudinal design.

The present work explores the differences in the perceptions that French and British managers hold on stress as well as the levels and predictors of stress. Then it further examines how managers cope with stressful situations and how the effects of their enhanced coping resources and those of their employees measured at successive times may improve well-being.

Chapter One presents an introduction to the context, rationale and objectives of the research.

Chapter Two introduces the key theories and models of stress at work with an emphasis on transactional models (Lazarus, 1966; Cox, 1978; Cox, Griffiths and Rial-Gonzalez, 2000) and the measurement of coping strategies. The usefulness of the transactional model of stress for the present research is critically discussed.

Chapter Three offers an overview of the cross-cultural research done on stress and particularly between France and the UK. It also outlines the different policies and

guidance that exist in both countries and that are related to health and safety at work where stress is broadly included. The gaps in the literature are highlighted and provide the research problems from which the present work stems.

Chapter Four introduces the research questions and the research paradigm governing the current research. It explains how the research questions might be answered through the use of both qualitative and quantitative methods. Finally an overview of the four empirical studies conducted in this research is presented.

Chapters Five and Six present two qualitative studies which attempt to identify managers' perceptions about stress in their job and for their employees. Qualitative data are collected through semi-structured interviews and the repertory grid technique (Kelly, 1955; Fransella and Bannister, 1977). The aim is to examine how managers understand stress, what causes stress at work and to whom they attribute the responsibility for being stressed.

Chapter Seven complements previous qualitative findings through a questionnaire-based study. It examines whether there are any differences between French and British managers in their perceptions of job demand, support, relationships at work and if they use different coping strategies to deal with stress, either problem-focused or emotion-focused coping strategies, and whether these affect their well-being.

In chapter Eight, the role of job demand and coping is further investigated through a case study, using a French sample of managers and employees only. Unfortunately, this last study could not be achieved in a cross-cultural context due to the decision of the company's management. Despite this unexpected change, it has been judged valuable to pursue the research in one country, as the first step of the research was to test theoretical hypotheses.

This next study explores another facet of coping, i.e the individual and the organisational coping resources. Individual coping resources refer to cognitive ability, self-efficacy and professional skills. Organisational coping resources refer to support

and coaching provided by management. The effects of job demand and enhanced coping resources on well-being are examined in a specific context, prior to and two months after a training and coaching intervention had been provided to managers and employees.

Chapter Nine concludes the thesis by summarizing the main findings of the research, and presents the contribution of the present work, its limitations and further research along with its implications for organizational practice.

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Chapter One: Introduction

I. General context of work-related stress

Since the 1970s, there has been an exponential trend in the amount of social science research on the subject of stress at work. It has become a fashionable topic in the media, and perhaps a source of lucrative sales for companies selling anti-stress remedies. Stress is, however, a wide concept and can have various definitions depending on which theoretical schools or disciplines define it. In occupational psychology and occupational health psychology, one current accepted definition views stress as being the result of an "imbalance between the perceived demand and the person's perception of his capability to meet that demand" (Cox, 1978).

Causes of stress

The causes of stress at work and its negative effects on individuals and organizations have been evidenced and reported in several stress reviews (e.g. Cox et al., 2000; Kristensen, 1996; Beehr, 1995; Cox, 1993; Ivancevitch and Matteson, 1980; Beehr and Newman, 1978; Cooper and Marshall, 1976). Causes of stress are "those aspects of work that can give rise, or are associated with the experience of stress" and they are usually called 'stressors' or 'hazards' as they have the potential for causing harm (Loss Prevention Council, 1998). They can be physical, psychosocial or organisational hazards.

Physical hazards at work refer to factors such as noise, temperature, and lighting whereas psychosocial/organisational hazards include work content (for example, job demand, tight deadlines and work pace) and work context (for example, lack of support, lack of resources and lack of training). Today, causes of stress are likely to be aggravated by the pressures of competitiveness, mergers, market globalization and new technologies.

Effects of stress

Adverse effects of stress on individuals can be identified in health and attitudinal symptoms. Stress can cause physical and psychological diseases, which can range from minor somatic symptoms to cardio-vascular diseases or severe depression. Job dissatisfaction, lack of interest and creativity are some of the signposts of a potential stress problem. The effects on organisations are noticeable through high levels of absenteeism, low productivity, low quality, high staff turnover and, more recently, stress compensation claims from employees.

National and International figures and actions

National and international scientific bodies have voiced their concern about stress and are dedicated in their effort to reduce it. For example, the International Labor Office and the World Health Organization try to raise nations' awareness about 'making work more human' (Sutherland and Cooper, 1988). Their related diverse task forces and joint committees have produced publications that demonstrate the extent of the problem.

The Second European Survey on Working Conditions (Paoli, 1997) done in 1996, showed that 28% of workers in European Union countries felt that their work causes stress. The average number of days' absence per worker is four days per year, a figure that represents 600 million working days lost per year. In the UK, an estimated 20 million working days per year are lost due to work-related ill health. Employees' ill health costs the UK up to 600-700 million each year (Health and Safety Executive, 2001).

Although the cost of stress is also seen through employees' litigation or compensation claims, this is more often the case in the US than anywhere else. Compensation claims for psychiatric injury are running at the rate of approximately 3,000 per year in California (Cooper, 1994). In the UK, some stress compensation claims have been expressed by workers for excessive workload (e.g. Walker v Northumberland County Council, 1994). In a more recent court case (Lancaster v Birmingham City Council,

1999), a UK employer accepted liability for work-related stress for the first time, acknowledging the fact that the lack of support and inadequate training deteriorated an employee's health over time leading to severe depression.

In the European Union countries, worker's health and safety has become a concern for the European Commission which issued a directive (89/391/EEC) in 1989, entitled Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work published in the Official Journal L 183, 29/06/1989 p.0001 – 0008. It requires employers to assess risks to employees' health and safety. Although stress is not explicitly mentioned in this directive, it is however clear that employers have to assess all risks to health and safety and to decide on the protective measures to be taken (Article 9:1). Psychological as well as physical health should now be of concern for employers (Griffiths, Cox and Barlow, 1996).

The European Framework Directive represents an important step towards better health regulation and a means to raise the awareness of health issues. As Jex (1998) notes (commenting particularly on the situation in the United States), the reason as to why stress is now important is because organizations have a moral and increasingly a legal obligation to provide a work environment in which stress is kept to manageable levels.

Research needs on stress

Although stress research has been on an exponential trend, the current status according to stress experts, is that compared to other areas in organizational science, the study of occupational stress is in its infancy. The reason why our understanding is still rather limited is the complexity of the phenomenon under study and serious methodological limitations (Jex, 1998; Beehr, 1995; Kasl, 1987).

Cox et al., (2000) argue also that more general research on the causes and effects of stress is not needed because stress is now a well-documented topic with its causes, effects and some underpinning mechanisms clearly defined. However, according to the

authors, several answers are needed. There is the need for an answer to the outstanding methodological questions, an answer to more specific questions about particular aspects of the overall stress process and its underpinning mechanisms and finally a way of translating the scientific knowledge into practice and evaluating its effects.

Similarly Dewe, Leiter and Cox (2000) outlines the need for more creative methodologies and the combined use of qualitative and quantitative research approaches to study stress and coping.

In addition, comparative research is still too rare. At the European level, despite the European Foundation's efforts to encourage research there is still a paucity of cross-cultural studies (Smulders et al., 1996). There is current work on six research priorities in line with the European Union situation. These priorities are (i) employment, (ii) participation, (iii) equal opportunities, (iv) social cohesion, (v) sustainable development and (vi) health and well-being. The last category includes stress research and has become the focus of the European Agency for Safety and Health at Work in Bilbao since its creation in 1996.

Large-scale European studies provide valuable understanding about the differences between countries regarding work conditions and stress (e.g. Paoli, 1992, 1997, Houtman and colleagues., 1999). Significant differences in stress levels have been reported. However, few studies have reported a comparison of stress and coping between France and the UK. The present work is an answer to this gap in research.

II. 'Raison d'être' of the research

Why compare respondents from two countries?

We just outlined that few comparative studies exist between France and the UK on stress at work but can we obtain sound results when comparing samples of employees from two countries only? Leung and van de Vijver (1996) note that many cross-cultural studies in organisational psychology often compare respondents from two

countries and some are even monocultural (for example Stora, 1994). However, some authors (Lambert and Klineberg, 1967) recommend that it would be best to look at cultural differences in more than two countries because the differences found may be attributed to the samples' characteristics rather than cultural differences. We are aware of this potential weakness by comparing two countries. The resources available for this research did not allow for inclusion of additional countries. However, to counteract sampling bias a careful choice has been made including matching samples of respondents from the same industry as suggested by Hofstede (1980, 1984).

Why compare France and the UK?

Researchers suggest different strategies to select the type of country or culture to test hypotheses. Brislin, Lonner and Thorndike (1973) argue that the best method for theory building (in cross-cultural research) is to find cultures that are high, medium and low on a trait and then discover the reasons for the differences. Other cross-cultural researchers such as Drenth, Groenendijk and Groenendijk (1998) suggest that countries can be either completely similar or completely different depending on the research question. When theoretical and causal relationships need to be explored, countries with *maximum differences* are selected. When a test of an independent variable on organisational characteristics is needed then, countries with *maximum similarities* are preferred.

As our interest is to look at the effects of independent variables on organisational and individual characteristics, the maximum similarities between businesses from both countries have been selected. Finally the research context has been greatly influenced by personal and research needs. Due to the fact that the present author is French and lives in England, there was a special interest in looking at both cultural environments.

Differences between France and the UK have been found for instance on leadership style (Broadbeck and colleagues, 2000), business strategies (Calori, Johnson and Sarnin, 1992), human resources management (Sparrow and Hiltrop, 1998), types of selection techniques most frequently used (Shackleton and Newell, 1991), and on

cultural values (Hofstede, 1980, 1984). There are therefore grounds to suggest that differences in stress may well exist between these two countries.

In fact, previous stress studies gathered evidence of differences in levels of stress among managers (Stora, 1994), in coping strategies among teachers (Travers, 1997) and in job demand and support among employees at large (Andries, Kompier and Smulders, 1996). Often comparative stress studies between France and the UK are scarce, or focus on stress and health policies (Kompier, De Gier, Smulders and Draaisma, 1994) rather than being empirical studies.

The aim of the present study is to focus on managers' perceptions of stress in both countries and more particularly on the link between job demand, relationships at work, support, coping strategies and well-being.

Why compare managers?

The interest in looking at stress among managers is that managers are the most influential group in organizations regarding decision-making processes, therefore more prone to take any action or no action at all concerning stress at work. To understand their viewpoint on this topic is then crucial. Second, managers and particularly middle managers may experience stress the most as they have to accommodate senior management directives alongside the needs of employees.

Among 1000 British workers, Cherry (1984) found that 55% of them having managerial positions, reported severe nervous strain (anxiety and unpleasant emotions) against 15% among semi-skilled or unskilled workers. Warr and Payne (1983) also found in a British population that 18% of managers and professionals, compared to 9% of semi-skilled workers, experienced strain. No published similar French studies were available for comparison. A cross-cultural perspective is useful in that it can provide important information about how individuals perceive one another in different countries and react to organizational events (Silvester, Ferguson and Patterson, 1997).

Why look at the coping strategies and resources?

Coping is at the heart of the stress process. Lazarus (1994) states the importance of coping saying, "more than stress alone, coping is a key concept helping us to grasp adaptation and maladaptation, because it is not stress alone that causes distress and dysfunction but how people manage stress". If people cope effectively with stress by definition there is no stress. Despite the importance given to coping, several authors outline that it is still a concept that is not well understood, researched or measured (e.g. Dewe and Guest, 1990, Dewe et al., 2000; Aldwin and Revenson, 1987; Lazarus and Folkman, 1984).

There are several ways of looking at how people cope with stress. The present research has chosen to look at coping strategies and coping resources. Both are thought to be important in the stress process. The purpose of studying coping strategies is to understand why people differ so greatly in their responses to stress and how the responses relate to well-being (Aldwin, 1994).

In addition, it might be informative to look at coping resources as well as coping strategies because the lack of resources either personal (e.g skills) or organizational (e.g. support) may be detrimental to well-being. In order to study the role of coping resources, a case study has been employed. Personal coping resources are epitomized by the enhanced cognitive ability, self-efficacy and selling skills after a sales training session. Organisational coping resources are epitomized by the availability of management support and coaching sessions. Coping resources have been evaluated prior to training and coaching sessions designed to develop individuals' skills to meet their job demands and at two months' follow-up.

As suggested by Leiter (2000), the availability and effectiveness of coping responses are determinants of the healthiness of the work setting, where training and coaching represent valuable tools to help individuals to cope better with the demands of their job.

III. Objectives of the present research

The research attempts to achieve three specific objectives. The first objective is to identify the way in which French managers perceive and think about work stress and to compare their perceptions with those of British managers holding comparable jobs. To this end, the thesis identifies in depth, the nature of these differences using a qualitative method, looking at the definitions that both sets of managers give to stress and to what and whom they attribute the causes of stress.

The second objective is to compare which psychosocial characteristics have an impact on French and British managers' well-being. It is also to look at whether cultural differences play a role in the perceptions of job demand, support and coping strategies and their effects on well-being.

Finally, a third objective was initially to test further cultural differences in job demand and the use of coping resources and their effects on well-being. This last objective could not be achieved cross-culturally and has been restricted to a test on a French sample of employees and managers. Enhanced coping resources are expected to alter the effects of job demand on well-being two months after job-related training and coaching is provided to managers and employees.

Chapter Two: Theoretical framework to the study of stress

I. Introduction

This chapter examines the most influential theoretical approaches and models that have been developed throughout the twentieth century. Its purpose is not to provide an exhaustive review of the stress theories and models. It is rather to clarify how each major approach defines stress, since according to Dewe (1989) "how we define stress influences how we research it and thus how we explain our results". As it will be the model used in the present research, emphasis is placed on the transactional model of stress. This review of literature is critically discussed and the implications for the present study are outlined.

II. Approaches and models of stress at work

Various approaches and models of stress have been proposed by different groups of scientists from various disciplines, to define and measure stress. Early models of stress looked mainly at biological/physiological responses in the person (physiological approach) whereas more recent models used a psychological approach to explain stress.

Within the psychological approach there are different sub-approaches, i.e. interactive, transactional or psychopathological (Routier, 1990). The latter includes psychoanalytical concepts particularly used by influential French researchers (e.g. Dejours) and will be discussed later when comparing research in France and in the UK.

II. 1 Physiological approach to stress

Early work on stress focused on the physiological effects or responses. Canon (1929) focuses on the relations between emotions and physiological response. When we are exposed to a frightening event such as a road accident, an almost automatic

physiological response is generated inside the body such as sudden changes in adrenaline levels, tension in the muscles, stomachache, etc. The reaction indicates, according to Canon, that the body is prepared either to fight to defend itself or to escape, this reaction has been termed the fight-or-flight response.

Following Canon's work, Selye (1956) suggested that individuals show the same patterns of physiological responses (i.e non-specific) when the body is exposed to long periods of stress. The stress response is elicited, according to Selye, by any stimulus independent of its nature. He named this response the General Adaptation Syndrome (GAS).

The GAS includes three stages. The initial stage is the *alarm reaction* where, as in the fight-or-flight situation, the resources of the body are mobilized. Initially arousal drops below normal then it rapidly rises above normal. The body cannot sustain the alarm reaction for long, otherwise the organism will die (Banyard, 1996).

The second stage is the *resistance stage* where individuals activate their defense mechanisms to face stressful situations, reflecting an adaptation to the level of stress. Signs that show that the organism is struggling to adapt to the stressors are high blood pressure and ulcers, accompanied with fatigue, irritability, etc (Banyard, 1996). Then when the third stage occurs, which is the *exhaustion* stage, individuals can no longer cope with the demands exerted on them and become severely ill or die.

One major limitation of the physiological approach as explained by Aldwin (1994) is that it posits general or universal reactions to stress regardless of whether the stressor is a physical predator or a college exam or whether the organism being stressed is a man or a mouse. The theory of non-specific response has been discredited by recent research (Paulhan and Bourgeois, 1998), which suggests that there are in fact specific reactions to stress, which can vary depending on the stressor or the individual. The way an individual reacts to a stressor is not linearly dependent on the objective severity of the situation but the reaction is influenced by cognitive and behavioural strategies (Paulhan and Bourgeois, 1998).

For example, it was found in studies on animals done by Mason (1968) and Weiss (1972) that physical stressors such as temperature or lack of food, did not activate the hypophysio-corticosurrenalian system (responsible for the corticoides liberation) when the animals could control the situation.

The sympathetic and medulosurrenalian system (responsible for the liberation of catecholamine: adrenaline and dopamine) was the only system activated (Paulhan and Bourgeois, 1998). As suggested by the authors, this relationship between behavioural response and physiological effects gave an important turn in the understanding of human stress and lead contemporary models to emphasize the psychological aspects of stress.

For example, in human studies, a distinction has been made between active and passive coping efforts i.e. the way we deal with stress (Paulhan and Bourgeois, 1998). Active coping is accompanied by catecholamine release and sympathetic nervous system activation, while passive coping (withdrawal) is associated more closely with corticosteroid secretion.

The more recent psychological stress models will emphasize not solely the stress response in the person but also the environmental aspects that cause the stress responses. More precisely, the recent models suggest that stress occurs in the *interaction* between the environment and the person.

II. 2 Psychological approach to stress

Most contemporary models of stress adopt a psychological perspective of the stress phenomenon. Some differences exist within the psychological perspective where interactive and transactional models can be found. However, in both types of model, stress is conceptualized in terms of the dynamic interaction between the person and the environment. The difference between these models is that transactional models,

according to Cox and Ferguson (1991), are the more process-oriented of the two, with a particular focus on the concepts of appraisal and coping.

Among these models, three of them have been widely discussed in the literature as they have formed the basis for the long list of derived stress models (e.g. Cooper, 2000). Although all of them use a psychological perspective, each examines stress in different ways. These are the person-environment (P-E) fit (French and Caplan, 1972; French, Caplan and van Harrison, 1982), the job demand-control model of Karasek and Theorell (1990) and the transactional model of stress (Lazarus, 1966). The intention here is to understand in which direction stress can be best researched and to decide which model would be most suitable to answer our research questions.

II.2.1 The person-environment (P-E) fit model

The assumption of the P-E fit theory of stress (French et al., 1982) is that people vary in their needs and abilities just as jobs vary in their incentives and demands. Reduced well being is more likely to occur when there is a poor match or misfit between the characteristics of the person (e.g. abilities, needs) and the characteristics of the environment (e.g. demands, supplies). Edwards, Caplan and van Harrison, (1998, 2000) note that this simple yet powerful notion is embedded in numerous theories of stress and well-being and is largely responsible for the widespread impact of P-E fit theory.

The major questions that the theory tries to answer are: 'Do all dimensions of the person and of the environment have the same effect on well-being?' and 'Are all indicators of well-being affected in the same way by the person-environment misfit?' (French et al., 1982)

In order to answer to these questions, the P-E fit model includes several major dimensions (see figure 2.1):

i) *Demands* (i.e. quantitative and qualitative job requirements, role expectations and group and organizational norms); ii) *Abilities* (i.e. aptitude, skills, training, time and energy the person must muster to meet demands; iii) *Supplies* (i.e. extrinsic and intrinsic sources and rewards such as food, shelter, money, social involvement, opportunity to achieve) and iv) *Needs* (biological, psychological requirements, values, motives) of the person and the environment.

All four dimensions have an objective and subjective aspect defined by what the environment objectively requires and what the person subjectively perceives. This gives the possibility to measure several types of fit and types of accuracy of perception: i) the objective demand-abilities fit and the supplies-needs fit, ii) the subjective demand-abilities fit and the supplies-needs fit. The correspondence between: i) the subjective and the objective environment called the *contact with reality*, ii) the objective person and the subjective person referred to as the *accuracy of self-assessment*.

The authors explain that 'stress' is not a technical concept in their theory. It is more "a commonly used word referring to any of the following technical concepts: (1) objective misfit; (2) subjective misfit; (3) a variable in the objective environment which is presumed to pose a threat to the person; and (4) a variable in the subjective environment which the person perceives as threatening" (French et al., 1982).

However, more recently, Edwards et al., (1998, 2000) acknowledged that stress as such has not always been explicitly presented in the P-E fit theory and suggest that stress should be understood as a subjective rather than an objective misfit between person and environment constructs. "Stress is a subjective appraisal indicating that supplies are insufficient to fulfill the person's needs, with the provision that insufficient supplies may occur as a consequence of unmet demands".

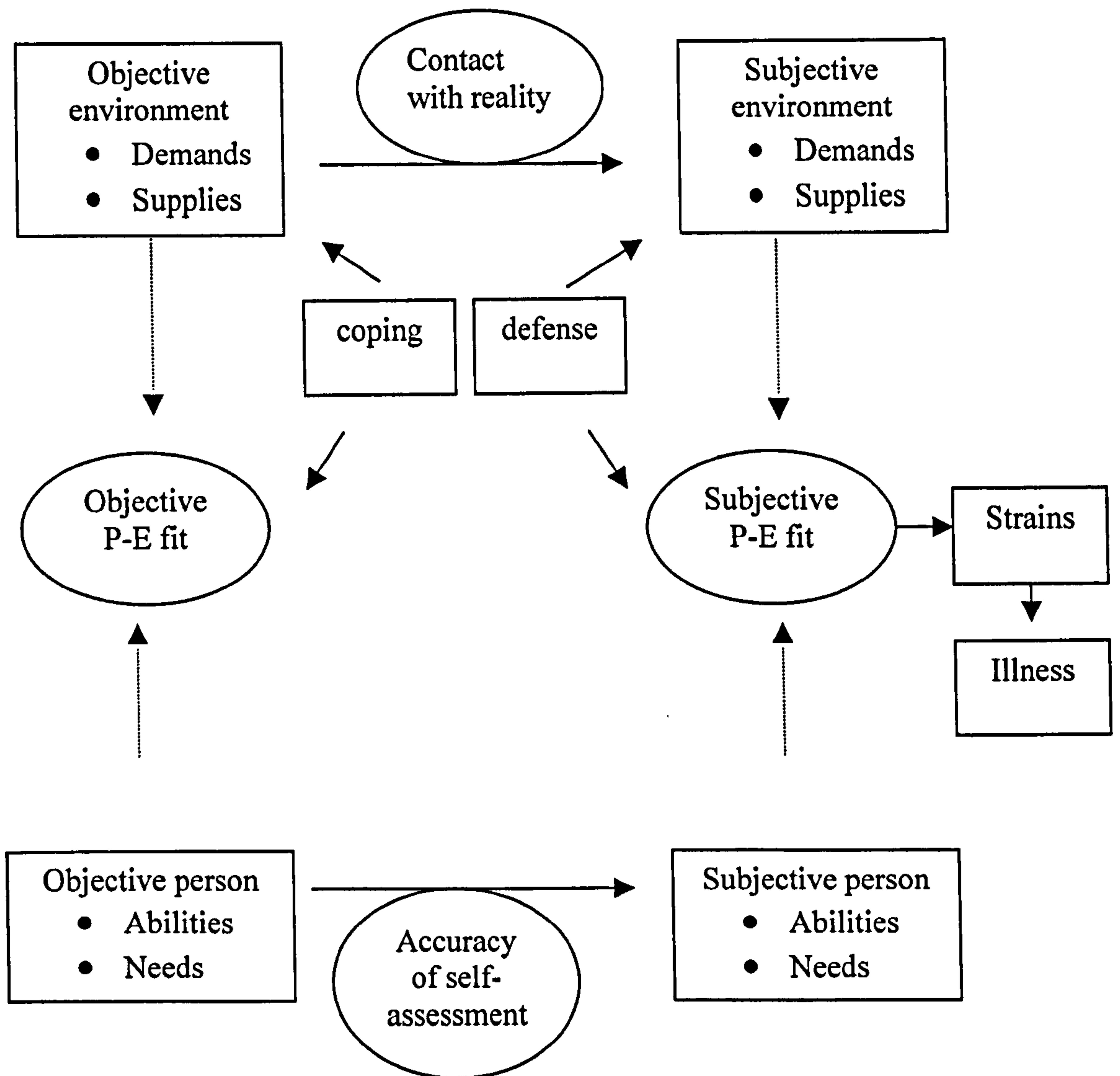


Figure 2.1. The person-environment (P-E) fit model (Adapted from Edwards et al., 1998, 2000).

An important feature to consider in the P-E fit model is the definition of constructs. To obtain meaningful measurements, the environment and person constructs should be commensurate. For instance, job *demands* should be commensurate to the person's *abilities* and the job *supplies* to the *needs*. This means that there should be a correspondence in the conceptualization between the two. They also must be measurable on the same scale. For instance to measure the demand-abilities fit on quantitative workload, this will require comparing the amount of work to be done with the amount of work the person can do.

Examples of questions evaluated on a Likert scale ranging from 1= 'very little' to 5= 'A great deal' are:

'How much workload do you have ?' (Subjective Environment)

'How much workload do you want to have?' (Subjective Person)

'How much money do you earn.....?' (Subjective Environment)

'How much do you think you should have been paid?' (Subjective Person)

According to Edwards et al., (1998, 2000), this commensurate feature of the P-E fit theory distinguishes it from other more general interactionist models which examine (for example) the moderating effects of personality on the relationship between environmental stressors and health (Parkes, Mendham and von Rabenau, 1994). In this respect this feature also distinguishes them from transactional models.

To calculate the fit, either a subtraction of the Person scores from the Environment scores (E-P) or a ratio of the difference between Environment and Person scores compared and the level of the person's score, $((E-P)/P)$ is used. For all the P-E fit measures, a score of zero represents perfect fit ($E=P$). A negative P-E fit score occurs when the person score is higher than the environment score $P>E$. A positive fit is when the $E>P$.

The outcomes of stress are measured by the 'Strain' dimension such as psychological strains such as job dissatisfaction and anxiety, physiological strains such as high blood pressure, and behavioral strains such as excessive smoking and consumption of alcohol.

Later refinements of the theory (French et al., 1982) state that objective (real) misfits have little impact on mental health but that subjective misfits in terms of Demand-Abilities or Supplies-Needs misfits are the ones that produce strain i.e negative psychological, physiological and behavioral outcomes. Therefore, the importance of the individual's perception is more important than the actual reality.

II. 2.1.1 Test of the P-E fit model

Many large-scale studies have adopted the P-E Fit model as a guiding framework (Edwards and Cooper, 1990). Caplan, Lobb, French, van Harrison and Pineau, (1980) used a random stratified sample of 318 workers in 23 occupations and found that the P-E fit correlated with psychological strains and to a lesser extent with physiological and behavioural strains.

In a sample of white and blue collar workers (N=390), French et al., (1982) found that individuals reporting recent visit to doctors for Coronary Heart Disease (CHD) or high blood pressure were more likely to have high scores on somatic complaints. Individuals who reported visits for high blood pressure also had significantly higher levels of anxiety, depression, irritation, job dissatisfaction and workload dissatisfaction.

Research findings support the P-E fit model demonstrating that interactions between person and environment predict job strain better than either the personal or the environmental characteristics taken separately.

When the Needs-Supplies fit has been tested (Blau, 1994) results show higher dissatisfaction, low self-esteem, anxiety and depression in the presence of a misfit. When the Demands-Abilities fit has been measured, there was evidence of dissatisfaction, anxiety and exhaustion outcomes as a result of a poor match between demands and abilities (Moos, 1991).

Moreover, subsequent research models have improved the P-E fit model by including the assessment of job satisfaction, individual differences in attitudes and personality traits and health status (Beehr and Newman, 1978; Sharit and Salvendy, 1982). Several authors present this theory as one of the most utilized and accepted approaches to stress (Eulberg, Weekley and Bhagat, 1988; Spielberger and Reheiser, 1995; Edwards and Cooper, 1990; Edwards et al., 1998, 2000).

II. 2.1.2 Limitations of the P-E fit model

However, not all studies support the findings mentioned above, mostly because according to Edwards et al., (2000), Edwards and Cooper (1990), studies are plagued with serious theoretical and methodological problems. In some studies, the P-E fit is operationalized by collapsing person and environment measures into a single score, such as an algebraic, absolute, or squared difference. The authors rather suggest to use a three dimensional relationship including the characteristics of the person, the environment and strain.

Other limitations of the P-E Fit model have been outlined by several authors. First, Karasek and Theorell (1990) argue that despite its usefulness, the model has too often been used to reassign individuals to different jobs as if the problem was the maladaptation of the individual to the job. Second, the model can be seen as a mechanistic or cause and effect process (Neveu, 1995).

Third, Benner (1982) argues that the fit model does not focus on transactions over time between the person and their environment and is less useful in explaining changes.

Fourth, the theory has not yielded a highly focused approach (Chemers, Hays, Rhodewalt and Wysocki, 1985) and measures general role demands and expectations but specific job pressures and task characteristics tend to be neglected (Spielberger and Reheiser, 1995). Moos (1991) suggests that the fit model should be broadened to include observed aspects of work settings and to distinguish between two aspects of fit: a person's ability in relation to job demands and a person's needs in relation to job opportunities.

II. 2.1.3 Usefulness of the P-E fit model for the present research

The P-E fit model is not going to be used in the present research due to the limitations given above and the reason given by Folkman (1982), who argues that the Fit model is useful for analyzing P-E relationships that are unchanging. It is suitable for measuring the effects of monotony or boredom when the job is one-dimensional and constant, and when one cannot change the conditions or tasks to perform.

However, the author argues that the P-E fit is less useful when jobs are complex and when possibilities exist for personal control or changing the P-E relationships. Our study focuses on a managerial population drawn from the service sector environment who in today's style of management has some latitude to change the way they perform their daily tasks. Therefore, it does not seem that the P-E fit model is the more appropriate model for our population under study.

Another reason for not choosing the P-E fit model in our study is that, as Dewe (1989) points out, the P-E fit model is still directed towards a stimulus-response interaction and away from the individual-level processes of coping with stress and adaptation. The author argues that these processes are important in order to understand the transaction between the person and the environment. These processes are particularly present in transactional models that will be described later in this chapter.

II. 2.2 The job Demand-Control-Support (DCS) model

Another model, which is regarded as a variant of the P-E fit model and has received considerable attention is that of Karasek (1979). The initial model of Karasek included two dimensions, namely job demand and job control (or decision latitude) and a third dimension has been added later, that is the notion of support after the work of Johnson and Hall (1988). The model posits that it is the combination of high job demands and low job control that leads to strain (ill health or negative attitudes). A further assumption is that if there are high demands and low control in a job, but high support, then strain will be reduced. In other words, social support will have a moderating or buffering effect on strain.

Karasek (1979) defines *job demands* as “the psychological stressors involved in accomplishing the workload” whereas decision latitude refers to the “working individual’s potential control over his tasks and his conduct during the working day”. *Job control* or otherwise called decision latitude is operationalised in terms of decision authority and skill discretion.

Social support has long been considered crucial in the relationship between environmental factors and stress responses. People who receive less advice, information or practical support (including financial or technical support) are likely to experience higher levels of strain (Payne and Fletcher, 1983).

In the DCS model, the interaction between psychological demands and control (decision latitude) produce four different types of psychosocial work experiences according to the level of demand and control. These are: high strain jobs, active jobs, low strain jobs, passive jobs (see figure 2.2).

HIGH STRAIN JOBS have high demands and low control. This is the most stressful situations in the workplace generating the most ill health outcomes. These jobs will predict the highest strains in terms of fatigue, anxiety, depression and physical illness. Regarding the value of control, Karasek and Theorell (1990) wrote:

"It is not only freedom of action in accomplishing the formal work task that relieves strain, it may also be the freedom to engage in the informal rituals- the coffee break, the smoke break, or even fidgeting that serve as supplementary tension release mechanisms during the work day (Csikszentmihalyi, 1975). These are often part of social support. Research has found that without periodic returns to equilibrium through relaxation activities, no additional work can be done and disorganised activity results" (Dement, 1969).

ACTIVE JOBS are defined by high demand and high control. It has been found that in the US and in Sweden, people in such occupations tend to be the most active also in leisure and popular activity outside work, in spite of heavy work demands (Goiten and Seashore, 1980; Karasek, 1976, 1978 cited in Karasek and Theorell, 1990). Active jobs predict average strain where the notion of control plays an important role as Karasek and Theorell (1990) explain it:

"The conversion of energy into action is also one necessary prerequisite of an effective course of action in response to a stressor, the individual can test the efficacy of the chosen course of action, reinforcing it if it has worked or modifying it if it has failed".

LOW STRAIN JOBS have low demand and high control. They can be found for instance among repair personnel. These jobs predict a low level of strain too.

PASSIVE JOBS refer to low demands and low control. These jobs impoverish employees' skills, leading to a gradual atrophy of learned skills and abilities according to Karasek and Theorell (1990). They lead to lower than average levels of leisure and political activity outside the job. Intermediate levels of strain are to be found in passive jobs.

		Job Demands	
		Low	High
Decision Latitude	Low	passive job	<i>high strain job</i>
	High	low strain job	active job

Figure 2.2. Job strain model (from Karasek, Baker, Marxer, Ahlbom and Theorell, 1981)

As noted by Cox et al., (2000), "the advantage of this model is that it drew attention to the possibility that work characteristics may not be linearly associated with workers' health, and that they may combine interactively in relation to health". Dollard and Winefield (1998) and Houtman et al., (1999) also suggest that the model is appropriate for primary prevention interventions (e.g. job redesign) and is not directed at negative outcomes and ill health only but to productivity outcomes that are also important in the workplace.

II. 2.2.1 Test of the DCS model

The DCS model has been largely tested in epidemiological studies (Kristensen, 1989) and organisational sciences (Fox, Dywer and Ganster, 1993). The validated questionnaire used to test this model, called the Job Content Questionnaire (JCQ) includes, in a recent version, forty-nine questions and five dimensions: Demand/ Decision latitude (control)/ Social support/ Physical demands and Job insecurity. The JCQ is recommended for use in international comparison and a French translation of the shorter version of the JCQ (18 items) has been validated in a population of 8,263 white-collar workers between 1991-1993 (Karasek, Kawakami, Brisson, Houtman and Bongers, 1998).

Despite the validation studies done by Karasek and colleagues, there is mixed evidence to confirm the psychological strain hypothesis. In some studies the interaction hypothesis is not supported, rather additive effects are to be found (Kasl, 1989; Warr, 1990; Ganster, 1989). In addition, job support has been shown to have main, as well as, buffering effects on strain (Beehr and McGrath, 1992).

Karasek and colleagues tested the model on large heterogeneous samples mainly in the US and in Sweden. For example the authors tested the relationship between job characteristics and CHD among a national random sample of the Swedish male workforce. They also tested the development of symptoms of CHD through a case controlled study on the deaths from cardiovascular or cerebrovascular diseases during two follow-up periods (1968-1974, 1974-1977).

Findings show that hectic and psychologically demanding jobs as well as low job decision latitude increase the risk of developing CHD and premature death. By contrast there were no heart disease symptoms among the group of workers who reported low psychological demands and a high level of skill discretion (Karasek et al., 1981). In general, job strain associations have been found in blue-collar workers as well as white collar workers but it is still unclear for which group it is the stronger (Karasek and Theorell, 1990).

More recently, a large study (referred to as the JACE study) conducted in Europe by a group of researchers from six countries (Belgium, Sweden, France, Italy, Spain and the Netherlands) evaluated Job Stress, Absenteeism and Coronary Heart Disease among 15,000 European workers. One of the objectives was to test the predictive power of the job stress scales and the job strain model on a 3 year incidence of CHD among male workers. It was found that among this group of workers the Acute Myocardial Infarction Incidence was nine per 3000 subjects over 3 years (Houtman et al., 1999).

Regarding the validity of the JCQ questionnaire, Schaubroeck and Merritt (1997) report that the decision latitude scale has low face validity and some items measure job complexity rather than decision latitude (Ganster, 1989; Wall, Jackson, Mullarkey and Parker, 1996).

The dimension of social support has been shown to provide valuable resources to combat the negative effects of strain. In some studies, it has been found that support inhibited strain only in difficult working conditions (Karasek and Theorell, 1990) or under conditions of high strain. Although there are not always consistent results to support the moderating effect of social support between the work environment and stress outcomes, there is evidence that job support has direct effects on stress outcomes (Johnson and Hall, 1988).

II. 2.2 2 Limitations of the DCS model

Despite its useful conceptualization of stress, Karasek's model received several criticisms. De Rijk, Le Blanc, Schaufeli and de Jonge (1998) argue that individual differences are overlooked and therefore in this sense, the model is limited in its ability to explain stress mechanisms. In reply to this criticism, the position taken by Karasek is that stress is firstly caused by environmental factors. Personality factors are secondary in the process and researchers should find a way to disentangle what part is due to personal or environmental characteristics in work stress. On the other hand,

dimensions such as age, personality, experience etc. can be added to the model because as Karasek et al., (1998) explain, the questionnaire used to operationalise the demand/control/support model (the Job Content Questionnaire) is often included as a section in other questionnaire instruments.

Another criticism is that the model is too simple and omits some important aspects of the job. Karasek et al., reply that the impetus for designing a simple model was to correct the over-complexity of previous models and according to them, this simplicity is essential for practical interdisciplinary applications and for the first stage of scientific research. The simplicity also brings about more rigorously specified variables, definitions, directionality of effects and interaction mechanisms.

"Our basic model, built upon individual level psychological demands and decision latitude cannot address all the relevant scientific issues from the Michigan model (FIT model) or the job redesign approach directly. The model does address that small number of job dimensions that lie at the core of management theory in our industrial society and therefore can serve as a useful basis for beginning a dialogue about job change and its social policy implications". (Karasek and Theorell, 1990).

Probably the most common criticism is that interactive effects of job demands and job control are not always found and simple additive effects can predict strain too. De Jonge, Dollard, Le Blanc and Houtman (2000) give three reasons for this mixed evidence which have to do with measurement, validity of job demand and job control constructs and with sampling issues.

The authors list a number of issues such as the fact that job demand is measured at a general level with different demanding aspects involved. Job demands such as complexity should not be treated as stressors per se but only when complexity exceeds the employee's knowledge, skills and abilities. They argue that interaction will be found if job demands and control are theoretically likely to interact. For instance, role

ambiguity may be reduced if goals and working methods are clarified rather than if too much control is given to the employee (De Jonge et al., 2000).

Regarding job control, the authors argue that job decision latitude as initially formulated in Karasek's model is much broader than job control. Complexity is part of decision latitude and sometimes it is also part of job demands. Therefore it can bring confusion in the measurement of the constructs.

Finally, sampling issues and level of analyses can affect the presence of interaction effects. Most studies using this model have been population-based or occupation-based using large-scale multi-occupations samples (De Jonge et al., 2000). Studies that have examined interaction effects at an individual level of analysis have not always supported the interaction hypothesis. If used within homogeneous samples the interaction test will be conservative because of the limited amount of variance of the independent measures in a single occupation (Karasek, 1989).

The solution to aggregate the individual responses to the occupational level is not a satisfactory one as it may eliminate the real interaction effects (Ganster and Schaubroeck, 1991). However, in a study by Dollard and Winefield (1998) interaction effects were found among individuals within the same occupation (419 correctional officers) under conditions of high support rather than low support. In general, smaller scale studies using homogeneous samples have found main effects of demands and control on strain effects (Dollard and Winefield, 1998).

II. 2.2.3 Usefulness of the DCS model for the present research

Although Karasek's model is of great appeal for its simplicity and the fact that there is an off-the-shelf questionnaire ready to administrate in French, it was not considered appropriate for several reasons.

It seems that the DCS model would better capture stress among blue-collar workers that have low levels of control. To validate the French version of the JCQ questionnaire, between 1991-1993, Brisson, Blanchette, Guimont, Dion, Moisan and Vezina (1998) explain that they recruited their samples based on an *a priori* impression of high job strain (for example jobs involving repetitive tasks, income taxation and insurance services). Therefore, it puts into question the use of this model to evaluate stress among populations, which have a high or average amount of control, for instance managerial populations.

Also in these validation studies, the sample was composed of 57% clerical workers, 33% professional and only 10% executive. There is no mention as to whether professional and executive workers hold managerial positions.

Although this model brought understanding of the notion of control mostly among low-skilled jobs, the fact that the model focused on the dimensions of demand, control, and support was considered too limited to explore stress in a managerial population.

II. 2.3 The transactional model of stress

Another trend of models within the psychological approach, is the transactional models which focus on the psychological mechanisms involved in the transaction between the person and the work environment. This concept derived from the pioneering work of Lazarus (1966) and has been further developed by other researchers, for example McGrath (1970); Cox (1978); and Lazarus and Folkman (1984).

Lazarus and Folkman (1984) explain that stress is not a variable as such but "a rubric consisting of many variables and processes". The authors suggest that this is the most useful approach to take for studies in stress. However, they warn researchers that the use of this approach requires them to adopt a systematic theoretical framework for examining the concept at multiple levels of analysis and to specify antecedents, processes, and outcomes that are relevant for stress phenomena..."

'This rubric consisting of many variables and processes' which is very broad leads investigators to conceptualize and measure stress differently, although they may all argue that they are using a transactional model of stress. Stress could refer to situational conditions or events or to psychological responses or outcomes of a stressor. A somewhat close but different category defines stress as one's perception of being stressed (i.e. felt stress) (Hendrix, Steel, Leap and Summers, 1995).

These different perspectives are important because they lead to a specific type of stress measurement. If stress is defined as a stimulus, then variables such as quantitative workload and role conflict would be used to measure stress. If stress is defined as a response then psychological outcomes such as anxiety, depression or physiological outcomes such as blood pressure or cortisol levels will be the focus of measurement (Hendrix et al., 1995).

If a 'felt stress' dimension defines stress, this variable will be located between stressors and strain outcomes (Hendrix et al., 1995). Finally, if stress is defined as a process referring to the interaction between work hazards, stress and harm, then variables such as the antecedents, perceptions, experience, moderating factors, immediate outcomes and health status will be measured (Cox et al., 2000).

The latter approach is the one chosen for the present research where the transactional view of stress is defined as "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus and Folkman, 1984).

The transactional model of stress (figure 2.3) distinguishes between the potential stressors (stressful antecedents, conditions) as perceived/appraised (primary and secondary appraisal) by individuals and consequent emotional reactions (Ogden, 1997). The recognition of harm, loss, threat and challenge must be present for any emotional or physiological reactions to occur (Lazarus and Folkman, 1984). Emotional reactions to stress generally refer to negative feelings such as anxiety, anger, and

sadness although shame, guilt or boredom may also be considered as stress reactions (Lazarus, 1991). The secondary appraisal involved the coping strategies used by individuals to face stress.

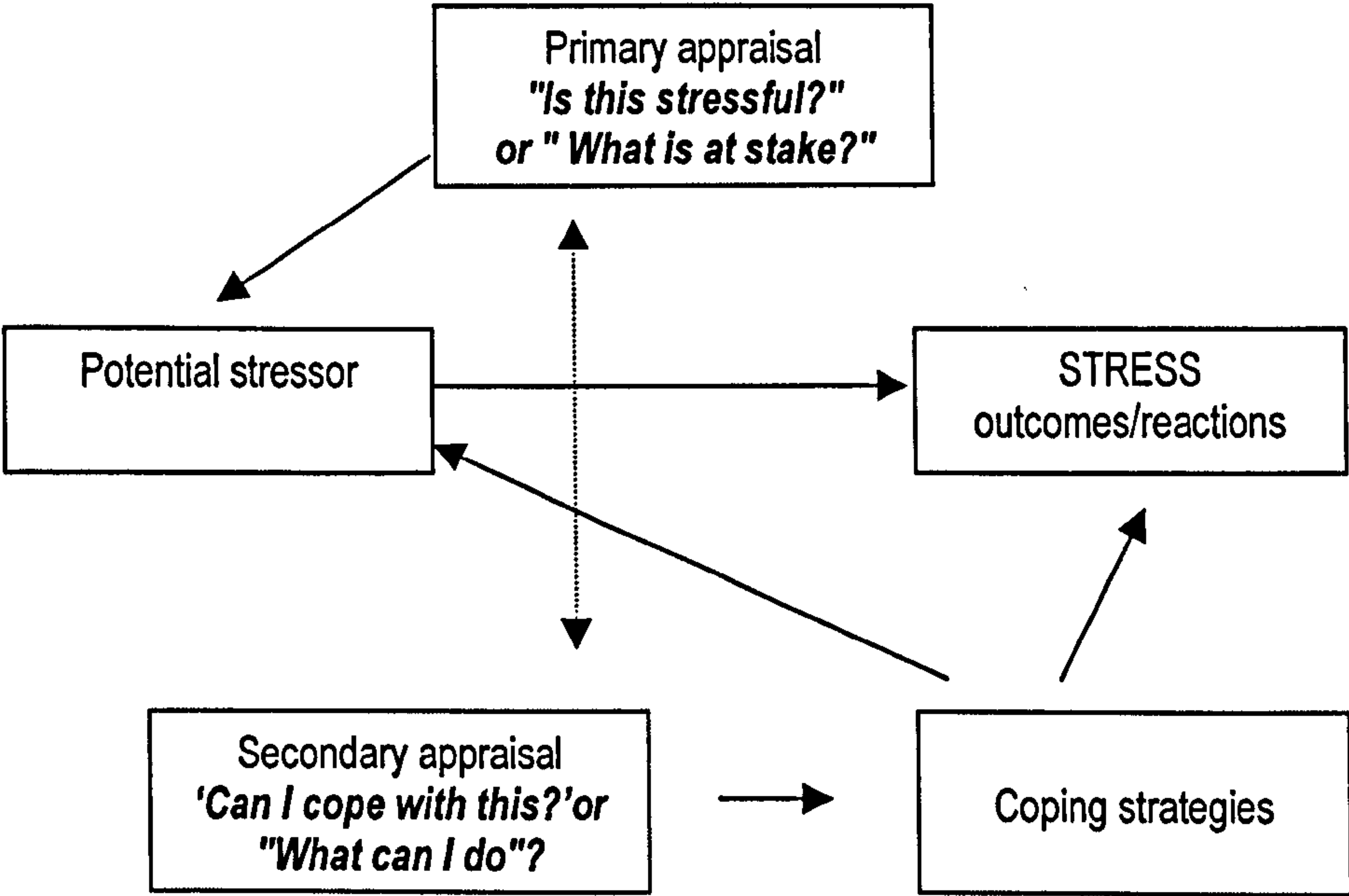


Figure 2.3 Appraisal and coping in stress (Adapted from Ogden, 1997)

The two concepts that are fundamental in transactional models are cognitive appraisal and coping and will be explained in more details in the next section.

II. 2.3.1 Cognitive appraisal

Lazarus and Folkman (1984) define cognitive appraisal as the "process of categorizing an encounter, and its various facets, with respect to its significance for well-being. It is an evaluative and continuous process focused on meaning or significance". The authors

explain why the notion of appraisal is so important in their stress model. One of the reasons is that

"in order to survive and flourish, people must distinguish between benign and dangerous situations, (i.e. between harm, threat, challenge or nurture). Cognitive processes mediate reactions and are essential for adequate psychological understanding. A cognitive appraisal represents the unique and changing relationship taking place between a person with certain distinctive characteristics (values, commitments, styles of perceiving and thinking) and an environment whose characteristics must be predicted and interpreted".

Lazarus and Folkman (1984) identified three types of appraisals, namely primary appraisal, secondary appraisal (coping) and reappraisal.

Three types of appraisals

Primary appraisal asks, "what is at stake" or "is it stressful"? The person appraises the encounter in terms of beliefs, values, goals, commitments and physical safety. Three kinds of evaluation can be distinguished: 1) irrelevant 2) benign-positive 3) stressful. Evaluations of irrelevance are judged as having no implication for well-being. They are not themselves of great interest adaptationally. Benign or positive evaluations occur if the outcome with an encounter preserves or enhances well-being and these evaluations are characterized by pleasure, joy, love, happiness or peacefulness. Finally the stress evaluations include harm/loss, threat, and challenge.

In harm/loss, some damage to the person has already been sustained (e.g. illness or injuries, damage to self-or social self-esteem, loss of a loved person). Threat appraisals refer to threats or losses that have not yet occurred but are anticipated, and are characterized by fear, anxiety and anger. Challenge appraisals call for the mobilization of coping efforts too but focus on the potential for gain or growth inherent in an encounter and are characterized by pleasurable emotions such as eagerness, excitement and exhilaration. Empirical evidence does not support the hypothesis that challenge appraisals lead to stress (Lazarus and Folkman, 1984).

Secondary appraisal asks, "what can I do" or "can I cope with this"? The person looks for the availability and relevance of coping resources to manage the encounter (Folkman, 1982). Secondary Appraisal is a complex evaluative process that takes into account which coping options are available, the likelihood of the effectiveness of a coping strategy, and the capacity of applying it. Stress occurs when what is at stake is meaningful and when it is associated with a lack of coping resources. The greater the imbalance between the first and second appraisal, the higher the feeling of stress.

The third type of appraisal is *reappraisal* referring to a changed appraisal on the basis of new information from the environment or the person's own resources. In essence first appraisal and reappraisal don't differ (Lazarus and Folkman, 1984).

Lazarus and Folkman explain that primary and secondary does not mean that one is happening after another or one (primary) is more important than the other (secondary). There is a complex interplay between the secondary appraisals of coping options and primary appraisals of what is at stake. They interact with each other in shaping the degree of stress and the strength and quality (or content) of the emotional reaction.

II. 2.3.1.1 Test of appraisal

Several studies have examined the effect of appraisal on stress (e.g. Lazarus, 1966) using motion picture films as a way of generating stress. Subjects were asked to watch films that showed people being mutilated, for example in primitive rites of passage, or mutilated in experiencing accidents in a woodworking shop.

In Lazarus' (1960) study, experimenters presented the sequence to the subjects in three different conditions to measure the impact that the significance would have on the subjects. Accidents in the woodworking shop were simulated, or used to teach safety measures, or that accidents were real and people suffered a lot. Physiological outcomes

such as heart rate or skin conductance show that reactions were correlated to the meaning given to the film (Lazarus, 1993).

In Speisman' s (1964) study, the film depicted an initiation ceremony involving unpleasant genital surgery. Three conditions were presented to the subjects. In one condition, the pain and trauma were emphasized while in condition two, the participants look as if they were happy and willing. The final condition gave an intellectual anthropological explanation of the rite. Findings showed that the first condition was the most stressful. Both studies indicate that it is not the event in itself which creates stress but the meaning given to the event is highly conducive of the individual's reactions (Ogden, 1997).

In the present research, appraisal will be examined in parallel with well-being by using scales of satisfaction/dissatisfaction regarding potential stressors (e.g. deadlines, workload) or scales of agreement/disagreement with statements about situational stressors (e.g. “my workload does not endanger the quality of my work”).

II. 2.3.2 Coping in the stress process

The coping phase of the stress process is where the workability of the secondary appraisal is tested (Payne, 1991). The study of coping has its roots in the recognition that there are individual differences in reactions to stress - that is to say that similar effects may have varying effects on different people (Aldwin, 1994).

Lazarus (1994) outlines that in the late 1960s and 1970s formal attention began to be given to the measurement of coping and to how it worked. However, according to the author, there has been no recent major treatment of the status of coping research and theory, which reviews what has been done since the early 1980s and analyzes the important issues that empower work on the coping process.

Definition of coping

The coping literature reflects that coping research is dependent upon the type of factors chosen to explain how individuals cope with problems. According to Aldwin and Revenson (1987), these can be personality factors, situational or role demand, cognitive appraisal, or even cultural practices and preferences. Whether we give the importance to one factor or another will affect the way we define and measure coping strategies.

Similarly, Oakland and Ostell (1996) identified five main approaches that are currently being used for studying the relationship between stress, coping and health. These are the psychoanalytic approach, the personality-trait approach, situation-specific coping, the stage sequential approach and the method-foci approach, outlining that the most widely-used among these is the method-foci approach (Carver, Scheier and Weintraub, 1989; Edwards and Baglioni, 1993). The use of coping efforts or foci reflects a transactional view of coping.

In the transactional approach of stress, coping is viewed not as traits or styles but as a process (Folkman and Lazarus, 1986; Lazarus and Folkman, 1984; Lazarus and Launier, 1978). It is "a person's ongoing efforts in thought and action to manage specific demands appraised as taxing or overwhelming".

Although stable coping styles do exist and are important, the view of coping as a single stable dimension is inadequate according to Lazarus and Folkman (1984), because coping is a multi-dimensional process that varies over time and situations. "Coping is highly contextual since to be effective it must change over time and across different stressful conditions" (Folkman and Lazarus, 1985).

II. 2.3.2.1 Measurement of coping strategies

Lazarus and colleagues suggest a process-oriented approach to coping. A process-oriented measurement of coping must: i) refer to specific actual thoughts, feelings and acts rather than to what a person reports he or she might or would do or what she usually does, would do or should do which is the concern of the trait approach; ii) be examined in a specific context, and iii) be studied in slices of time so that changes can be observed in what is thought, felt, and done as the requirements and appraisals of the encounter change. Although the authors suggest several measurements of coping strategies over time with the same persons, most studies measure coping just once (Oakland and Ostell, 1996).

Coping is then situation-specific and strategies usually are defined by two broad categories: problem-focused coping and emotion-focused coping. Problem-focused coping is directed at managing or altering the problem causing the distress and emotion-focused coping is directed at regulating the emotional response to the problem. In fact this broad categorization has been the basis for subsequent models used by other researchers such as Moos and Billings (1982) or Stone and Neal (1984).

Emotion-focused forms of coping are more likely to occur when there has been an appraisal that nothing can be done to modify harmful, threatening, or challenging situations. Problem-focused coping is more likely to be used when situations are appraised as amenable to change.

Emotion-focused coping strategies range from seeking emotional social support, self-blame, avoidance, minimization, distancing, to selective attention whereas problem-focused strategies include problem solving strategies, but they are not limited to them. They also include gathering information, making a plan of action and following it, etc. These latter are more limited in number than emotion-focused strategies. However, the more specific the stressful situation, the more problem-focused strategies are used (Lazarus and Folkman, 1984).

Another coping classification has been proposed by Pearlin and Schooler (1978) which includes changes of situation, alterations of the meaning or appraisal of the stress, responses intended to control feelings of discomfort. Finally, Latack (1986) distinguishes three categories, which are control, escape and symptoms management. Reviews by Moos and Billings (1982) and Fleishman (1984) conclude that 'consensus upon a clear-cut typology of coping remains to be achieved'. One of the well-known coping instrument, including problem and emotion-focused categories is the Ways of Coping Checklist (WCCL) developed by Folkman and Lazarus (1984) for use in a variety of settings.

The Ways of Coping Check list (WCCL)

The WCCL has 68 items in its early version (1980) and 67 in its reviewed version (1984). It taps a variety of behavioral and cognitive coping strategies. The checklist has a yes/no format, later revised to a 4-point Likert scale (0: not used, 1: used somewhat, 2: used quite a bit, 3: used a great deal) and is answered with a specific event in mind. The scale is divided into two main subscales, the problem-focused coping and the emotion-focused coping.

Test of the WCCL

The WCCL has been validated statistically using factor analysis. Internal consistency reliability reported by the authors was .80 for the problem-focused and .82 for the emotion-focused scale. A factor analysis on four different sets of data using the WCCL has been performed. The last data set reveal eight factors which are confronting coping, distancing, self-control, seeking social support, accepting responsibility, escape / avoidance, planful problem-solving, and positive appraisal.

Five of these factors were found in earlier analyses. According to the authors, each analysis contributed unique factors, which may be influenced by the type of subject population or the situation being studied.

Subsequent analyses by other researchers reveal that the internal consistency reliabilities of the subscales are very modest (Endler and Parker, 1990) and the construct validity of the WCCL is not strong (Edwards and Baglioni, 1993). Factor analyses in different studies have shown an unstable factor structure with between 3 or 9 factors (Endler and Parker, 1990).

However, Aldwin (1994) argues that whilst there are limits to the amount of vagueness and unreliability that should be built into a scale, nonetheless it is invalid to hold process measures that are used in field settings to the same psychometric criteria as personality measures. The author fiercely demonstrates how Endler and Parker are wrong when they claim that their own measures of coping styles are psychometrically superior to process measures.

Aldwin (1994) argues that:

"...what constitutes good personality instruments is inappropriately applied to field instruments. Personality traits (used in coping styles) are supposed to tap stable characteristics of the individual. Thus, these traits should have high test-retest reliability. Further personality measures assume some inaccuracy in self-description and are thus highly redundant, using several different items to tap one construct, which in turn generates good internal reliability.

Process instruments designed to be used in a field setting, however, are designed precisely not to be stable. These instruments are meant to tap variability and change, making them almost by definition unreliable. Further, a certain amount of vagueness in the wording of items was done purposefully so that the items would be applicable across situations. Thus it is not surprising that the meaning of the item may change across situations, therefore factor structures may shift a bit. But it can be argued that this is the result of the instruments' accurate reflection of reality rather than of poor scale construction".

The author concludes that fieldwork (and reality) is messy, changeable, and imprecise and we have to deal with it.

Later Vitaliano, Russo, Carr, Maiuro and Becker (1985) in a study of 435 medical students, factor analysed the WCCL on 42 items and found six factors but five interpretable coping strategies: problem-focused, blamed self, positive reappraisal, seeking social support, and wishful thinking. Vitaliano et al., (1985) found moderate to high correlations .31 to .87. The WCCL has been validated later in France by Paulhan, Nuissier, Quintard, Cousson and Bourgeois (1994), on a shorter version (29 items).

French version of the WCCL

The same five factors have been found. The percentage of total variance found for each sub-dimensions was:

Problem-focused 9.4%

Blamed self 5.7%

Positive reappraisal 5.9%

Seeking social support 6.5%

Wishful thinking 7.5%

When tested cross-culturally, the WCCL reveals a good factor structure similar to the one found by Lazarus and Folkman (Watson, Willson and Sinha, 1998). The authors compared Canadian and Indian students coping strategies. It was found that problem-focused and emotion-focused strategies were distinct as expected. However the escape-avoidance dimensions did not fit in the Indian sample in the cluster referring to ineffective coping strategies. This difference is explained by the fact that strategies such as meditation or yogic exercise are seen as culturally effective valued strategies to cope with stress.

While broad coping strategies such as problem and emotion-focused strategies may be relevant to look at in a cross-cultural context using the WCCL, there is still the need to

look at ways of coping in accordance with a specific context people are in. It is why, in our last study, coping is going to be studied in a call center environment and at two times by looking more closely at which coping resources individuals use that affect their well-being. As Filipp and Klauer note, studies on coping deals with the relevance of context variables and the analysis of specific 'life domains'.

II. 2.3.2.2 Limitations in coping measurement

Dewe and Guest (1990) argues that Folkman and Lazarus view of coping measurement is paradoxical in the sense that on one hand they claim that the WCCL is for use in almost all settings and on the other hand, they recommend measuring stress and coping in a specific situation. However, Cohen (1987) states that the type of scale depends on the type of situation studied, the level of generality desired, the researcher's goals and whether consistency of coping across situations is a research question to be tested.

Some coping scales aim for wide applicability (e.g. Folkman and Lazarus, 1986; Billings and Moos, 1981) while others are designed to measure coping in a particular context only (e.g. Weisman and Worden, 1976). Cohen (1987) seems to suggest that the use of checklists yields general types of strategies, but not the very specific coping responses which are better elicited in situation-specific structured coping interviews.

Although there are potential weaknesses in using the WCCL in terms of factor structure and the fact that coping strategies are not empirically derived but part of a ready-made questionnaire, this instrument was found relevant for use in cross-cultural context. Recently, Watson et al., (1998) proved its validity by using it cross-culturally. More specific measures to evaluate individual and organisational coping resources will be developed in our last study.

II. 2.3.3 Limitations of the transactional model of stress

Limitations of transactional models are to be found in their emphasis on the idiographic nature of occupational stress (Brief and George, 1994). The fact that Lazarus' model is based on subjective reports of stress and the primacy of appraisal attracts criticisms, especially from sociologists involved in stress research. They argue that there are objective external circumstances (e.g. unemployment rate) that do not depend upon individual's perception (Aldwin, 1994).

To this criticism, Aldwin (1994) argues that "most environments are ambiguous and more subject to individual interpretations and without an understanding of how this interpretation occurs, it is impossible to understand an individual's experience of and response to stress". Therefore, the subjective experience is what is important to take into account.

In addition to self-report it is also possible to measure objectively some variables to obtain a more distant perspective on the outcomes. In the present research, when possible, both subjective and objective measures will be taken in order to understand stress mechanisms. For example, in the last empirical study, objective measures of job demand and skills enhancement will be taken.

Another argument that occurs in the controversies regarding the measurement of stress refers to the level of measurement. This criticism can apply to interactionist models in general but more so to transactional models where the emphasis is on the individuals' perceptions. Jex (1998) suggest that while individual level models have been very valuable, it is still necessary to understand and to model group (i.e. contextual) effects in occupational stress research.

The idea is that possible relationships detected at group levels cannot be detected at an individual level through individual self-reports on stress though they may be important to individuals' health. For example, Bliese and Halverson (1996), in a research for the

US Army, looked at working hours and well-being at individual and group levels and found weaker correlations when individual reports were used. Jex (1998) concluded that if only individual self-report results had been given to policy-makers, they would not have changed anything in the Army work schedule.

II. 2.3.4 Usefulness of the transactional model of stress for the present research

Despite the above criticisms, the transactional approach is found more appropriate to study stress over a systematic interactional approach (e.g. fit model). While P-E fit theory identifies the general conditions that produce job strain, the transactional theory focuses on the nature of the stressor event, how it is perceived and appraised, and which coping strategies and individual differences are involved.

A transactional framework seems to be a more complete model than interactive (P-E fit model and Job Demand-Control-Support) models. As Aldwin (1994) argues, it is an integrative model because it acknowledges the importance of all of the components of environment and person.

In addition, as coping is at the heart of the stress experience, it is a dimension that needs to be fully explored and perhaps more so in cross-cultural research because cultural habits and beliefs may drive the way individuals understand and respond to stressors.

III. Conclusion

The aim of this chapter was to review the different models and dimensions of stress proposed to define and measure stress, and to point out the implications for the present study. Among several models of stress, the transactional model seems to be the most relevant for the present study because it gives the same importance to the components of environment and the person involved in the stress process, and suggests that

appraisal and coping are core concepts to explore in stress research. The next chapter will review stress research in a cross-cultural context and more particularly between France and the UK, highlighting the gaps in stress literature and the research needs.

Chapter Three: Cross-cultural research on stress at work

I. Introduction

This chapter introduces the cross-cultural research on stress, then it focuses more particularly on comparative research carried out between France and the UK. It also gives an account of the guidance and policies on stress implemented by governments in both countries. The aim is to outline the gap in cross-cultural research and to stress the focus of the present research.

II. Cross-cultural research on work stress in general

Why bother with comparative research? asks O'Reilly (1996). The author explains that researchers embark on comparative projects for several reasons (curiosity, affinity for one culture etc.) and are stimulated by two factors: the search for the 'best practice' and the common weaknesses in the generalisations of theories applied to other cultures. Comparative work is worth exploring because as Drenth et al., (1998) argue, research which has the pretention of explaining what happens in organisations in general cannot limit its field of study to one given country.

Although cross-cultural comparisons are on a growing trend in different academic disciplines even in psychology (van de Vijver and Leung, 1997), they are still very few on work stress (Narayanan, 1999). The reasons why cross-cultural research is uncommon could be that there is a large number of methodological problems to face in this type of study (Drenth et al., 1998) such as the sampling of culture and the accuracy of translation (van de Vijver and Leung, 1997). It is also more costly and time-consuming than research in one country. Additionally, Leung and van de Vijver, (1996) explain that a major challenge for cross-cultural researchers is to identify the most plausible cause for cross-cultural differences observed between two cultural groups.

The majority of cross-cultural studies compare respondents from western (e.g. UK, USA, Canada) and non-western countries (e.g. China, Japan, India, Pakistan)

because cultural differences may be expected to be greater than between western countries themselves.

The rationale for comparing western versus non-western countries is that most of the psychological theories and instruments surveys have been designed by western researchers and one may be interested to see how these apply in other countries.

However, as Lu, Kao and Cooper (2000) note, the experience of work stress and well-being may be distinct within the same type of culture (e.g. Europe) as well as across different types of cultures (e.g. North America vs. Asia). Indeed, several studies compared differences from two or more European countries and provide evidence of the cultural differences between European countries (Goodwin and Hernandez Plaza, 2000; Kirkcaldy, Brown and Cooper, 1994; Houtman et al., 1999; Kompier et al., 1994; Kompier and Cooper, 1999).

Dimensions commonly measured

The dimensions of stress that are measured in studies include mainly the sources of stress, coping, social support and well-being. Significant differences in the sources of stress or consequences of stress and coping mechanisms of individuals in different cultures have been reported (e.g. Sinha, Willson and Watson, 2000; Miller, Greyling, Cooper, Lu and Sparks, 2000; Narayanan, Menon and Spector, 1999; Watson et al., 1998; Kirkcaldy et al., 1994; McCormick and Cooper, 1988).

Coping and culture

Cultures may influence how individuals cope with stress. Individuals may differ culturally in both their preferred means of emotion-focused coping as well as problem-focused coping. Differences in emotion-focused coping could be expected around issues of emotional control versus emotional expression. In general Northern European cultures tend to prefer emotional control - the proverbial British "stiff upper lip" (Aldwin, 1994) while in Latin-European countries expression of emotions is appropriate or expected.

Regarding problem-focused coping, a difference could be active versus passive problem solving. Etzion and Pines (1986) examined coping and burnout among

Israeli and American human services professionals. They concluded that the greater use of active coping strategies among Israelis contributed to the generally lower prevalence of burnout in this highly stressed profession.

However, Aldwin (1994) notes that Reynolds (1976) suggests that this dichotomy may be too simplistic, and a more complex view is needed, especially between Western and Oriental cultures i.e the locus of preferred activity in the problem-solving approach. The West is more accepting of activity directed toward changing objective reality. The Orient would handle problems by indirection (being tactical) and by internal change that should not be confused with resignation.

Following these observations, more similarities than differences on coping would then be expected from French/British nationals as both pertain to the European culture. However, organisation studies (e.g. Hofstede, 1980, 1984; Smulders et al., 1996) reveal at least two distinct clusters of countries: a Northern and Southern cluster with distinct cultures. The former displaying more of an Anglo-Saxon culture whereas the latter a Latin culture. Travers (1997) looked at French and British teachers' coping strategies and found that British teachers were more stressed than their French counterparts and were using less coping strategies.

However, Kirkcaldy et al., (1994) found that German senior police officers (N=90) were more stressed than those from Northern Ireland (N=132) although they were using a greater variety of coping strategies. Differences in physical health were attributed to the well-developed occupational health provision for officers in Northern Ireland where preventive care is available.

Differences and similarities

Differences but also similarities are found in stress research (Sinha et al., 2000). Lu et al., (2000) reported similarities and to a lesser extent some differences in a study of job stress, locus of control and strain among Taiwanese (N=347) and UK managers (N=234). The authors conclude that because managerial stress had similar patterns, then the fundamental stress-strain relationship seemed to be culturally universal. Differences were found in the predictors of strain with UK

managers more stressed by relationships, organisational climate and personal responsibility, whereas Taiwanese managers were more affected by managerial role and recognition.

Jamal (1999) reports more similarities than differences in a sample of Canadian (N= 420) and Pakistani (N=335) teachers where job stress was significantly related to burnout. A stronger correlation between burnout and stress was found among the Canadian sample attributable perhaps to the stronger downsizing and budget cuts in the educational sector in Canada than in Pakistan, which is a paternalistic-oriented society which may help to reduce stress.

III. Measurement of cultural dimensions

A distinctive feature in cross-cultural studies on stress is whether they include or exclude cultural dimensions. When researchers don't include cultural dimensions then they infer them as plausible explanations of the differences they obtain (Goodwin and Hernandez Plaza, 2000). The majority of cross-cultural stress studies have inferred cultural dimensions. In order to understand what is meant by cultural dimensions and studies that have used them in relation with stress, it is useful to explore the concept of culture.

The concept of culture is global and difficult to define (Leung and van de Vijver, 1996). It can refer to national/societal culture or organisational culture. It is also argued that not all national differences can be considered as cultural differences although the terms cross-cultural and cross-national are used synonymously in studies. National differences such as religion, language, climate etc., have an influence on cultural factors but they cannot be equated with culture (Drenth et al., 1998).

National or societal culture

Hofstede (1980, 1984) suggests that we view societal culture as the "collective mental programs of the people in an environment". This includes collective values (preferences) and beliefs of a given nation or society.

Drenth et al., (1998) define culture as "the patterns of attitudes, values and norms in a given society that exercise an influence on the behaviour of population groups. This patterns exhibits a certain stability over generations, although it does adapt itself to changing social and physical conditions". The authors strongly recommend that this definition be applied to large populations but not to groups such as associations, companies or even departments of a company.

Organisational culture

Organisational culture is often defined in a broad sense by researchers. Hofstede (1980, 1984) defines organisational culture in a very general sense. It is the "collective programming of the mind which distinguishes the members of one organisation from another".

A more explicit definition by Schein (1985) states that culture is "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered as valid and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems".

Although a distinction can be made between national and organisational culture in terms of definitions, the fact is that in cross-cultural studies, organisational culture is a background (independent) variable and it is almost synonymous with country (van Muijen, 1998). For example, Lu et al (2000) looked at differences in stress between managers in the UK and Taiwan and deduced that the differences observed were national or cultural differences. The cultural values of respondents are often assumed rather than measured (Goodwin and Hernandez Plaza, 2000).

Several dimensions of culture have been suggested in various studies. The most common dimensions, according to Peterson and Smith (1997) are: harmony versus mastery, social concern versus hierarchy, collectivism versus intellectual and affective individualism; equality and embeddedness; eight sources of meaning; work centrality, work goals and obligation versus entitlement norms and confucian dynamism. Finally, there are four dimensions suggested by Hofstede (1980, 1984)

which are power distance, collectivism-individualism, masculinity and uncertainty avoidance.

Hofstede's cultural dimensions

Hofstede's dimensions are probably the most known. The author explored the values and beliefs of employees of the same business organisations (IBM) within 40 modern countries. He argued that people carry "mental programmes" developed in the early stages of their life and reinforced at school and in organisations. These mental programmes contain a component of national culture and are commonly expressed in the different values that predominate among people from different countries. Data were collected through 116,000 questionnaires, twice over a period of 4 years (1968 and 1972). Hofstede (1980, 1984) defined these four cultural dimensions as follows:

Individualism/collectivism refers to how people relate to their "social framework". Collectivists are "people from birth onwards who are integrated into strong, cohesive ingroups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty". In contrast, individualists enjoy looser social relations, as everyone looks after their own interests or those of their immediate family". Individualism is the most explored dimension in cross-cultural studies in general (Kim, Triandis, Kagitcibasi, Choi and Yoon, 1994; Triandis, 1995).

Power distance is a measure of the interpersonal power of influence between managers and their employees. The more distant the working relationship is between the two, the larger the power distance is. *Uncertainty avoidance* is defined by the level of tolerance of rule orientation, employment stability and stress. *Masculinity/femininity* includes "a preference for achievement, heroism, assertiveness, and material success (masculinity) as opposed to...a preference for relationships, modesty, caring for the weak, and the quality of life (feminity)". High masculinity also refers to the desire for high earnings and recognition whereas high femininity refers to a need for cooperation and good relationships with supervisors.

IBM employees from France and the UK surveyed by Hofstede on these four dimensions show that UK nationals were more individualistic than the French. UK nationals tolerated much more uncertainty, had lower power distance (i.e. put less distance between managers and their employees), and higher masculinity aspects than their French counterparts.

These four dimensions correlated with geographic, economic, demographic and political national indicators. However, criticisms of Hofstede's work have focused on the fact that he used a single type of industry and generalized the results to the national level putting into question the representativeness of the national sample of each country represented. These dimensions have however been supported in other studies (Schwartz, 1994).

Hofstede's dimensions and job stress

More recently, studies have shown how stress can be related to work values or cultural dimensions. Merritt (2000) used Hofstede's dimensions to compare 9400 pilots from 26 airlines in 19 countries (France and the UK were not included). The author concludes that Hofstede dimensions replicated well and that national culture may exert an influence on cockpit behavior over and above the professional culture of pilots. An important implication of this finding is that the author suggested that pilots should receive training in accordance to their culture.

Narayanan, Menon and Spector (1999) studied female clerical employees in India (N=130) and the United States (N=133) and obtained a large difference in the sources of stress. Lack of control and autonomy were the greater sources of stress for Americans whereas the Indians reported lack of structure and clarity. The national differences in job control are explained by the fact that Indians are collectivistic and high in power distance and therefore expect higher control and directions from their supervisor. In contrast, the Americans are individualistic with lower power distance and are expecting certain decision latitude.

Similarly, Harrison (1995) compared managers from Singapore (N=115) and Australia (N=96) and replicated Hofstede's dimensions. The author found that

managers from a collectivistic culture with high power distance such as was found in Singapore, reported lower job satisfaction, higher job tension, poorer interpersonal relations than managers from an individualistic and high power distance culture (i.e Australia) who reported more positive outcomes.

Using a different scale to measure the cultural dimension of individualism, Goodwin and Hernandez Plaza (2000) were able to prove on a relatively small sample of students that Spain (N=68) and the UK (N=72) were collectivistic in Spain and individualistic in the UK as previously found by Hofstede. The authors examined the impact of individualism on social support. Findings show that Spanish students, being collectivistic, were more prone to use social support and benefit from it than their British counterparts.

However, this positive correlation between collectivism and social support is not always confirmed. Sinha et al., (2000) found that Canadian students (N=344) being in an individualistic culture were more satisfied with social support than Indian students (N=198) being in a collectivistic culture, but Canadians reported being more stressed than their Indian counterparts.

These findings suggest that the individualism dimension does not automatically preclude less satisfactory social support and that intermediate variables need to be taken into account in the stress process.

Perhaps the criticism that can be put forward regarding Hofstede's dimensions is the construct validity of the dimension. After his first scale, a new scale (Values Survey Module, VSM 94) has been proposed which did not include the same items that were used to define the cultural dimensions. For example, the item 'to work with people who cooperate well with one another' was included in the individualism/collectivism dimension in the first version but has now become an item in the Masculinity/Femininity dimension in the VSM 94 scale.

Individualism/ Collectivism dimension was defined in the first scale by a total of 4 items which were:

1. To have sufficient time left for personal or family life
2. To have good physical working conditions
3. To work with people who cooperate well
4. To live in an area desirable to self and family.

In the VSM 94, the items are:

1. To have sufficient time left for personal or family life
2. To have good physical working conditions
3. To have security of employment
4. To have an element of variety and adventure in the job.

In the light of these inconsistencies, it was decided to look at Hofstede's work values not as dimensions but question by question. Hofstede recommends this method when individuals from the same country do not have the same employer, as is the case in the present study.

This review of literature shows that cross-cultural research in general and the measurements of cross-cultural dimensions are complex enterprises, which can explain the lack of comparative research. In order to compare stress in France and the UK, it is worthwhile examining first the broader context of policies and guidance provided at national level. This broad overview may help in the interpretation of the way managers perceive stress as they are influenced by organisational and national policies on this topic.

IV. National stress policies and guidance in France and in the UK

In 1992, all E.U countries had the duty to adapt the E.U Framework Directive (89/391/EEC) on 'the introduction of measures to encourage improvements in the health and safety of workers at work' to their own work legislation. The scope of this Directive is very wide, covering both private and public sectors and laying down a number of general obligations to be met by employers. Stress is not mentioned as such but can be indirectly tackled by this directive. For example, employers have the obligation to combat risks at source, to adapt to technical

progress and to give collective measures priority over individual protective measures. Article 6.1 of the Directive states that:

"the employer shall take the measures necessary for the safety and health protection of workers, including the prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means"

Employers should also adapt:

"the work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods, with a view in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health"
(Article 6.2)

Risk assessment is seen as the key requirement of these regulations (Stranks, 1996). However, each European country has adjusted their national regulations and practices to this directive in different ways, taking into account their existing legislation and their economic interest.

A recent survey carried out, at the request of the Dutch Ministry of Social affairs and Employment, by Kompier et al, (1994) compared regulations, policies and practices concerning work stress in five European countries (The Netherlands, Sweden, UK, Germany and France). It was found that the more advanced countries in the implementation of the framework legislation in this field were the Netherlands, Sweden and UK. Germany and France, although they have contributed in their own way to address this issue, do not yet seem to recognise stress as an important policy issue.

In France

More than in other European countries, the French state has played a crucial role in France in determining the major directions of business activities (Gordon, 1996). As a result the economy is still dependent on the primary sector. 7.2% of the working population worked in Agriculture in 1990, 30.0% in industry and 62.8% in services (Eurostat, 1991). More than 50% of the working population work in small businesses (under 50 employees) representing 97% of all businesses. Only 24% of the working population is employed in companies of 200 or more employees, which represent just 0.6% of the total. This distribution is significant for stress research and interventions as committees for health and safety only exist in companies which employ more than 50 employees (Piotet, 1995).

In France, there is the 'dual legal system' with laws on labour and occupational safety described in the Labour Code (Code du Travail) and regulations on health and safety defined in the Social Security Code (Code de la Sécurité Sociale). The European Union Framework Directive was incorporated in the Labour Code by the law of 31 December 1991 and came into effect on 31 December 1992. It brought several changes concerning health and safety. The law emphasizes the responsibility of the employer but also of the employee in taking care to create a good working environment (articles L.230-3)

The responsibilities of employers are clearly established. They have to introduce health and safety regulations with the obligation to apply a health and safety risk assessment method (articles L.230-2). Penalties linked to non-compliance with the law are mentioned (articles L.230-5)

However, it is important to acknowledge that the notions of 'stress' and 'well-being' are not to be found in the French law, only notions of short-cycled work which can cause stress have been considered (articles L. 230-2d) (Kompier & al, 1994). Consequently, there is no specific framework legislation concerning mental health caused by stress at work.

In comparison, the UK has issued a national guidance on stress prevention and has also more actively developed work stress prevention programmes (Kompier et al,

1994). As the French Ministry of Labour does not consider work stress to be a high priority and does not see it as a major health and safety issue, there is no policy program on the subject.

French employers are aware of risk assessment but there is still a high level of occupational accidents and diseases. They consider work stress problems within the general framework of working conditions and suggest that this issue can be overcome through attention to the work environment in general. For them, work stress is an individual problem and its treatment is the responsibility of the work physician (Kompier et al, 1994).

The labour unions are concerned with work-related stress issues. However, they explain the origin of stress essentially through workload and time pressure imposed by the French companies. They are aware that this problem has increased in recent years especially in nursing, banking and social work sectors (Kompier et al., 1994). However, with a high rate of unemployment in France (12% in 1994), unions give a higher priority to the prevention of redundancies than they do to the prevention of stress.

To prevent or reduce stress, stress management programmes exist but these programmes are not widely offered in France. These programmes can have an organisationally oriented goal such as the redesign of jobs or an individually oriented goal. When stress is seen as a problem of the individual by management, individually oriented stress-management techniques such as relaxation and bio-feedback are proposed. Counselling is also offered through what is called the Employees Assistance Programme. The main target of these last two techniques is to change the individual, not the organisation. Methodological problems to measure their effectiveness are often encountered. In France, until now, it seems that only job redesign, more commonly called re-engineering, has been practiced with different aims, not explicitly to reduce stress.

Finally a recent law requires workers to work for a maximum of 35 hours of work per week. This was applied to blue collars workers and non 'cadres' employees then extended to professionals and managers. This law is intended to reduce the level of

unemployment as it is expected that employers will employ more workers as they get incentives for doing so. The results are said to be mixed. Employers have not always recruited new workers therefore the ones in place had to achieve more in a shorter time, which creates more stress.

In the UK

In 1990, 1.2% of the working population was employed in agriculture (compared with 7.2% in France), 24.5 % in industry and 70% in the service sector. The 1991 census of employment figures shows that 45% of the working population work in small businesses (under 50 employees) while 31% work in companies of 200 or more employees. The private sector employs 15.9 million people while the public sector represents 5.8 million people (Piotet, 1995).

The principal law in the field of health and safety in the UK is the Health and Safety at Work Act (HSWA, 1974). It defines general duties. Specific regulations are included in this act but none is related to work stress. The general principal obligation from this act is stated as follows:

“It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare of all his employees”.

In 1992, the so-called 'six-pack' (six sets of regulations) was included in the HSWA regulations to ratify the EU framework directive. Nevertheless as Kompier et al., (1994) explain, having the duty to carry out risk assessments may contribute to awareness of employers of the problem of stress. The six new sets of health and safety at work regulations are:

1. Management of Health and Safety at Work Regulations (MHSW)
2. Provision and Use of Work Equipment Regulations
3. Manual Handling Operation Regulations
4. Workplace (Health, Safety and Welfare) regulations
5. Personal Protective Equipment at work Regulations
6. Health and Safety (Display Screen Equipment) Regulations

Among them, the first one, the MHSW is the most important as it relates to the management and organisation of health and safety in the workplace. Although it has been said that MHSW essentially 'fleshes out' the best of the health and safety legislation, in particular HSAWA 1974, the fact is that there is much more detail in the requirements of MHSW and unquestionably a lot of additional work to be done to demonstrate compliance (Akass, 1994).

The regulation calls for a 'risk assessment' to be carried out by every employer and self-employed person, and the results to be produced in writing or electronically if the enterprise employs five, or more, people. In large businesses, individual departments or functions could carry out the initial identification of risks as follows:

Risks associated with particular worker groups (e.g. night watchmen, counter staff, cleaners, lone workers, new starters).

The assessment must be recorded in writing or stored electronically if the workforce totals five or more. It should either include the conclusions and preventative and protective measures or state where these are kept.

Principles of risk avoidance: avoiding or combating risk at source; adapting work to the individual - ergonomics, keeping abreast of technical and technological progress; giving priority to measures that protect everybody.

Assessments properly produced to satisfy other regulations (e.g. COSHH, MHO) do not have to be repeated.

The other five regulations in the six-pack deal with specific aspects of health and safety. For example, in regulation 6, it is required that employers evaluate the risks of mental stress problems associated with work. It states that:

“in display screen work, good design of the task can be as important as the correct choice of equipment, furniture and working environment. It is

advantageous to: (a) design jobs in a way that offers users variety, opportunities to exercise discretion, opportunities for learning, and appropriate feedback, in preference to simple repetitive tasks wherever possible. (For example, the work of a typist can be made less repetitive and stressful if an element of clerical work is added)”.

Additional guidelines called 'Five steps to successful health and safety management' have been published to help clarify the concept of risk assessment for employers. They describe in detail the following steps:

1. Set out your policy (in the form of a written statement and make explicit what the arrangements are for working with and monitoring hazards and risks);
2. Organize your staff (involvement and commitment of staff as regards competence, control, cooperation and communication);
3. Plan and set standards (define as measurable, achievable, realistic);
4. Measure your performance (through active and passive monitoring);
5. Learn from experience: audit and review (reliability and effectiveness of systems).

When it is said that there is no specific legislation, it means that there is no specific Act of Parliament, about stress at work in the UK. There is no statutory law on stress but under the common civil law, employers are liable for breaches of their duty of care towards the health and safety of their employees as described in the MHSW 1992 regulations.

Furthermore, the need for an approved code of practice specifically on stress has been recently discussed within the HSC. The HSC proposed a consultation exercise in 1999 on a discussion document called Managing Stress at work carried out between April – July 1999 to identify the need for an Approved Code of Practice (AcoP) specifically on stress. Based on the responses to the discussion document and the results of the Health and Safety Executive's (HSE's) research programmes, HSC has concluded that: Work-related stress is a serious problem, it is a health and

safety issue; and it can be tackled in part through the application of health and safety legislation.

However HSC did not consider that there were currently any clear, agreed standards of management practice against which an employer's performance in managing a range of stressors (e.g. the way work is organized) could be structured. Without such standards, an AcoP – a type of health and safety code – would be unenforceable.

HSC has therefore asked HSE to develop standards of management practice for controlling work-related stressors. HSE produced detailed plans for HSC on how to do this in the autumn of 1999. HSC will decide whether an AcoP is necessary when the standards are available. In the meantime, it will keep the need for an AcoP under constant review (HSE Press Release 15 June 2000).

The English legal system has three types of law. The common law that contrasts with other existing laws such as the statute law (passed by Parliament) and equity law (the body of rules administered by the Court of Chancery). The common law covers the criminal and civil law. The law of negligence or law of torts (civil wrongs) comes from the common law.

Law, both the law of contract and the law of torts governs the relationship between an employer and an employee. In the former an action may lie in breach of contract, in the latter in the tort of negligence. A contract of employment contains a range of express and implied terms, the latter governed by common and statute laws.

Of particular importance in a contract of employment is the concept of 'duty of care'. UK employers have a duty of care towards employees, in terms of health, safety and welfare which can extend to psychosocial risk factors in the working environment (i.e. stress) as expressed in the Employer's statutory duties in HASWA 1974 and Employees' statutory duties as well in HASWA 1974 and MHSW 92.

Breaches of this duty of care may lead to a criminal prosecution in the Criminal Courts and/or civil action in the Civil Courts and Tribunals. Employees suffering from stress have recently won several court cases.

V. Franco-British comparative research on work stress

If the sources of stress and their relationships on well-being have been well-documented especially in the UK (e.g. Cooper, Cox et al., 2000), in France, there is comparatively less published research which has examined managerial stress and its impact on health.

The number of studies that have compared France and the UK is also scarce. Stora (1994) has compared stress levels of French and British managers from separate studies but using the same questionnaire. The author reports that French managers are more stressed than British ones (French managers sample (N=150) assessed in 1987 compared with a British sample (N=300) surveyed in 1984). In terms of comparison, these results are debatable in the sense that samples were small and unmatched and measurements made on a different time scale. However, if comparison is less meaningful in this study, results on French managers' stress are informative. The author looked at stress levels among 76 French managers and found that the source of stress most often mentioned (83,33%) was a lack of consultation and communication.

The author's conclusion was to deplore that stress was not considered as a crucial issue by French employers and left to occupational doctors who have no decision-making power within the company.

Stevens, Faragher and Sparks (1999) explored the link between excessive working hours and health in an international sample of 5146 managers. It was found that the average contracted work hours were 40.7 (SD: 6.3) hours per week but the actual average work hours were 47.9 (SD: 9.7 hours). French managers (N=61) were working 10 hours more per week than the mean overtime level. Two-thirds of the total sample that worked their excess hours by choice had better mental health than

those who did not choose to work overtime. No separate results were given for the UK.

Only one stress study (Travers, 1997) using a sample of teachers is worthy of the term 'comparative' because the measurements have been done at the same period. However, the study participants were not managers, but teachers. The most prevalent source of stress among French teachers was the absence of communication and lack of participation in decision making. Interestingly, these sources of stress among French teachers were similar to the ones found among French managers in Stora's study that uses the same type of questionnaire.

Other comparative studies have been carried out mainly by the European Foundation comprising a sample of E.U countries where France and the UK are included. Some large scale surveys have looked at the working conditions in general, though not particularly stress at work (Smulders et al., 1996; Paoli, 1997; Paoli, 1992).

Smulders et al., (1996) analyzed the 1991 survey findings on working conditions in 12 European countries. The results show that France did not have a good work environment. The quality of life (determined by the working conditions) in Southern countries (including France) was below average compared to the Northern countries (including the UK) except Ireland. The best work environments were to be found in the 'rich' countries (in terms of national income per head of the population, Eurostat, 1991).

Although France can be classified as a rich country, the results in terms of the work environment were less satisfactory than other rich countries. In the survey, six work environment factors were evaluated: physical working conditions (workers exposed to noise, dangerous substances), psychosocial demands (time pressure, deadlines, repetitive tasks), job control, job support, length of work and night work. The first two factors were considered to be the most critical.

The authors explained that the working conditions depend on economic factors but they could not explain why France had working conditions below average because

the economic situation was comparable if not better than those of Northern countries. It was then suggested that if economic factors had an impact on working conditions, cultural factors too might well be an explanation. National norms and values can have an influence on the perceptions that employees have on physical working conditions because they refer to the ways that managers and governmental policymakers perceive the positions of employees. In this specific case, Smulders suggest that dimensions such as power distance, which indicate a high or low participative style of management may explain the French results. French managers tend to be perceived as more distant in their style of management than in the UK (Hofstede, 1981).

A second analysis of previous E.U. survey data (1991) by Andries et al., (1996) explain the relationships between the sources of stress and strain. UK (N=946) and France (N=997) both reported physical demands (e.g. heavy loads) generating strain. Psychological demands (job difficulty) had a direct effect on strain in France, but not in the UK. Social support had direct effects in both countries. Only in the UK did social support have a moderating effect on the relation between psychological demand and strain. This study shows that social support is an important aspect in the perception of strain for the UK employees.

If there are relatively few quantitative studies that have compared stress between France and the UK, there are no qualitative studies that have been done on the significance of stress at work for managers. A study by Kompier et al., (1994) has provided evidence of differences between E.U countries in terms of the importance given to stress by employers and governments. The French government (at that time) seemed to have a lower concern for this issue than the UK government, focusing primarily on unemployment issue. French employers regarded stress, according to Kompier et al., more as an issue that the employees have to deal with, rather than being the responsibility of the company.

These findings have important implications for how stress is dealt with on a day-to-day basis within business organisations and it is worth exploring the extent to which French and British managers consider that the responsibility should be born by individuals themselves.

In light of this review of the literature, it seems that several gaps can be identified in cross-cultural stress research. Few recent attempts have been made to compare stress between France and the UK and particularly between employees exerting managerial roles. The exploration of the understanding that managers hold on stress seems to be as important in comparative research, as measuring differences in stress levels. In addition, as previously explained in the previous theoretical chapter, there is a need to understand better the specific mechanisms by which individuals cope with stress. Therefore, the present research intends to fulfill these gaps in research.

VI. Conclusion

When stress has been researched cross-culturally, differences as well as similarities have been found. Cross-cultural studies can be distinguished by the fact that they include or infer cultural dimensions. The work of Hofstede on cultural values has been used in stress studies recently carried out by Harrison (1995), indicating that individuals from countries high on the individualism dimension, for example, have a lower level of job tension. Comparative research between France and the UK is scarce. The few studies done show differences in the way employers view stress. They reveal that psychological job demand has a direct impact on strain for French employees but not for UK employees, but strain is moderated in the UK by social support. Several gaps in research have been identified, such as a lack of comparative data and coping studies among a managerial population. The specific research questions and the methods used to answer the research questions will be presented in the next chapter.

Chapter Four: Research questions and paradigms

I. Introduction

There is an ongoing debate in social sciences concerning the 'scientific' superiority of two major paradigms i.e. positivism and constructionism which predominantly use quantitative and qualitative methods respectively. A researcher has to be aware of the criticism of both sides and has to take a position as to what constitutes sound research (Mertens, 1998). As explained by Madill, Jordan and Shirley (2000), the different epistemological frameworks lie behind the choice we make in how we analyze our data, to meet criteria of objectivity and reliability. It is therefore necessary to explain the philosophical basis of these two approaches.

This chapter will start by describing the research questions and then the major paradigms and methods available for research and the choice made for the present research will be described. Finally, an overview of the empirical studies designed to answer the research questions will be presented.

II. Research questions

The previous literature review has highlighted several research needs and problems in the cross-cultural domain and in the understanding of coping mechanisms that lead to the present research questions.

The first research problem to be studied is the lack of clear understanding of the differences in the perception of stress among managers from two countries: France and the UK. One previous study by Kompier et al., (1994) indicated that French employers would attribute responsibility for stress to individual characteristics rather than organisational characteristics.

Therefore, the first research question is: What are the differences between French and British managers regarding their understanding of the causes of stress? The second research question is: Do French managers perceive causes of stress as being due to personal characteristics rather than organisational context characteristics?

A second research problem is concerned with the lack of evidence of the differences in the levels of stress among French and British managers and in the relationships between work characteristics and well-being. Therefore a third research question asks: Are there differences in the levels of stress and in the relationship between stressors and well-being among managers, and more particularly, the relationship between job demand, job support, relationships at work, coping and well-being?

The last research problem adds depth to the second research problem and concerned the role of enhanced coping resources. Few attempts have clearly proved the role of enhanced ability and skills together with support in reducing stress. Therefore, our research question asks: Do individuals experience less stress as a result of enhanced coping resources?

In order to answer these research questions, the researcher is faced with a choice of research methods and paradigms. The term paradigm refers to the way of looking at the world. It is composed of certain philosophical assumptions that guide and direct thinking and action (Mertens, 1998).

III. Research paradigms

Guba and Lincoln (1994) suggest defining a paradigm by asking three questions: The ontological question asks, what is the nature of reality? or *what can be known?* (Stevenson and Cooper, 1997). The epistemological question asks, what is the nature of knowledge and the relationship between the knower and the would-be known? or *how we know?* (Stevenson and Cooper, 1997). The methodological question asks how can the knower go about obtaining the desired knowledge and understandings?

Several paradigms and different labels to name the same paradigm are used in psychological research, but usually two or three major paradigms are contrasted. Mertens (1998) suggests three major paradigms: i) positivism/postpositivism, ii) interpretative/constructivist and iii) emancipatory paradigm. Often researchers position themselves between the two first two. The postulates of these two paradigms will be looked at more closely (see table 4.1 for a summary) as they are at the heart of the divide among researchers, each having his/her own view as to how human behaviour can be explained and what constitutes sound research.

III.1 Positivism/postpositivism

Most research in social sciences, or at least in occupational psychology, is dominated by the positivist paradigm (especially in Anglo-Saxon countries). The term has been replaced by postpositivism before World War II but both terms are used interchangeably.

Ontology

Positivism has its roots in the rationalistic, empiricist philosophy of Aristotle, Locke, Comte and Kant (Mertens, 1998). In the positivism/postpositivism paradigm, the ontological perspective is that “there is an objective truth existing in the world, which can be revealed through the scientific method where the focus is on measuring relationships between variables systematically and statistically” (Cassell and Symon, 1994).

Realism (or positivism) postulates that “the social world exists independently of an individual’s appreciation of it”. “The key concern is that measurement is reliable, valid and generalizable in its clear predictions of cause and effect” (Cassell and Symon, 1994).

Epistemology

In positivism, the researcher and the subject of the study are independent, i.e they do not influence each other. Reichardt and Rallis (1994), explain that postpositivism modified this belief by recognizing that the theories, hypotheses and background knowledge held by the investigator can strongly influence what is observed. However, the researcher should remain neutral to prevent values or bias from influencing the work (Mertens, 1998).

Methodology

Although qualitative methods can be used within this paradigm, quantitative methods tend to be predominant (Mertens, 1998). Experimental methods are used to understand human behaviour but quasi-experimental methods are used most especially in field research when it is not possible to have a random allocation of subjects.

In the positivist paradigm, causal explanations are given between two variables, one causing the other. The generalization of the results is one of the major aims that researchers want to achieve. Results found in one representative sample of a population should be generalized to a larger population.

Among the tenets of this paradigm, some would see the next paradigm, i.e. constructionism, as complementary, but most see it in opposition. Their main critique in the use of constructionist methods is the lack of reliability and validity of the findings they yield and therefore the difficulty to generalize the results. Rather than suggesting an opposition between the two paradigms, we view them as two possible ways to inform a research question. However, because constructionism has to do more with the interpretation of the data by the researcher, it is necessary to follow a rigorous method of data collection and analysis. This will ensure validity and reliability of the findings, as explained in details later in this chapter by qualitative researchers (e.g. Stevenson and Cooper, 1997; Sherrard, 1997; Yin, 1994).

III.2 Constructionism/Interpretation

Ontology

According to Tesch (1990), qualitative methods developed strongly during the 1970s, therefore they are more recent than the quantitative methods. They first developed as an anti-positivism movement which rejected the idea of an objective reality when it comes to explaining human behavior (Tesh, 1990).

Eichelberger (1989) explains that constructivism emerged from the philosophy of phenomenology and of hermeneutics mainly developed by German researchers. Hermeneutics is concerned with interpreting the meaning of something from a certain standpoint or situation.

In the constructionism/interpretive paradigm, people socially construe reality. There is no clear-cut objectivity or reality. The task of researchers is to look at the 'complex world of lived experience from the point of view of those who live it' (Schwandt, 1994). Multiple mental constructions or perceptions of reality may change throughout the process of the study (Mertens, 1998).

Epistemology

The researcher and the subject of research influence each other in an interactive process. The concept of objectivity is replaced by confirmability (Lincoln and Guba, 1985). The assumption is made that data, interpretations and outcomes are rooted in contexts and people. Data can be tracked to its sources and the logic used to assemble interpretations can be made explicit in the narrative.

Methodology

"Qualitative methods such as interviews, observations, and document reviews are predominant in this paradigm... The methodological implication of this paradigm of having multiple realities is that the research questions cannot be definitely established

before the study begins; rather, they will evolve and change as the study progresses” (Mertens, 1998).

The idea is that theory will emerge from the richness of data collected, it is ‘grounded’ in the data (Glaser and Strauss, 1967). In the positivist paradigm, research questions and hypotheses are theory driven while in constructivist paradigm hypotheses are usually not defined or only loosely defined at the beginning of a study.

Instead of causal relationships, in qualitative research, events shape each other and multidirectional relationships can be discovered. The concept of generalization is not a major concern for qualitative researchers. Instead they focus on tentative explanations for one group of individuals or a single individual at one time and place.

The use of this paradigm is in a minority in occupational psychology. Few qualitative studies, if any, are published in the mainstream scientific occupational psychology journals. This divide between the two paradigms exists not only in psychology but also in social sciences at large. Valsiner (2000) argues that this distinction has become a topic of many heated (and unnecessary) disputes and describes differences between countries:

“the rethoretical construction of relations between quantitative and qualitative approaches is situated within the history of social sciences of a given country. By and large, one can observe greater openness to qualitative...strategies in the social sciences of continental Europe, Russia, and South America than in the Anglo-Saxon-dominated countries. In the latter, quantification may have become a generalized sign that the rationality of science is asserting its dominance. Implicit meanings attributed to the notion of “qualitative” can act as effective barriers to its acceptance in science”.

However, Stevenson and Cooper (1997) describe how qualitative research may constitute good psychological research arguing that, the researcher reflexivity is one way in which research may be evaluated. Reflexivity means that the researcher has to consider whether his or her own involvement has enhanced or detracted from the

‘findings’. The ways to undertake reflexivity could be to keep a reflexive journal alongside the research process, which can be seen by external readers.

The authors are aware of the view, from some quantitative researchers, that they find such a process inappropriate but this would only be a misunderstanding of what reflexivity is. The most important point is that this reflexivity process allows the assessment as to whether the research has been constructed thoughtfully or merely routinely applied. In conclusion, the authors state that:

"Neither positivist approaches nor constructivist research are better than each other. Different inquiry positions are associated with different kinds of knowledge...By adopting a view of research that includes the reflexivity of the researcher on the selection of a suitable methodology for the phenomena under investigation and the interpretation of the findings, the reflexivity applied by the researcher may become one overarching criterion for ‘good’ psychological research".

In the same way, Sherrard (1997) describes safeguards against unchecked subjectivity in qualitative research. She recommends that transcripts of interviews can be appended to research reports or deposited with public archives such as the British Document Supply Centre. In addition Yin (1994) recommends reporting all steps of data collection, analysis and the grounds of interpretations.

Paradigms	Positivism/postpositivism	Interpretation/Constructivism
Ontology (nature of reality)	There is an objective reality in the world that can be revealed by a scientific method. There are general laws that govern human behaviour.	There are multiple realities. These are socio-psychological constructions. These realities can only be understood as such.
Epistemology (nature of knowledge; relation between knower and would-be-known)	Objectivity is important and is possible to obtain; researcher manipulates and observes in dispassionate, objective manner.	The researcher and the study participants are inter- dependent; values mediate and shape what is understood.
Methodology (approach to systematic enquiry)	Theory is deduced as a result of testing hypotheses. Use of quantitative methods (primarily). Methods used: Experiments, quasi-experiments, questionnaires surveys, tests, etc.	Theory or hypotheses are generated from the data collected. They are grounded in the data. Use of a qualitative method (primarily); contextual factors are described. Methods used: Interviews, observation repertory grids, focus groups, diaries, documents reviews, case studies, etc.

Table 4.1. Research paradigms and methods. Adapted from Guba and Lincoln (1985), Silvermann (1993), Symon and Cassell (1998) and Mertens (1998).

III.3 The choice of paradigms for the present study

Whilst the choice of a paradigm will depend on the nature of the research topic, a question still remains. Can a researcher use different paradigms in the same study? One can argue that it is not possible to use different kinds of logic by saying that on one hand there is an objective reality and on the other hand there is not.

Guba and Lincoln (1994) argue first that the paradigms are incompatible (incommensurable) but then suggest using a new paradigm that looks at everything as

a matter of degree than dualistically (e.g. something is either real or it is not) (Mertens, 1998). Outwaite (1987) proposes the 'realist paradigm' which links the social sciences and common-sense social knowledge.

However, there are disagreements about using research strategies that will bridge the divide between positivist and constructivist positions. Some authors (Stevenson and Cooper, 1997) argue that this is the worst position to take. Understanding that the quantitative and qualitative research are based upon philosophically irreconcilable inquiry positions, Stevenson and Cooper, (1997) suggest not to try to reconcile the non reconcilable but to find some common grounds concerning what constitutes good psychological research.

Finally, Mertens (1998) writes that many researchers combine the use of quantitative and qualitative methods, so on the surface at least it appears that a merger of paradigms is possible.

In the present study, there is a need to discover the individual perceptions of stress and, at the same time, the need to compare different populations and finally to understand how stress can be reduced, especially through the use of coping resources. To answer these questions, a combination of qualitative and quantitative methods is necessary. Interviews, questionnaire surveys, quasi-experimental designs will be used.

However, we position ourselves within the postpositivist paradigm using primarily quantitative methods to survey a larger number of employees and to a lesser extent qualitative methods. A rigorous approach in collecting and analyzing the data as well as the involvement of independent external coders to cross-validate the findings will ensure the reliability and validity of the qualitative investigation. The research process will be carried out in two stages, qualitative and quantitative, that fit well within a transactional perspective of stress.

IV. A two-stage approach

When work stress is studied transactionally, stress is defined contextually (Barone, 1994), therefore it is important to measure the specific features of the context in stress research. Lazarus (1994) argues that applied research does not seek decontextualized abstract truths. Its methods should aid its action objectives, which pertain to specific individuals in specific settings.

Barone (1994) explains how Dewe (1989) accounted for the context in which study participants found themselves, by adopting a two-stage approach in his study. The first stage used open-ended interviews to identify items reflecting local conditions and concerns. The second stage used a questionnaire on the appraisal of stressors and coping strategies. Such an assessment strategy is consistent with a transactional view in a number of ways.

Rather than using a pre-format, highly abstract, aggregating 'ruler', Dewe allowed his measure to emerge out of local transactions with a small sample. Then, with some understanding of stress as-experienced-in-hand, he moved to issues of aggregation and accuracy by administering the questions to a much larger sample. He asked for an aggregated appraisal... of impact of work stressors and asked for frequency of usage of a large set of coping strategies".

Similarly, in the present study, a two-stage approach is developed to answer the cross-cultural research questions. The first stage consists of open-ended interviews and repertory grids. As Murphy and Hurrell (1987) pointed out, interviews allow flexibility missing in self-administered questionnaires and can better uncover sources of work stress. Repertory grids also allow for a free-response from participants. This is followed by a second stage using a questionnaire to test the appraisal of stressors, coping strategies and the association between stressors and well-being.

The research question concerning the role of coping resources on well-being is answered first by a quantitative method (questionnaires) followed by a qualitative

method (semi-structured interviews) in order to confirm the results obtained quantitatively.

A total of four studies have been designed. A summary of these studies is given in table 4.2. in order to provide an overview of the whole research.

V. Conclusion

This chapter discussed a fundamental question that each researcher needs to ask herself/himself when doing research. By which paradigm will the research be explained? The present study positions itself within a postpositivist paradigm using a mix of quantitative and qualitative methods. This paradigm posits that there is an objective reality whereby human behaviour can be explained. It was deemed suitable to answer the research questions that have to do with comparisons of groups and identifying differences. The objective reality would mean that there is a consensus among subjective views of respondents on variables that need to be taken into consideration.

A set of research questions has been presented and will be explored in four separate studies. The next chapter will introduce the first study which is an exploratory qualitative study investigating perceptions that French and British managers hold on stress.

Research problems & questions	Study design	Samples
<p>Research Problem: There is a lack of research on the differences in the understanding of stress among French and British managers and the need to confirm that French managers attribute stress more to individual characteristics than organisational characteristics.</p> <p>Research Questions:</p> <ul style="list-style-type: none"> • What are the differences between French and British managers regarding their understanding of the causes of stress? • Do French managers perceive causes of stress as being due to personal characteristics rather than organisational context characteristics? 	<p>Qualitative Pre-study: To test the suitability of semi-interview method on stress topic</p>	<p>17 managers from two organisations in France</p>
	<p>Qualitative Pre-study: To test the suitability of repertory grid on stress topic</p>	<p>10 managers from one organisation in France</p>
	<p>Qualitative exploratory Study 1 Use of semi-structured interviews</p>	<p>Matching sample: 30 managers (16 French + 14 British) in customer-contact job position from four organisations</p>
	<p>Qualitative exploratory Study 2 Use of repertory grids</p>	<p>Matching sample: 28 managers (14 French + 14 British) in customer-contact job position from four organisations</p>
<p>Research Problem: There is scarce evidence of the differences in the levels of stress between French and British managers and the relationship between job demand, support, relations, coping and well-being.</p> <p>Research Question:</p> <ul style="list-style-type: none"> • Are there differences in the levels of stress and in the relationship stressors-well-being among French and British managers? 	<p>Quantitative field Study 3 Use of questionnaires</p>	<p>Matching sample: 94 UK managers 62 FR managers in customer-contact job position from four organisations</p>
<p>Research problem: There is a lack of evidence regarding the effects of job demand and enhanced coping resources i.e. cognitive ability, skills and support in reducing stress.</p> <p>Research Question:</p> <ul style="list-style-type: none"> • Do individuals experience less stress as a result of enhanced coping resources? 	<p>Quantitative longitudinal study with a quasi-experiment Study 4 Use of questionnaires & Qualitative Study Use of semi-structured interviews</p>	<p>150 managers and sales people from one call-center organisation in France</p> <p>&</p> <p>22 managers and sales people from one call-center organisation in France</p>

Table 4.2 Summary of studies.

Chapter Five: Unstructured perceptions of work-related causes of stress: a qualitative cross-cultural study

I. Introduction

Most research has looked at the levels of stress but few empirical studies have looked at what people *think* about what causes stress (Furnham, 1997). Examining what individuals think causes stress is as important as examining their stress levels because it is quite possible that lay theories play an important role in the aetiology and reporting of stress (Furnham, 1997). The reporting of stress, the way individuals talk about and understand this issue is important to discover and perhaps more so in a cross-cultural context. It is why the present study will attempt to identify what French and British managers think the causes of stress are in their job as managers and for their employees. The aim of the study is also to clarify whether French managers have a tendency to attribute stress more to personal rather than organisational characteristics.

II. Background

Previous qualitative studies show that when employees are asked to explain what causes stress, different views are expressed. Along with listing the organisational causes of stress, views are expressed especially among managers about individuals' responsibility in causing their own stress and consequently their responsibility to deal with it (Kompier et al., 1994; Singer, Neale, Schwartz and Schwartz, 1986).

Although Furnham (1997) employed a quantitative approach and asked respondents to fill out a structured questionnaire, the aim of his study was to find out what the UK employees believed causes stress. Findings show that conflicts and lack of satisfaction at work were believed to be the most important causes of stress among 130 UK employees from four different organisations and industries.

Singer et al., (1986) identified that managers in the US tend to attribute stress first to personal psychology factors (e.g. type A, anxiety, depression), life development

(e.g. raising children, retirement), financial, legal problems and private interpersonal relationships. Work factors such as job demands were mentioned at the bottom of the list. Clearly the management view was that individuals were responsible for their own stress.

More recently, Di Salvo, Lubbers, Rossi and Lewis (1995) carried out a qualitative study among 148 US professionals and managers and found 1001 causes of stress. The major stressors were unpleasant internal task duties (32.46%) (e.g. firing, reporting bad news, resolving disputes, mediating, travelling) and attitudes and behaviours of others towards work and people at work (29.92%) (e.g. people who don't listen are dishonest, dealing with boss' spersonality, manipulative style).

The apparent contradictory results among US managers in these two studies could be due to the type of methodology used or the time period. Within a ten year period a lot has been written on stress at work. Many US organisations have implemented stress management programmes in order to reduce their medical insurance costs. Probably a greater awareness of the causes of stress can explain the shift in what causes stress.

In Europe, Kompier et al., (1994) did a comparative inventory of regulations, policies and procedures on stress in five European Union countries including France and UK to identify whether progress has been made since the launch of the European Directive in 1992 on Health and Safety.

It seems that in France employers viewed stress as a personal problem of the employee and that the occupational physician was responsible to treat or that it can be dealt with through existing working conditions legislation. In the UK, employers represented by the CBI (Confederation of British Industry, the central employers' organization) supported the Health and Safety legislation which provided guidance on how to identify and reduce mental ill health. Although the UK seemed more proactive in term of stress awareness, it was concluded that the focus in organisations still remains on individually oriented stress management interventions rather than organisationally oriented ones.

Daniels (1996) explains that in the UK managers may hold the view that individuals should be responsible for their own stress, and also under evaluate the risks associated with stress at work.

Given these previous findings there is the need to shed more light on what managers think about stress. Therefore, the present study has several aims. A first aim is to identify what are believed to be the major causes of stress at work and the second aim is to identify the part of responsibility ascribed to individuals.

To reach these aims, it was thought that semi-structured interviews would allow the gathering of a more comprehensive and richer category system of stress by allowing the employees to generate the data rather than just respond to a questionnaire where scales are constructed in a apriori fashion, as indicated by Di Salvo et al., (1995).

However, the goal of not influencing participants is almost impossible as Mertens (1998) states, whatever the method in use. Even non leading questions and open-ended questions, are not bias-free in the process of interviewing participants. Nevertheless, as the aim is to know what managers think and the terms they are more familiar with to describe stress, it seems more accurate not to offer a choice of answers but to listen to their personal responses.

The third aim of this study is to inform the next quantitative study about the managers' levels of stress, looking at their specific causes of stress that should be taken into account. It is expected that a measuring tool that is empirically derived instead of an off-the-shelf questionnaire would provide more meaningful results. Dewe (1989) argues that researchers should now begin to investigate the demands workers themselves perceive as stressful because a concern has been expressed about the ability of current measures to provide information on the different aspects of stressors themselves.

Although in qualitative research there are usually no apriori research hypotheses, there can still be research questions that are derived from previous studies and may guide the qualitative investigation. Two main research questions are proposed for

this study. The first one is: What are the differences between French and British managers regarding their understanding of the causes of stress? The second research question is: Do French managers perceive causes of stress as being due to personal characteristics rather than organisational context characteristics (Kompier et al., 1994)?

To answer the first research question, managers were asked what were the major causes of stress in their job as managers in addition to two sub-questions regarding the use of the term stress in their daily life and the definition they give to stress.

To answer the second research question, managers were asked to indicate their perceptions of the causes of stress for their employees. It was expected that by allowing managers to talk freely about the causes of stress of someone other than themselves, would clarify if they are more likely to attribute causes of stress to the individual rather than to the work context.

III. Methodology

III.1 Sample

Organisations were chosen on the basis that a comparable organisation could be found in the other country, in order to form a matching sample. Large companies from similar geographical areas were chosen (e.g. London and Paris, Heathrow and Roissy-Charles de Gaulle airports). Two industry sectors were selected i.e. the transport industry and the telecommunications sector. The latter declined the offer in both countries, therefore only the transport sector has been included in the study.

Within the transport industry, 4 different organisations were approached and responded positively to the study. To obtain participants that hold comparable jobs in both countries, a further selection of the sample was to take participants from the same departments and organisational levels in their organisation. The departments included the customer service and the operations service from the 4 organisations. Participants were then selected on the basis of their length of experience and

gender to obtain a representative sample of the service. A total of 55 were approached and 47 participants were willing to participate. They were managers or supervisors working in the transport industry and came from 4 different organisations in France and the UK. Two organisations were dealing with international courier transport and two others with underground transport.

From the 47 interviews, 17 interviews were part of a pre-study carried out on a French sample only to test the format of the interview guide and will not be fully reported in the thesis. The remaining 30 interviews (16 French and 14 British) will be included in the analysis. Although the goal was to interview more participants, time and financial constraints prevented us from reaching this goal. Nevertheless, as the study was exploratory in nature the sample size was judged satisfactory to pursue the analysis. The final sample included 10 females and 20 males with an average tenure in the company of 10.5 years (SD: 6), and an average tenure in their job as a manager of 5 years (SD: 5). On average they manage a group of 17 employees (SD: 7). The figures per country are given in the table below. The British sample was slightly more experienced and older than the French sample.

		N	Minimum	Maximum	Mean	SD
FR	Tenure in the company (in years)	16	.40	21	9	6
	Tenure in the job (in years)	16	.05	16	4.5	4
	Number of people supervised	16	4	27	15	7
UK	Tenure in the company (in years)	14	4	24	11.8	6
	Tenure in the job (in years)	13	1	23	6	6
	Number of people supervised	12	4	30	19	6

Descriptive statistics for French and British samples

III.2 Procedure

The interviews took place at the study participants' business offices and lasted 45 minutes on average. They were all tape-recorded and transcribed for analysis. Data

were then entered in the computer program NUD*IST that stands for Non numerical Unstructured Data Indexing, Searching and Theorizing developed by Richards and Richards (1991). The computerization was an easier and more reliable way to handle the data than using paper and scissors.

Translation of the interviews was not judged necessary as coders spoke French and English. Only the categories framework (Cox, 1993; Cox et al., 2000) that the different coders used in the interview coding was translated into French.

III.3 Content analysis

Different types of analysis are possible to make sense of the interviews' content. Among them are discourse analysis, conversation analysis (Silverman, 1993), analytic induction, content analysis (Berelson, 1952; Holsti, 1969) or grounded theory (Strauss and Corbin, 1990). The choice of one technique over another will depend on the research question to be answered, the procedure of data collection adopted and the level of interpretation desired.

For the present study, content analysis was preferred over other techniques because of the need for comparison. Quantification of the frequency of responses helped in the comparison. Moreover, when used in a similar study on stress by Di Salvo et al., (1995), it provided meaningful results. Content analysis is not a recent technique and has been developed within several disciplines such as communication, political science, social anthropology and psychology (Carney, 1972).

It is a technique used to extract information from qualitative material by systematically and objectively identifying specified characteristics of the material (Smith, 2000). It may be used descriptively or, as Weber (1990) suggests, to make valid inferences from text about the sender of the message, the message itself or the audience of the message. What is intended, in using content analysis, is to reduce a large body of information to a more manageable form of representation (Smith, 2000).

The qualitative information may be transformed into quantitative information such as category frequencies in which every occurrence of a given attribute is tallied (Holsti, 1969) or analyzed in terms of the understanding of the participants' categories, relationships and patterns in the data (Silvermann, 1993). In any case, content analysis always involves relating or comparing findings to some standard, norm or theory (Carney, 1972).

What is at the heart of the content analysis technique is the coding system (Smith, 2000). "It is the primary basis for the objectivity of the method ...as it makes distinctions explicit and public so that other researchers can use the same procedure".

However, Holsti (1969) outlines a qualitative-quantitative debate about the validity of frequency measures. In using frequency, the author notes that we make two assumptions. First, we assume that "the frequency with which an attribute appears in messages is a valid indicator of concern, focus of attention, intensity, value, importance, and so on. Second, we assume that *each unit of content*-word, theme, character, or item-*should be given equal weight*, permitting aggregation or direct comparison".

In the context of research based on values or attitudes, or related concerns, Holsti explains that simple tabulations of frequency may prove insufficient because they fail to take *intensity* into account. In other words, the assumption that valid inferences regarding attitudes can be drawn from frequency scores, unadjusted for intensity of expression, is often untenable. In line with this statement, it was thought that simply counting the number of times a respondent mentioned a cause of stress would not tell us how stressful this characteristic was.

Therefore a scale of intensity has been devised in the present study which tries to capture the link the respondent makes between work characteristics and stress and to weight the importance of this link. It should be said however, that Di Salvo et al., (1995), in their qualitative study, tested the intensity or severity of the causes of stress by asking managers how devastating were the causes of stress in addition to

what they were. They obtained no significant differences using these ratings of severity out of a sample of 148 participants and 951 causes of stress. This could be due to the fact that the authors ask the respondents to fill out a form containing open-ended questions but they were not interviewed in face-to-face situations. In the present study the face-to-face interview was judged crucial to help respondents to express their views in more depth.

III.4 Development of the coding system

In the present study, the coding system comprised the definitions of units of the categories, a list of categories, and the rules for applying the coding system (e.g. stick to the definition of the categories, do not count the number of words but the themes contained in each interview, etc). We tried to make the categories mutually exclusive, exhaustive, precise and independent as much as we could (Smith, 2000). This is especially important when the material is analyzed by different coders to help them to arrive at consistent results (Berelson, 1952). The coding system was informed by a combination of a validated theoretical framework and previous research findings. In fact, the category framework chosen for this study was the one suggested by Cox et al., (2000) (see appendix 1). This framework was found easy to understand and manipulate by the different coders from different cultural backgrounds.

Since some of the questions being asked of managers pertained to causes of stress, other methods of interview content analyses could have been employed such as attributional coding using Leeds Attributional Coding System (LACS) developed by Stratton, Munton, Hanks, Heard and Davidson (1988) or Content Analysis of Verbatim Explanations (CAVE) developed by Schulman, Castellon, and Seligman (1989).

An attribution is defined as statement, which refers to a causal relationship where the speaker implies that a specific outcome is a consequence of a particular cause (Silvester, 1998). The LACS includes quite a sophisticated system of analysis whereby each causal attribution is evaluated according to at least six dimensions. These dimensions are the degree of stability in time of an attribution (stable-

unstable); the scale or importance of it (global-specific); the degree of controllability by the interviewee (controllable-uncontrollable); the degree of internality or responsibility for a cause to occur (internal-external); the extent to which an attribution is personal or universal and finally the valency of it i.e. positive or negative.

The LACS has been used in several areas such as selection interviews or training evaluation and clinical contexts. Although this type of analysis is of high value, a simpler analysis has been chosen as previously used in the area of stress research by Di Salvo et al., proved to be sufficient to answer our research questions.

III.5 Statistical analyses

The quantification of categories was carried out by recording the presence or absence of a category (for the reliability index) and the total frequency of occurrences of categories (for the percentage of agreement). In addition an intensity scale ranging from 1 to 3 was used to weight the importance of each category. The weight was given according to the link between the characteristic of work and stress with 1= spontaneous statement as opposed to prompts; 2= stated as important by the respondent or understood as such by the coder and 3= explicitly stated as stressful by the respondent. Finally, to calculate the differences between categories and national samples, a statistical non-parametric test (chi-square) was used.

III.6 Intercoders' agreement

The reliability of coders is of particular interest in content analytic research (Smith, 2000). To validate the categories, four judges have been involved in the coding process. One coder worked in a French university in the area of stress, another in a British university and the third in stress consultancy business. The fourth judge was the present author. Judges have been asked to analyze the same interviews regarding the causes of stress. The established category framework on the causes of stress developed by Cox et al., (2000) was given to the judges. It contained the category labels and their precise description. Each coder was asked to tell how

many times they find one category in each interview and two coders rated the importance of the statement in relation to stress.

The level of agreement between the coders can be calculated in different ways according to Judd and Reis (2000). It is usually indicated that the simplest and most frequently reported category index is the percentage of intercoder agreement between two or more coders in classifying transcripts into two or more categories. Although this is better than no measure of agreement, according to Smith (2000), there are two problems with this index.

Smith explains that first it will be affected by frequency with which a category is present. Second, it does not take into account the amount of agreement that would be expected purely by chance. The first problem is evident in low or high frequency occurrences. If one coder codes the occurrence of 2 items out of 100 (98 out of 100 are absent) and the second coder codes the presence of zero occurrence out of 100 (100 out of 100 absent, then there is a 98% agreement between coders, which is incorrect.

Therefore Smith suggests using the formula of McClelland, Atkinson, Clark, and Lowell (1953) to correct the percentage of agreement for frequency of occurrences, not the absence of occurrences, because we are looking for “something” not “the absence of something”.

The formula is $2 \text{ (\#of agreements between coders on presence of category)} / ((\text{\#scored present by coder 1}) + (\text{\#scored present by coder 2}))$.

In our example it would mean that if there is 0% of agreement on the presence of categories. $2(0) / ((2)+(0)) = 0\%$. However, when there are more than 2 coders (N), there is the need to use a composite reliability coefficient (Holsti, 1969) which is: $N \text{ (average inter-coder agreement)} / (1 + ((N-1) \text{ (average inter-coder agreement)}))$.

The percentage of agreements has been criticized by researchers and particularly by Bakeman, (2000). The author argues that percentage agreement does not control

for chance. Two observers guessing randomly will agree some of the time, and the extent of their agreement will depend on the number of codes and their marginal distributions. Therefore, Bakeman recommends another way of calculating agreement that is to use the Kappa index developed by Cohen (1960). The Kappa index is appropriate for testing whether agreement exceeds chance levels. The formula to calculate the Kappa Index, K is: $K = (FO - FE) / (N - FE)$

N indicates the total number of judgements made by each judge. FO represents the number of judgments on which the coders agree. FE represents the number of judgements for which agreement is expected by chance. Kappa varies from 0 (obtained agreement equals chance agreement) to 1 (perfect agreement). However, there are pros and cons with Kappa index also, according to Uebersax (2000, 1982). The pros are that it is easily calculated by software such as SPSS and that Kappa calculates whether agreement exceeds chance level which other indexes don't.

However, one inconvenience is that the use of Kappa requires that two coders strictly use the same rating categories (e.g. same Likert scale) otherwise the computation cannot be made, as it is necessary to have a symmetrical table in which the values of the first variable match the values of the second variable. The most important weakness is that this index is too conservative (Brennan and Prediger, 1981). It only "gives credits" to the judges for agreements that are beyond chance level (Perreault and Leigh, 1989) reducing 'credit' even when two judges are in agreement (Jankowicz, 1994). Therefore to overcome this problem, Perreault and Leigh (1989) advocate an index with confidence intervals. Their measure is based on the frequency of agreement expected due to the true (population) reliability of the overall coding process. Reliability in this case can be thought of as the percentage of the total responses that a judge could code, the coding scheme, the category definitions.

The formulae of the Perreault-Leigh's index is:

$$Ir = (((FO)/N) - (1 - k)) \times (k / (k - 1)) \times 0.5$$

with FO = Frequencies of observed agreements

N= Total number of judgments from each coder

k= Number of categories

and confidence intervals are calculated as follow:

$$Ir = \pm 1.96 ((Ir (1-Ir) / N))^{0.5}$$

The values of the index range from 0.0 to 1.0, with values below .8 showing low intercoders reliability, although a value of .7 is acceptable in an exploratory work (Perreault and Leigh, 1989).

This debate about the computation of the level of agreement between coders is solved by the next phase of the coding process (Reis and Judd, 2000). These authors suggest that when differences are found on category classification, coders need to meet and discuss their differences until they reach an agreement. They conclude that the "resolved" coding is likely to be somewhat more accurate than the index of agreement indicates.

Results of coders' agreement

In the present study, the intercoder agreements have been calculated by using the Perreault-Leigh (1989) index and show an acceptable level of reliability i.e. above 0.73 except for British managers index of reliability = 0.66. (CI= 0.51 – 0.81). Some disagreements come from the fact that sometimes a category was not explicitly mentioned as a cause of stress but was indirectly linked with stress. Other disagreements related to the exact definitions of some categories, for example about task design and organisational culture. Organisational culture seemed to be a too broad category as defined by Cox (1993) and was overlapping with organisational role, therefore it had to be broken down by subcategories in order for the categories to be precise and exhaustive.

When each statement in each category has been evaluated for its intensity or importance regarding stress, there were few differences in intensity. Most of the time, coders rated each statement at the highest intensity. These results may in some ways be comparable to the ones found by Di Salvo et al., (1995) who asked

their respondents to evaluate the degree of severity or what were the most devastating causes of stress and found no significant differences.

IV. Results of interviews analysis

The use of the term stress

In response to the first question, do you use the term stress or hear the term at work, the results (table 5.1) show that the term 'stress' is more often used by the British sample than the French sample (Chi Square: 3.9144 df=1, $p<.048$). However, because of the small sample size it would be advisable to use Fisher's exact test ($p<.081$) - which does not reach significance at the conventional 0.05 level. To investigate these potential differences further, we increased our sample size by looking at the results obtained in the 17 pre-interviews of French managers. There was evidence that the French managers were not as familiar as the British were with the term stress.

Use of the term 'Stress'	BRITISH Sample N=12	FRENCH Sample N=14
	Frequencies	Frequencies
YES	11	8
NO	1	6

Table 5.1 Use of the term 'stress' by managers in France and in the UK

The definition of stress

When managers were asked to give a definition of stress, their answers fell into a number of categories which are i) the symptoms of stress, ii) the work-related

causes of stress, iii) term's attributes (attributes of the concept of stress) and, iv) the non work-related stress factors (table 5.2).

Categories	Items	Frequencies		
		UK	FR	Total
Symptoms	Physical, psychological, behavioural and organisational symptoms of stress	13	21	34
Causes	Causes of stress pertaining to the work content and to the work context	22	9	31
Term attributes	Attributes of the concept of stress (e.g. abstract, unconscious phenomenon)	11	6	17
Non work factors	Person's characteristics and external environment	9	4	13
	Total	55	40	95

Table 5.2. Definition of stress by managers

The first category, which includes symptoms of stress, refers to the effects or outcomes that occur when someone experiences stress or when an organisation is under stress. The second category, which is the work-related causes of stress, includes attributions, justifications, reasons or causal accounts given to explain the presence of stress. The third category used to define stress relates more to the process rather than the content of explanations about stress. Managers talked for example about stress as an unconscious or abstract phenomenon. Finally the fourth category includes the non-work factors i.e. the factors involving the characteristics of the person rather than the characteristics of the environment.

There were differences between French and British managers on these definitions (Chi-square: 8.5729, df=3, p<.036). French managers tend to explain stress more by its symptoms (52.5%) than its causes (22.5%). In comparison British managers spontaneously define stress by its causes (40%) more than by its symptoms (24%).

Examples of the definitions of stress by four British (UK manager) and four French (FR manager) managers were:

UK Manager 1 : "*Stress... hum...Pressure and hectic environment...*"

UK Manager 2: *"My personal view is that stress is when you have too much to do and not having enough time to do it".*

UK Manager 3: *"I think to me stress is a point of a threshold whereby it becomes difficult to cope with certain situations. One specific situation is the volume situation, the workload or an angry customer or something like that. Somebody that takes you past the limit of what you feel you can realistically cope with".*

UK Manager 4: *"Stress is a feeling of constant pressure all the time. To meet deadlines which are tighter to do more in the same amount of time. It is just feeling to be under constant pressure all the time".*

FR Manager 1: *"For me stress if I had to translate it into French it would mean anxiety, and other feelings associated with anxiety i.e. fear, anguish"*

FR Manager 2: *" This is a good question. I feel tired yes I am certain of that. Things that I consider the most stressful are the conflicts. Here it happens regularly. Each time it is when there is a very tense situation, a mix of fatigue and irritation...."*

FR Manager 3: *" Stress is several things which make me say I experience some stress. There is fear, expectations, how I am going to do something, ...It is a lack of time during the day, there is not enough time to do the job"*

FR Manager 4: *" Stress? For me, it is not easy to say. It is true for me it is an element associated with psychology and nervous aspects of the human being, which actually influences his decisions, behaviours and reactions".*

Each category will now be examined in turn and differences outlined. Managers define stress in terms of four symptoms which are physical, psychological, behavioural and organisational (see table 5.3).

The symptoms can be physical (e.g tight shoulders, skin disorders for an individual, or work quality decrease for an organisation). They can be

psychological and refer to mental or emotional processes such as irritation, anxiety, and nervous breakdown. The behavioural symptoms include the level of energy, actions, decisions or an authoritarian style of management. Finally, the last type of symptoms refer to the health or functioning of an organisation under stress.

Categories	Items and verbatim	Frequencies		
		UK	FR	Total
Psychological Symptoms	Upset, cries, irritation. "The volume of work, you take it at home, you eat it, you sleep it and you think about it when you get out of bed in the morning". Situations where we are agitated, anxious. Unpleasant situations. Fear, nervous breakdown. Fear of what happen next. Anxiety. Aspect linked to psychology and nervosity of the human being. Constant conflicting relations, nervosity. Less motivation.	4	13	17
Physical ill-health Symptoms	Chest pain, hypertension, high blood pressure, tight shoulders, rubbing in the head, aches. Skin disorders, hair dropping out. Fatigue.	8	2	10
Behavioral Symptoms	Less energy, less committed to his/her responsibilities, being late is stressful. Act quickly. Stress influences one's decisions, behaviors and reactions. Management's behavior changes under time pressure and becomes more directive (uncommon behavior)	0	6	6
Organizational Symptoms	Decrease in quality of the work produced.	1	0	1
	Total	13	21	34

Table 5.3. Definitions of stress by symptoms

Results show national differences (chi-square: 14.273 df=3, p<.003). French managers used more psychological and behavioural symptoms than physical or organisational ones whereas British managers used more physical and psychological symptoms. Organizational symptoms are almost not mentioned.

The definition that managers gave to stress includes not only symptoms but also causes of stress. Managers gave a practical definition of stress, explicitly mentioning what causes stress and therefore starting to answer the next question which was about the causes of stress. Their answers will then be analyzed in the next section.

Stress was also defined by managers (table 5.4) as something abstract, unconscious, "we are not aware of", or "difficult to define". Managers viewed that stress is something that increases over time, has a positive and negative side and needs to be confirmed by medical authority to be sure of its presence. It is also

described by personal experiences, has multiple aspects, and is a recurrent phenomenon. Some managers described stress as a threshold or explained that some people get stress confused with other phenomena such as being tired or busy, which according to them is different. It is as though these states of tiredness are 'normal' states compared to a 'stress state', which is then associated with serious sickness. No differences between French and British managers were found within this category.

Categories	Items and verbatim	Frequencies		
		UK	FR	Total
Lack of awareness	"Something that you are not always aware of ". "You don't actually know until you have seen the doctor". "Not really tangible".	2	1	3
Positive/negative side	Positive stress motivates whereas negative stress is an accumulation of stress and general burnout.	0	2	2
Medical confirmation	"When medical authority confirms physical ill-health symptoms". "You have seen the doctor and the doctor says: well this is what I think it is".	2	0	2
Personal experience	Personal example of ill health due to stress	2	0	2
Multidimensionality	Stress is a number of factors, a number of things.	0	2	2
Threshold	Point of threshold, limit.	2	0	2
Confusion	Stress is being confused with other phenomena Confusion with being busy, frustrated or tired due to long working hours.	2	0	2
Increase	Stress increases over time	0	1	1
Recurrence	Stress is an everyday occurrence	1	0	1
	Total	11	6	17

Table 5.4 . Definition of stress by other considerations than symptoms or causes

Causes of stress for managers

Managers were asked what were the major causes of stress that they had in their role as managers. Causes of stress have been classified into categories pertaining to the content context of work, and non-work factors (table 5.5). Referring to the recommendations of Holsti (1969) the frequency of occurrence of a category has been weighted for its intensity or importance related to stress. It helps to identify how much the statements given by the managers were linked to stress.

Categories	Items and verbatim	Frequencies & Intensity (in parenthesis)	
		UK	FR
High workload / Tight deadlines	High workload. Short deadlines. High levels of time pressure. "The main causes are too many jobs or tasks coming down to me and too many assignments". " Reallyly too much work in a given time". "The shared amount of work...the inability to actually plan ahead and the constant fire fighting... It is like swimming against the tide".	12(36)	5(15)
Role conflict/ role ambiguity or unclear role	Role ambiguity and role conflict. "When we have too much work, then we don't have enough time for our people... We have an administrative role with a lot of statistics and unfortunately... we cannot be very close to our team".	8(23)	13(38)
Low decision latitude/ Lack of control	Low participation in decision-making. Lack of control over work. "I have been told by the finance department ...that I have to provide the same level of quality of service I am doing this year with seven people less that I have at the moment. For me this is stress because ...somebody takes away some of the things you need to do your job properly".	8(23)	3(8)
Lack of information/ communication	Poor communication. "When someone asks (by email) a question to six people but among six people nobody knows who is going to come up with the answer, that is stressful in itself".	6(17)	2(4)
Lack of staff	"There is not enough staff in the front line". "This is the manager to employees ratio which is too high".	4 (12)	5(15)
Lack of resources	Shortage of staff. Lack of availability and suitability of equipment. " We have a lack of time and a lack of resources, these are the two factors of stress....if I don't have the time it is because I don't have resources".	4(12)	3(8)
Interruptions/ Work inhibitors	Interruptions. "Interruptions are the biggest frustrating factor. I think stress for me here is not external factors. it is having interruptions continually".	4(12)	0
Lack of support	" The supervisor does not give any moral or physical support on the job. He controls, he has not taken on board new form of management	4(12)	3(7)
Poor task design	Unrealistic or difficult targets to achieve. Multiple tasks. High uncertainty. "The thing is in this job, you don't know what is going to happen from one moment to the next".	4(11)	2(6)
Organisational culture (rules & procedures)	Bureaucracy. " I am frustrated by the shared bureaucracy which seems to be ever increasing on a month to month basis".	4(11)	6(17)
Home-work inbalance	Conflicting demands of work and home." I don't want to let my work life totally dominate what goes on at home. Sometimes it does". "Targets, shift work affect home and partner and it is a vicious circle".	4(10)	0
Conflicting relationships at work	Poor relationships with superiors or interpersonal conflicts. " The big stress is going to be when there is a conflict between agents themselves". Performance of others. " Finding out that work has not been completed, I would expect people to complete it". Lack of cooperation and teamwork.	3(9)	15(42)
Organisational change	Possible privatization of the company, differents skills required from managers such as business skills not only technical.	3(9)	0
Person's characteristics	"Stress is caused by external demand but by the person herself as well".	3(9)	2(6)
Priorities/ objectives	Lack of definition of organizational objectives.	2(6)	1(3)
Lack of training	"What makes it stressful is that you don't give the support and training required to achieve these goals".	2(6)	3(6)
Customers relationships	Meeting customer demands. Handling customer complaint, or anger. Interacting with customers or providers.	2(6)	3(8)
Incidents	Delays, accidents. " the first stress... is when the trains are not functioning". " When there is an accident on the line"	1(3)	6(18)
	Total	78	72

Table 5.5 . Managers' causes of stress perceived by managers (Frequency for each category and their intensity in parenthesis. Shaded areas indicate the major causes of stress).

Overall both UK and French managers gave the same number of categories, but national differences were found in the nature of the causes of stress mentioned (Chi square: 33.127, df:17, $p < 0.11$). One of the major causes of stress, which was similar to both groups although to a lesser extent for the UK, was the role in the organisation, i.e role conflict and ambiguity representing 10% out of the total of categories for UK and 18% for French managers.

The other primary causes of stress were different. For British managers the workload (15%), the decision latitude (10%) and the lack of information (8%) seemed to be major issues while for the French managers, these were relationships at work (21%), incidents (18%) and organisational culture (i.e rules and procedures) (8%).

Perceptions of the causes of stress for employees

The last question asked managers was what are the major causes of stress for their employees. The purpose of asking this question was to identify if managers would attribute causes of stress more to personal characteristics than organisational characteristics as found in previous studies (Singer et al., 1986; Kompier et al., 1994).

It was obvious that in the previous question, it was more difficult for managers to attribute causes of stress to themselves. By asking how they perceive the causes of stress for their employees, it was expected then that causal attributions would be higher on personal characteristics if it was their tendency to see stress as a personal issue rather than an organisational issue.

Results (table 5.6) show that in general, managers provide more explanations as to what causes of stress for employees (average: 158 statements) than for themselves (average: 75 statements). British managers were more likely than the French managers to attribute causes of stress to individuals with (10%) out of the total of causes of stress for the UK sample against 4% for the French sample. These findings do not replicate the Singer et al., study (1986), which indicated that

managers were more likely to attribute causes of stress to individuals rather than organisations. They did not replicate the findings of Kompier et al., (1986) either, where it was found that French managers were more likely to attribute causes of stress to individuals rather than to organisations.

There were similarities in that the French and British managers perceived their employees' causes of stress at work, however relationships at work were predominant in the French perceptions (chi-square: 48.494, df:17, $p < 0.000$).

UK employees were perceived to be stressed by workload (16%), then by customers (abusive language, angry customers, etc.) (12%) and lack of resources (9%). French employees were seen to be stressed firstly by customers (19%), then by relationships at work (13%), workload (12%) and by lack of resources (12%).

Categories	Items and verbatim	Frequencies & Intensity in parenthesis	
		UK	FR
High workload / Tight deadlines	Work overload. Time pressure. "The fact that they have a lot of work to do in a short time". " Some of my staff get stressed if we have a lot of work".	8(24)	7(20)
Customers relationships	Handling customers' abusive language, or anger. " They are the front line staff, they deal directly with the customer, and unfortunately our customers can get a bit irate now and then".	6(18)	8(31)
Person's characteristics	"It could be that they are not physically capable of doing the job in the environment of the call center" . "Some people will always find something to be get stressed about. The thing is the individual person".	5(15)	2(6)
Lack of resources	Availability of equipment. " Some people get stressed because their equipment does not work or their equipment was not where they left it the night before".	5(14)	8(19)
Organisational change	"Change I think is the other major one (cause of stress). No one likes change especially when it has happened for so long".	4(12)	0
Lack or stressful training	"There is a training programe which I think is very stressful for people starting the job, very stressful and frustrating".	4(9)	1(2)
Conflicting relationships at work	Interpersonal conflicts. " Another cause of stress is personal conflicts. People don't get on well with each other...It happens within the department because people have been working here for a long time. It happens less with new people coming in.	3(9)	8(21)
Work schedule	Poor work schedule. "They miss their breaks, they don't stop"	3(9)	3(8)
Low decision latitude/ Lack of control	No say regarding the changing working schedule that employees are asked to follow.	3(8)	2(6)
Poor task design	"Their main cause (of stress) is that they work from a queue list. When they come in the morning they can have 40 technical problems on their list. They have to prioritize their own workload"	2(6)	2(5)
Career development	Low social value to work . "their job is not socially valued". "Some think that they are going to lose their job".	2(6)	3(7)
Non work factors	Financial or family problems	2(6)	1(3)
Incidents	Accidents. " That 's probably the biggest pressure they have got when incidents happen".	1(3)	4(12)
Role conflict/ role ambiguity	Role ambiguity."they are fighting against this because they say I am here to run the railway, I am not here to run a business".	1(3)	2(6)
Lack of information/ communication	Results not communicated on time to employees. Different information given to people working on night shift.	1(3)	2(5)
Organisational culture (rules & procedures)	Strict procedure to follow. What is stressful is the mistakes employees make when giving change to customers, they have to reimburse the company.	1(3)	4(11)
Home-work umbalance	Changes in the work schedule at the last minute affect home life.	1(3)	0
Priorities/ objectives	Lack of organizational objectives. " A general lack of direction, it is a major cause of stress".	1(3)	0
	Total	53	57

Table 5.6 . Employees' causes of stress as perceived by managers

V. Discussion

The purpose of the present research was to answer two research questions not answered in current cross-cultural stress research comparing French and British managers. The first question was: how do French and British managers perceive causes of stress when asked with a free-response format? The second was: do managers attribute causes of stress more to individuals than organisations? The semi-structured interviews technique allowed the elicitation of managers' knowledge providing meaningful accounts of what the concept of stress meant to them.

Managers' answers indicate their degree of familiarity with the term stress, how they define stress and what causes stress for themselves and their employees. The results indicate similarities and differences in the way stress is perceived in France and the UK (for a summary see table 5.7)

Differences in the use of the term stress

There is evidence that stress was a term more frequently used by British (92%) than by French managers (57%). This finding was important, as it could have determined to some extent the next answers given by managers. Those who were less familiar with the term stress would probably have had more difficulty in defining it and talking about its causes.

However, as the interviews progressed, it became clear that French managers knew how to describe stress, although half of them reported not being familiar with the term or hearing the term too much. Most French managers associated stress with fatigue, being tired or tense. On average, French and British managers provided a similar number of statements to explain stress and its causes.

Differences in the definition of stress

When managers were asked to give a definition of stress, they gave a practical definition of it. Some shared their difficulty in answering this question. Others viewed stress as abstract, or as an unconscious phenomenon, or as being a number of factors. Managers viewing stress as being positive and negative confuse stress with challenge, as explained by Sauter et al., (2000). "The concept of stress is often confused with challenge but these concepts are not the same. Challenge energizes us psychologically and physically, and it motivates us to learn new skills and master our jobs. When a challenge is met, we feel relaxed and satisfied. Thus, challenge is an important ingredient for healthy and productive work. The importance of challenge in our work lives is probably what people are referring to when they say 'a little bit of stress is good for you'.

Stress was mostly defined by its symptoms or causes in both samples. However, the French managers tended to mention symptoms much more (52.5%) than causes (22.5 %) compared to the British managers who mentioned causes almost twice as much (40%) as symptoms (24%).

These findings may suggest that French people are more influenced by a medical definition of stress if health symptoms are mentioned so often, while British managers are more influenced by an organisational definition of stress. In France, stress is usually a topic reserved for medical doctors in the media or within organisations. Therefore there could be a cultural influence in the understanding of stress.

Another significant difference was found regarding the nature of the symptoms described. If they were mostly psychological for the French managers (62%), they were mostly physical (61%) for the British managers. In comparison with previous studies, the French managers seem to fit more with stress' definition where stress is almost exclusively defined in psychological terms (Furnham, 1997; Roques (1999).

Differences in the causes of stress for managers

In terms of the major differences found, British managers attributed a cause of stress to high workload coupled with short deadlines, whereas French managers more frequently reported relationships at work as a cause for stress. The UK findings did not corroborate Furnham's findings where relationships at work and dissatisfaction were major stressors, but they replicated findings from the following surveys.

A survey in the UK in 1995, shows that employers consider one of the most common causes of stress to be increased volume of work due to downsizing. (Industrial Society, 1995). Also another survey shows that managers see volume of work as an increasing problem (Institute of Management, 1997).

The major reason for work overload was that managers were assigned too many tasks and insufficient time to perform them. Work overload was created by the volume of work to do but also for some of them there was the need to have management or information technology training to do their job better. Therefore not only quantitative but also qualitative overload in some cases caused stress or at least dissatisfaction. As Quick, Quick, Nelson and Hurrell (1997) explain, *qualitative overload* occurs when employees do not feel that they possess the right skills, knowledge, and abilities to do the job. It is more common in jobs where the new technologies have to be used or when new responsibilities have been assigned without proper training, for example first-line new supervisors promoted without managerial training (Quick et al., 1997).

Regarding the findings for the French sample, relationships at work seemed an issue for both French companies. Relationships at work usually refer to the interactions people have with colleagues, subordinates, and supervisors (Ganster, Mayes, Sime and Therp, 1982). The conflicts most often described occurred between the manager and his subordinates, but also managers especially from the Paris Underground had to mediate conflicts happening almost on a regular basis between subordinates themselves or between subordinates and customers. The conflict between managers and their subordinates related to safety rules that

subordinates did not want to follow, or specific tasks that subordinates refused to do.

Previous comparative studies conducted in the 1970s, by Gallie (1978) and Clark (1979), indicated that relationships at work were a major issue in French organisations and not so much in UK organisations. Both authors tried to explain the reasons for this issue. Gallie explained that problems of relationships at work were linked to the social distance that management put between themselves and their employees, which led to a more rigid structure than was found in British organisations.

Similarly, Clark (1979) explained that relationships could be damaging in French organisations due to the decision-making process. The author compared the well-known phenomenon of bureaucracy found by Crozier (1964) in French organisations with that in English factories. He found that in the UK, there was much more participation in decision making between the unions and management than there was in France. Also British local management had more autonomy from their headquarters than in France. More conflicting relationships were identified in France, coming from the fact that all possible situations were not defined by rules, but left to interpretation. In the UK, situations and their applications left to interpretation by the managers and unions did not seem to create any further need for clarification or conflicts. If there were differences found between French and British managers, there were similarities too.

Similarities in the causes of stress

Role in the organisation seemed to be an issue in both samples. The lack of clarity in the role to perform is often explained in the literature by the role ambiguity and the role conflict. Role ambiguity refers to the fact that people have inadequate information about their role or do not understand the expectations associated with their role. Role conflict refers to the fact that people have incompatible roles and demands to handle in contradiction with their values or they have to do tasks that are not perceived to be part of the job.

In this study, both ambiguity and conflict in their role were present among managers' tasks. Managers complain a lot about the lack of clarity regarding the priorities in their role. Some managers described how they have to do more statistical reports or operational tasks that they think they should, because these tasks become detrimental to another side of their role, which is to listen and develop their team members. This issue is almost typical of supervisors and middle managers jobs that are caught between having their hands on operational tasks and still being expected to fulfil a managerial role.

Similarities about the view that stress is not a weakness from individuals

When managers were asked to explain the causes of stress for their employees, the intention was to let them talk more freely about other people's stress than their own stress. The aim was to evaluate which part they will attribute to causes of stress due to the organisational context, as opposed to causes due to the personal characteristics of their employees. It was expected, as previous studies suggest, that managers would attribute stress firstly to personal characteristics as American managers did (Singer et al., 1986) or French employers did (Kompier et al., 1994). However, the present data did not support these findings.

There was no evidence that managers from either country perceived stress as being primarily a weakness of an individual instead of an organisation, as found in previous studies. On the contrary, the majority of French and British managers perceived organisational characteristics as the primary stressful encounters for their employees although UK managers had a tendency to accentuate personal characteristics more than the French managers. An extreme view from a British manager was that 'if the person is stressed, he/she should leave the company because it is his/her problem, not the organisation's problem'.

Managers had almost the same view as to what constitutes the most stressful elements for their employees, i.e. the workload, customer relations and the lack of

resources. The exception was relationships at work which were most commonly reported by French managers.

Stress as organizational-context specific

If French and British managers express their understanding of stress differently, (although similarities have been found too), in analysing further the relationships and patterns across categories, it became evident that stress was also organisational context-related.

In addition to the stressful characteristics inherent to the type of work they were involved in, managers from the London Underground Company were affected by major changes, the potential privatization of the company, the extension of the line and a major culture change. Some managers outlined the lack of clear direction and resources to do their job properly, the lack of support either from the hierarchy or the Human Resources department. The decision latitude was perceived as weak, although managers interviewed in this company were mainly not supervisors but second level managers, if not third level. Some managers described how career development or simply working with new recruits can be stressful, as new skills are required in a short time and new recruits are more qualified than they are.

In comparison, although holding comparable jobs, managers from the Paris Underground were not undergoing major culture changes as the British were. Although they described their job with the same characteristics as the British did (e.g. uncertainty, impossibility to plan ahead, irate customers, important train incidents or delays), they were not affected by major cultural changes, certainly not privatization of their company. Conflicting relationships at work seemed more of a problem than workload. What constituted 'real' stress were the incidents occurring with the trains causing delays or accidents, where deaths of passengers were involved. The other causes of stress were generally described more in terms of dissatisfaction with the work environment rather than purely causes of stress.

The British Courier Company was a private company where workload and short deadlines were the main stressful characteristics of the work environment. It had the image of a business in fierce competition, where managers were asked to achieve the maximum profits with the minimum resources. It was then not surprising that managers talked about their conflicting organisational role where they felt stretched between achieving targets at all costs and spending time listening to their team members' problems. The workload and deadlines were by far the major causes of stress described by managers. What was surprising in this type of advanced, wealthy business was to discover the lack of decision latitude or the lack of communication managers tended to suffer from. The lack of communication was not coming from their direct supervisor but from their senior management. In other words there seemed to be a gap between their level and the more senior levels of management.

Similarly the French Courier Company can be described in exactly the same way as the British courier company. It is also a profitable business that is run with tight limitations on human resources or even technical ones. A distinguishing feature though, were the relationships at work that seemed to be a stressful element, as was found also for the Paris underground.

The causes of stress found in this study are quite common among a managerial population. In a study among 572 Australian managers, Lindorff (1994) found that when asked to name the most stressful event in the last month, managers named transferring job location, dealing with superiors, subordinates, customers and unions, organisational change or restructuring, heavy workloads and difficult tasks. All factors were associated with high average stress symptom levels.

Reliability of content analysis

Di Salvo et al., (1995) argue that "using a grounded database does not, in itself, ensure the usefulness of the categories". Problems of reliability and rater perspective are common with qualitative data and must be addressed (Downy & Ireland, 1983). Smith (2000) describes two kinds of reliability in content analysis.

First there is the reliability of the coder as a measuring instrument, and second is the reliability of the frequencies or scores.

Reliability of coders

The first type of reliability has been reported earlier and satisfactory levels of agreements, as indicated by the Perreault-Leigh (1989) index, have been found between coders.

Reliability of the frequencies of categories

The second type of reliability refers to one or more aspects of consistency of measurement, which are internal consistency, consistency between alternative forms, or test-retest consistency. These types of measurement are more commonly used in quantitative research, but they can be used in qualitative research when qualitative material has been quantified by content analysis technique. Smith (2000) states that "reliability assessments provide information about the repeatability, unidimensionality and stability over time of the frequencies or ratings derived from content analysis".

The study design, which was cross-sectional, did not permit testing for this type of reliability. However, this type of reliability is linked to the face validity of the content analysis and is addressed in subsequent sections.

Validity of content analysis

It refers to whether coding used in content analysis assesses what it was intended to assess. Reliability is a necessary but not sufficient condition for validity (Smith, 2000). Among the different types of validity, Smith (2000) suggests that four of them are relevant for content analysis. They are concurrent validity, predictive validity, construct validity, and external validity. The author explains that *concurrent validity* is a measure that can discriminate among groups, *predictive validity*, as the name implies, can predict the next event or behaviour, whereas *construct validity* tells if a measure is related as theoretically expected to other

variables. Finally *external validity* refers to the extent that findings can be generalized to other contexts or to a larger population. The last one is linked with the sample size that has to be large enough for making inferences and selected with care to avoid sampling bias.

However, Holsti (1969) argues that if the purpose of the research is a purely descriptive one, the *face validity* can be established by the informed judgement of the researcher who can ask himself the following questions: Are the results plausible, are they consistent with other phenomena being studied? He can also ask questions about the research process: Was the sample representative? Were the categories adequate for the purposes of the study? Was the coding reliable?

The present findings show face validity in the fact that they replicate previous findings where the same types of issues at work were identified in French and British organisations. The causes of stress, mentioned by the sample of managers interviewed, fit well in the framework of categories given by Cox et al., (2000). However, it was important to specify some categories, which appear to be too broad for our coding system to be valid.

Limitations of the present findings and further research

The limitations of the present findings lie in the specific and small sample size we use, which does not permit us to say that we have a representative national sample. Data were collected from a representative sample of managers from customers and operations departments of four transport organisations and we can probably generalize these results within this scope of population only. However, the question of the generalizability of findings is not essential, since our study is exploratory in nature.

Further study is needed to ensure that we have genuine differences between managers from these two countries and that this is not due to an artefact of the type of sample selected. This aim can be better achieved through quantitative methods as qualitative methods using large samples of respondents are time-consuming and

expensive for both researchers and organisations. Therefore we will conduct a quantitative survey study in the next phase of the research. The benefits of this exploratory study are that the findings will inform the design of the questionnaire used in the survey.

Before carrying out this next study, it was important to explore deeper the differences between French and British managers. For example, a view expressed in the interviews, mostly by the French managers, concerned the positive and negative aspects of stress and stress confused with motivation or challenge. Instead of asking a direct question about this issue it was thought more appropriate to approach it through personal construct theory (Kelly, 1955) and the repertory grid technique which allow for underlying dimensions to be identified.

VI. Conclusion

The present qualitative study was an attempt to discover stress perceptions among French and British managers. There was evidence of cultural differences in the way stress was defined and the causes of stress. British managers found workload and deadlines as major sources of stress, whereas French managers were more preoccupied by conflicting relationships at work. There was no evidence that managers perceive stress as being solely and primarily due to individuals' characteristics, contrary to findings from previous studies. Finally, there was evidence of the perceptions of stress being influenced by organisational and nature of work context. Further investigation on the differences in perceptions of stress will be carried out in our next study to look at the underlying beliefs managers have about stress.

	Differences		Similarities
	UK	FR	
Use of the term stress			
	92% of the managers said to be using or be familiar with the term stress against 8% who were not.	57% of the managers said to be using or be familiar with the term stress against 43% who were not.	
Definition of stress			
Definition of stress	Stress is defined more by causes 40% than symptoms 24%	Stress is defined more by symptoms 52.5% than causes of stress 22.5%	
Stress defined by its symptoms	Stress is defined by symptoms which are physical 61% and psychological 31% out of the total of their responses	Stress is defined by symptoms which are psychological 62% and behavioural 28%	
About the concept of stress (abstract, unconscious, etc)			Similar views
Causes of stress for managers			
Causes of stress for managers	Major causes for UK managers are: Workload 15% Role in organisation 10% Decision latitude 10% Lack of information 8%	Major causes for French managers are: Relations at work 21% Role in organisation 18% Incidents 18% Organisational culture 8%	Role in the organisation
Causes of stress for employees			
Causes of stress for employees	Major causes are: Workload 16% Customers 12% Lack of resources 9%	Major causes are: Customers 19% Workload 12% Relations at work 13% Lack of resources 12%	Workload Customers Resources
Stress as not being solely the problem of the individual (employee)			Similar views

Table 5.7. Summary of major differences and similarities among French and British managers

Chapter Six: Managers' personal construct system about stress: a qualitative cross-cultural study

I. Introduction

The aim of this second qualitative study is to identify how French and British managers 'construe' stress through the Personal Construct Theory (PCT) (Kelly, 1955) perspective, using the Repertory Grid technique. The Repertory Grid technique is said to be an excellent way of discovering people's attitudes or beliefs (Honey, 1977). Some managers during the previous interviews mentioned negative and positive aspects of stress, others perceived change as a major cause of their stress. These views form different schema or cognitive representations of stress. It was then thought relevant to investigate these representations further in a more structured manner, to discover how managers in both countries 'construe' a stressed person at work.

This chapter starts with a description of PCT and its use in previous stress studies. Then the methodology of repertory grid and the analysis of 28 grids are introduced. The analysis provides a picture of the shared stress construct system of French compared to British managers. Individual case examples are also presented to understand the personal construct system of individuals from both cultures on stress.

II. The use of the repertory grid to examine stress construing

The fundamental postulate of PCT is that the person's processes are psychologically channelised by the ways in which they anticipate events (Kelly, 1955). PCT provides an explanation of how individuals perceive and make sense of the external world. The way we make sense of things, people or situations is by a process of comparison and contrast that provides what Kelly called "constructs". An individual's personal construct system is the perceptual framework which she/he is currently using as the basis for understanding and making predictions about events in the surroundings environment (Brook, 1986).

For Kelly the basic elements of the mind are constructs, contrasting with other personality theories such as Freud's psychoanalytic theory, which states that the explanation of the mind is based on wishes (Lester, 1995). Kelly argues that personal constructs can explain not only the mind but behaviours and emotions such as anxiety, hostility or guilt.

Levy-Leboyer, Gosse and Naturel (1985) also outline the richness and complexity of representations that PCT provides, giving a valuable picture of important inter-individual differences.

Along with his fundamental postulate, Kelly put forward eleven corollaries, which help to summarize and define PCT. Some of them are relevant for the present study. One is the individuality corollary, which states that "persons differ from each other in their construction of events". This first corollary defines what has been said earlier about the uniqueness of representing the world.

The second corollary is also important for the present study. It is called the commonality corollary and is defined by "the extent that one person employs a construction of experience that is similar to that employed by another, his psychological processes are similar to those of the other person". Differences between two grids or at group level can then be explored in the present study to compare French and British managers.

The third corollary is the dichotomy corollary. It states that "a person's construction system is composed of a finite number of dichotomous constructs". Constructs are said to be dichotomous in the sense that they have two poles: a construct and a contrast. We may construe one person, as like someone similar to us in being "kind" (construct), while a third is described as "harsh" (contrast).

Such constructs are seen as linked together to form networks of meaning where the person construed as 'kind' rather than 'harsh' may also seem 'warm' rather than 'cold' and so on. These constructs are linked together to form the construct system of the person. It is the construct system of French and British managers on stress that we are interested in discovering.

It is worth noting that the study does not seek to uncover the core constructs about stress that would have required more time and more sophisticated techniques such as laddering. Laddering implies that when the respondent has given a construct, the interviewer questions the respondent in order to refine or extract more meaning about the construct. The length of time allowed for the interviews in this study did not permit the employment of such a technique. What will be investigated are the peripheral constructs on stress.

As Winter (1992) explains, "if the investigator is only interested in the content of the subject's constructs, the assessment procedure may be terminated following the elicitation phase, as in Kelly's original Role Construct Repertory Test". It is only if we are interested in the structure of the subject's construct system that further stages are required.

Previous applications of the Repertory Grid technique are to be found in the clinical and educational context and, to a lesser extent, in the organisational context, particularly on the issue of stress. However, the few studies on Repertory grid and stress or working conditions have yielded promising results in terms of understanding the construing of individuals on these issues (e.g. Kirkcaldy et al., 2000; Brenner and Ostberg, 1995; Winter, 1993; Martin, 1992; Talbot, Cooper and Ellis, 1991).

For example, Kirkcaldy et al., (2000) analyzed five case studies from medical work settings and found idiosyncratic perceptions of the meaning of stress and diverse situational determinants. The authors put in question the relevance of theories, which define stress in terms of common perceptions.

Winter (1993) studied police stress and compared 14 officers whose responses to stress were violence or lawbreaking with 19 non-offending officers. One of the findings was that offending officers who tended to act violently exhibited tighter construing than non-offending ones. This means that their constructs were highly correlated and thus were not discriminating stressful situations. The author concludes that the tight construing and the lack of constructs regarding expression

of feelings and morality would appear to contra-indicate successful assignment to particular stressful police duties (Winter, 1993).

Finally, Talbot et al., (1991) studied the role of social support in stressful situations, comparing 14 hypertensive patients and 14 normal subjects. One of the authors' conclusions was that, when social support is correlated with not only better coping but also with problem solving, it may definitely be an anti-stress remedy for individuals.

The aim of the present study is to explore the content of managers' construct systems and more particularly the dimensions managers use to differentiate among a most stressed and least stressed person at work. It is hypothesized that managers from one culture will share more similar dimensions than idiosyncratic ones to define stress. An exploration of how they perceive change in relation to stress, as this was prevalent in one organisation during the interviews, is also sought.

III. The procedure of administration of the grid

The Repertory Grid is perhaps best looked on as a particular form of structured interview. A total of 28 grids (14 with French and 14 with British managers from the same organisations as for the interviews) were elicited. The number of grids did not match exactly the number of interviews (i.e. 30) because, for two participants, there was no time available for completing the grid after their interview. The procedure involves four stages as described by Fransella and Bannister (1977) which are: i) Elements selection, ii) Constructs elicitation, iii) Elements rating, iv) The Repertory Grid Analysis.

III.1 Selection of elements to capture stress construct

The elements can be given to the respondents or elicited from the respondents. We chose to give a set of elements because our research question was to understand more precisely how stressed and non-stressed people were perceived. We could have chosen situations as elements but it was not easy to find situations that could

then be comparable across companies. Seven elements were supplied: 'the most and least stressed manager, the most and least stressed employee, the person himself/herself, the ideal manager and employee'. Managers were asked to think of managers and employees known to them, who fit these elements.

III.2 Elicitation of individual constructs and their rating

Elements are divided into triads and the respondent is asked to name a way in which two elements are similar and different from the third. A construct is then elicited and the respondent is asked to give the opposite pole, called the contrast. For example, we asked the person to consider elements 1, 3 (most stressed manager, most stressed employee) and 5 (myself). Between the most stressed manager, the most stressed employee and yourself, which are the two which are similar and different from the third? The respondent may say elements 1 and 3 go together and are different from element 5 (myself), because both are irritated and the third is not. So irritated will be the construct or the emergent pole and we write it on the left-hand side of the form (see figure 6.1).

Then we ask in what way is the third element different from the other two. The respondent may say calm (not necessarily strictly the opposite) which is the contrast pole and we write it on the right-hand side of the form. The process of construct elicitation continues until no new constructs are elicited. The grid configuration is as follows:

	ELEMENTS							
	Most stressed manager 1	Least stressed manager 2	Most stressed employee 3	Least stressed employee 4	Myself 5	Ideal manager 6	Ideal employee 7	
<i>Construct 1 'irritated'</i>								<i>Contrast 1 'calm'</i>
<i>Construct 2 "has clear goals"</i>								<i>Contrast 2 "has no clear goals"</i>
<i>etc</i>								<i>etc.</i>

Figure 6.1: Example of Repertory Grid.

A third step involves the evaluation of the degree to which each element may be characterized by each construct. The rating of each element is done on a Likert-type scale. For example, we ask how irritated, on a 5-points scale, is the most stressed manager? 1 being not at all; 5 being very much so. The number is reported in the form at the intersect between construct and element.

III.3 Different levels of analysis of the grid

Repertory grid data can be analysed using a range of qualitative and quantitative methods (Reger, 1990). For quantitative analysis, several computerized packages have been devised by researchers and are able to analyse single grids (e.g. Flexigrid (Tschudi, 1998); Ingrid (Slater, 1976) or multiple grids. Bell (1997) suggests the use of the SPSS syntax by performing Discriminant Function analyses or Multi-Dimensional Scaling analyses. A recent package from Mildred Shaw, called the Rep Grid (version 2 Release, September 1990) seems one of the more user-friendly packages and provides multiple grids analyses through the 'sociogrids' option. In the present study, data analysis has been performed using Ingrid and Rep Grid along with qualitative analyses.

Sociogrids is based on the assumption rooted in Kelly's commonality corollary that there may be areas of shared meaning among any group of individuals. This technique explores the similarities and differences in construing between members of a group (Shaw and Mc Knight, 1981).

However, the similarity between constructs is not based upon literal similarity but upon an operational definition of similarity in terms of the ordering of the elements set. As Jankowicz (1998) explains, Sociogrids is a procedure which focuses only on ratings and not on the meaning being expressed in the constructs. It only has a value where the elements and constructs are identical in the whole set of grids. However, it can be done with grids that have different constructs. The researcher then has to judge if the classification done by sociogrids is meaningful. The sociogrid results will give, for example, the most frequently used rating of the constructs cluster as:

A: Selfish 5 3 4 1 5 2 3 4 Altruistic

B: Alert 5 3 4 1 5 2 3 4 Dozy

C: Awake 5 3 4 1 5 2 3 4 Asleep

If these three constructs are grouped together by their rating of elements, which is very similar, they are not all similar in term of their meaning. We can say that B and C can be grouped together but probably not with A. There is a type of content analysis that needs to accompany the rating.

The Sociogrid program compares every pair of grids and the pairs are then listed in the order of the most-in-common to least-in-common. This measure of similarity is used to produce a sequence of socionets (group of links). An example of socionets obtained from our study is given in appendix 2.

In order to find constructs that would be clustered if all the grids were focused together, each construct is matched in turn against all the other constructs in all the grids. The program records also the number of times constructs from different grids are found to be similar. When the procedure has been carried out for every construct, the results are listed in order of the number of appearances a pattern makes. By taking a suitable number of the most highly related constructs, a mode grid of the most frequently used constructs is extracted from the list of individual constructs (Shaw and Mc Knight, 1981), but still requires that the researcher labels the common constructs into a category.

IV. Results

IV.1 Variation in the constructs elicited in relation with stress

Qualitative analysis has been carried out in which all elicited and supplied constructs have been classified using content analysis. This required a second judge to check for the reliability of the allocation of constructs to categories. The Perreault-Leigh index has been chosen as an index of reliability as recommended by Jankowicz (1994).

This qualitative analysis identifies whether managers were using different or common constructs to characterize the most and least stressed as well as an ideal person at work. Results (table 6.1) show significant differences between French and British managers in the overall categories of construct (chi-square: 24.620, df=11, $p < 0.10$).

Agreement between coders, which was determined by the Perreault-Leigh index of reliability, was 0.69 with 95% confidence intervals of 0.598 - 0.782 for the French sample and 0.70 with 95% confidence intervals of 0.61 - 0.79 for the British sample. Therefore, both categorisations had acceptable level of reliability.

Constructs (N=189)	France	UK
Inner qualities (confident, calm etc.)	24	20
Organisational skills (problem solving, planning, etc.)	16	20
Commitment	11	11
Empathy	10	1
Communication	10	11
Experience	8	5
Motivation	6	5
Management style	5	8
Delegation	3	0
Coping Strategies	0	5
Causes of stress	3	5
Others	2	0

Table 6.1 Categories of constructs derived from the French and British managers' grids

The main differences appeared to be that French managers used more inner qualities, including empathy, than British managers. Coping strategies were found only in the UK sample. It is worth noting that managers express more individual weaknesses than organizational or external reasons for being stressed or not. This is an interesting finding to compare with the interview results, which seems to suggest that being stressed has to do not only with organizational issues but also with the person's ability and personality. It is an indication that managers see both sides in the stress process, not simply the organizational one.

This qualitative content analysis did not inform us about the importance given to each construct by their rating on a 5 points Likert scale. Therefore the aim is to find the most commonly rated constructs among managers and to look at their meaning

associated with stress. In order to obtain this information, two types of analysis have been performed: the socionets analysis and the mode grid analysis with the sociogrids software.

IV.2 How do the French and British managers as separate groups construe stress?

A comparison between the French and British socionets (see appendix 2) indicated that the French managers had a similar pattern in the rating of their constructs related to stress. The British managers, on the other hand, had distinctive ratings of their constructs. Their constructs were less linked together. What is of interest is to look at what type of constructs have been rated similarly and the most often. Therefore the mode grid analysis is pertinent in answering this question.

Results of the mode grid show that there were 11 commonly rated constructs (e.g. being in control, being confident, delegating, change) that fall into 3 categories which were: social interaction, anxiety and influence of positive attitude. Other constructs, which were dissimilar and rated in a similar fashion, were disregarded as explained in the methodology section.

For the British managers, 18 commonly rated constructs were found but were less easy to put into categories as they were very varied (e.g. *change, pressure, bullying, creativity, clear goals, problems at home, responsibility, being logical, motivated and focused*). However, the clearer categories that could be identified were coping with stress and pressure, and anxiety.

IV.3 Four case studies to illustrate the individual construing

The strength of the repertory grid analysis lies in the fact that they allow a detailed analysis of an individual's responses (Jones, Harris and Waller, 1998). Since the analysis of the socionets allows identifying the typical manager of the group, i.e the one who construed stress as the majority of the group, therefore two 'typical' managers from the UK and France samples have been selected. They will form

four case studies with their repertory grid analysed in terms of the perception of the most and least stressed managers. The repertory grid analysis has been performed with Ingrid software (Slater, 1976).

British manager case study 1:

The respondent was male and worked in private industry. From the Ingrid analyses, the most and least distinctive constructs (table 6.2) elicited from respondent 1 can be examined by looking at their percentage of variation in the rating (Smith, 1986). A higher percentage indicates a higher level of distinctiveness, i.e. the respondent is shown to have a pronounced view about the construct. The same analysis is applied to elements. It can be seen that the strongest views among constructs are on 'anxiety about change' and the least pronounced element (table 6.3) refers to the element 'myself'.

Most distinctive constructs	
11. Most anxious about change	12.32%
9. Lead by theory, demotivate	10.27%
8. Close-minded- bully	10.27%
6. Needs to be motivated	10.27%
4. Does not like being pressured	10.27%
Least distinctive construct	
5. Totally unaware of management priorities, selfish.	5.78%

Table 6.2 The distinctive constructs of British respondent 1

Most distinctive elements	
1. Most stressed manager	32.41%
3. Least stressed manager	33.34%
Least distinctive element	
5. Myself	5.88%

Table 6.3 The distinctive elements of British respondent 1

Another analysis that has been carried out in each individual case study was to look at how each construct correlated with the most stressed and least stressed managers. This provided a clear picture of how stress is represented in the

manager's mind. This correlation was computed with Ingrid software and is expressed in degrees. Small angles imply a close relationship. Angles approaching 90 indicate a chance relationship and angles approaching 180 indicate an inverse relationship (Smith, 1986).

It can be seen from table 6.4 that British respondent 1, that the list of constructs associated with the most stressed manager resembles those constructs associated with the most stressed employee. The key components of the perception of stress refer to poor management, personal and communication skills. Interestingly, only the least stressed manager is seen as not anxious about change. The other correlations on this construct with the most stressed manager and employee are close to 90 degrees, and so are uncorrelated with the construct.

Constructs	MANAGERS		EMPLOYEES		Contrasts
	1. Most stressed	2. Least stressed	3. Most stressed	4. Least stressed	
1. Good communicator	170.1	36	150.5	27.3	1. Being demanding, non-flexible
2. Clear goals that they follow	164.6	40.2	155	26.3	2. No goal setting, not being able to complete a task
3. Flexible. Open minded	160.6	25.4	160	26.4	3. Not flexible, does not like change
4. Copes with pressure	164.4	29	164	30.4	4. Does not like being pressured
5. Able to combine own priorities with management priorities	137.5	26.3	162.5	43.7	5. Totally unaware of management priorities, selfish
6. Self-disciplined and self motivated	164.4	29	164	30.4	6. Needs to be told everything, needs to be motivated
7. Look after people	163.1	29.5	155.7	33.2	7. Concerned by his own career and needs
8. Approachable	164.4	29	164	30.4	8. Close-minded.Bully
9. Leads by being an example	164.4	29	164	30.4	9. Leads by theory, demotivates
10. Persuasive and explains	159.4	34.9	160.8	32	10. Unconvincing, opposes his thoughts in a negative way
11. More anxious about change	97.9	116.5	71.7	69.1	11. Less anxious about change

Table 6.4 Correlations of constructs and elements expressed in degrees and calculated by Ingrid software, (Slater, 1966) for UK respondent 1. (Small angle indicate proximity of element to left-hand 'construct' column).

British manager case study 2:

Respondent 2 was male and worked in public industry. From the Ingrid analysis, the most and least distinctive constructs (table 6.5) elicited from this respondent are concerned with being active or passive in dealing with stress. The least distinctive element (table 6.6) was 'the least stressed employee', this respondent having difficulty in defining such a person.

Most distinctive constructs	
1. Makes stress obvious	17.58%
2. Does not talk about stress	17.58%
6. Jumps in and out	14.51%
8. Will take all the credit	13.85%
Least distinctive construct	
5. Sees problems only	5.93%

Table 6.5 The distinctive constructs of British respondent 2

Most distinctive elements	
3. The most stressed employee	42.57%
1. The most stressed manager	22.96%
Least distinctive element	
4. The least stressed employee	5.46%

Table 6.6 The distinctive elements of British respondent 2

The correlations between the elements and the constructs (table 6.7) for respondent 2 are similar to UK respondent 1 in differentiating the most to the least stressed person. However, the construct 'more anxious about change' has a low degree of correlations (14.4) and (23.4) with the most stressed manager and employee respectively indicating that they are perceived as anxious about stress. This result corroborates the interviews in that the respondents from the UK public industry were the ones describing change as particularly stressful. This perception differs from the previous respondent 1 (private industry) who remained undecided about this construct. The constructs associated with the most stressed manager and employee focused on problem-solving and communication skills deficits.

Constructs	MANAGERS		EMPLOYEES		Contrasts
	1. Most stressed	2. Least stressed	3. Most stressed	4. Least stressed	
1. Deals with stress	169.5	31.7	162.5	31.7	1. Makes stress obvious
2. Sits down and debriefs	169.5	31.7	162.5	31.7	2. Does not talk about stress
3. Deals with the problem	147.2	22.7	159.1	18.5	3. Moans all the time
4. Takes responsibility	151.9	48.3	163.4	31.5	4. Does not take the responsibility
5. More proactive	141.1	39.2	165.9	32.2	5. Sees problems only
6. Sees the problem as a puzzle to solve	139.1	37.1	135.8	37	6. Jumps in and out
7. Looks ahead to prevent the problem	162.1	46.6	154.6	45.4	7. Just discusses it with a cup of tea
8. Acknowledges with the staff the effort/involvement	161.3	31.5	171.5	28.8	8. Will take all the credit
9. More anxious about change	14.4	146.4	23.4	135.6	9. Less anxious about change

Table 6.7 Correlations of constructs and elements expressed in degrees and calculated by Ingrid software, (Slater, 1966) for UK respondent 2. (Small angle indicate proximity of element to left-hand 'construct' column).

French manager case study 3:

The respondent was male and worked in private industry. The most and least distinctive constructs (table 6.8) elicited from respondent 3 had to do with relations with others and skills. The element least (table 6.9) clearly rated was 'myself'.

Most distinctive constructs	
3. Wrong analysis of the environment	15.06%
4. Enthusiastic	15.06%
7. Cares about his team and listen	15.06%
Least distinctive construct	
2. Thinks about himself first before the organisation	6.17%

Table 6.8 The distinctive constructs of French respondent 3

Most distinctive elements	
1. The most stressed manager	20.81%
3. The most stressed employee	19.88%
4. The least stressed employee	16.45%
Least distinctive element	
5. Myself	5.57%

Table 6.9 The distinctive elements of French respondent 3

The correlations between the elements and the constructs (table 6.10) for French respondent 3 are different from previous UK respondents as they are weaker and reveal uncertainties from respondent 3. For example, construct 3 about 'the analysis of the environment', construct 4 'does not have true pleasure in his job' and construct 7 'does not listen to his team' are attributed equally to the most and the least stressed manager. Construct 2 relating to 'care of the customer' is linked with the most stressed employee and to a lesser extent with the most stressed manager. This finding suggests that the manager associated stress with a willingness for the person to make maximum effort in her/his job.

This finding has not been uncommon, especially among French managers' grids. A person who is not stressed is not always viewed as positive by the French managers. This result corroborates previous findings from interviews where some French managers explained how stress was seen as a source of motivation.

Constructs	MANAGERS		EMPLOYEES		Contrasts
	1. Most stressed	2. Least stressed	3. Most stressed	4. Least stressed	
1. Defines priorities	159.6	99.6	145.8	98.1	1. Does not define priorities
2. Cares about the customers' waiting list	72	135.7	57.7	166.2	2. Thinks himself first before the organisation
3. Wrong analysis of the environment	45.8	55.2	53.6	60.2	3. Takes into account all elements in the analysis of the environment
4. Does not have true pleasure in his job	45.8	55.2	53.6	60.2	4. Enthusiastic
5. Delegates to prepare for the future	163.1	65.9	167	64	5. Does everything himself to obtain the results
6. Has difficulty in giving information to the team	17.2	109.5	14.2	112.2	6. Is conscious of the importance of giving information to the team
7. Does not listen to his team	45.8	55.2	53.6	60.2	7. Cares about his team and listens
8. More anxious about change	38.3	132.9	33.2	132.2	8. Less anxious about change

Table 6.10 Correlations of constructs and elements expressed in degrees and calculated by Ingrid software, (Slater, 1966) for French respondent 3. (Small angle indicate proximity of element to left-hand 'construct' column).

French manager case study 4:

The respondent was male and worked in public industry. The most and least distinctive constructs (table 6.11) elicited from respondent 4 focused on personal qualities such as confidence and anxiety. There were no least distinctive constructs as the percentage of variation was similar with the remaining constructs (10.80). The element (table 6.12) 'myself' was rated in an indistinct way.

Most distinctive constructs		
1.	Less anxious about change	16%
2.	Does not accept criticisms	15%
3.	Takes wrong decision because of fear of wrong doing	12.40%

Table 6.11 The distinctive constructs of French respondent 4

Most distinctive elements		
1.	The most stressed manager	33.96%
3.	The most stressed employee	33.87%
Least distinctive element		
5.	Myself	1.44%

Table 6.12 The distinctive elements of French respondent 4

For this respondent, the correlations between the elements and the constructs (table 6.13) are clearly differentiated among the most and least stressed managers and employees. Inefficiency and lack of self-control are key associations with stress. Anxiety about change is also correlated with being stressed.

Constructs	MANAGERS		EMPLOYEES		Contrasts
	1. Most stressed	2. Least stressed	3. Most stressed	4. Least stressed	
1. Takes decision without anxiety or stress	167.8	24.8	167.3	31	1. Takes wrong decision because fear of wrong doing
2. Cares for the company's image	160	17.3	170.8	32.8	2. Inefficient
3. Manages without pressure	173.3	15.7	158.9	37.1	3. Imposes his views
4. Welcoming	159.1	20	173	20.4	4. Sour-tempered
5. Self-controlled	173.3	15.7	158.9	37.1	5. Very emotional
6. Creates a team spirit by increasing the standing of each person	167.8	24.8	167.3	31	6. Creates fear and a lack of initiatives
7. Not afraid of recognizing his weaknesses and errors	167.6	16.8	169.4	21.2	7. Does not accept criticisms
8. More anxious about change	13.9	158.4	13	157	8. Less anxious about change

Table 6.13 Correlations of constructs and elements expressed in degrees and calculated by Ingrid software, (Slater, 1966) for French respondent 4. (Small angle indicate proximity of element to left-hand 'construct' column).

IV.4 Stress and 'anxiety about change'

As previously seen in the case studies, there are different perceptions regarding 'anxiety about change'. Some associated it with the most stressed person, some did not. It seemed that managers from the public sector were particularly the ones associating change with stress, and more strongly so in one UK public organisation, which was undergoing major changes at that time. Therefore it was worth exploring in more depth the constructs that were strongly related to anxiety about change. This was investigated using Peter Honey's (1977) five step process of content analysis. The five steps were:

- 1. Numbering the grid forms
- 2. 'Scoring' of the forms
- 3. Extracting of the 'top' data
- 4. Extracting of the 'tail' data
- 5. Sorting and categorizing of the data.

Step 1:

In step one, each form was coded with the manager's identification on it (it could have been a code number) in order to sort the data in terms of groupings (here, French and British groups).

Step 2:

In step two, the percentage matching score between each construct on each grid and the supplied construct 'anxiety about change' was calculated and written onto the grid sheet below the relevant construct, so it appears as follows:

Less satisfied	1 2 2 3 5 2	More satisfied
83%		
Irritated	1 3 3 2 5 2	Calm
54%		

The calculation of the percentage, as explained by Jankowicz (1994), was done by taking the difference between the rating on the supplied construct and the elicited construct, summing across the elements:

Supplied construct	1 3 2 1 5 3
Elicited construct	1 2 2 3 5 2
Sum of differences	$0+1+0+2+0+1 = 4$

Calculating the % matching score, i.e. the sum of the differences as a percentage of the maximum possible difference: $\%MS = 100 - ((100 \times \text{Sum diff}) / (R-1) \times E)$, with R the maximum possible rating on the scale and E the number of elements.

In order to control for inverse rating, when the negative or positive construct has been put in the left or right column of the grid, there is a need to reverse the score polarity. Each rating on the elicited construct is subtracted from R+1, the construct polarity of the supplied construct is reversed and the % matching score computation is repeated as above. If the value obtained is greater than before, the new value is used.

Steps 3 and 4:

In the third and fourth step, the data are split into thirds representing their percentage score. The third of the data with the highest % scoring items are extracted, representing the top data. They are the most closely associated with most/least anxious about change (note that Honey proposes that the top data have the lowest % scoring items, but we suggest the opposite for ease of understanding). Another third of the data is extracted and represents a mid-range percentage (neither high nor low) indicating that the respondents did not have a strong view about the association between each construct and anxiety about change. This medium range is disregarded in the analysis. Finally the last third of the data is extracted and represents the lowest % scoring items which constitutes the tail data. They are least closely associated with anxiety about change.

Step 5:

According to Honey (1977), this step is crucial to making sense of the data. The top and tail data need to be sorted (separately) into categories. A second coder has

done the categorisation separately and a satisfactory Perreault-Leigh index of agreement has been obtained (above. 70).

Chi-square analyses reveal no significant differences between French and British managers in the categories of constructs associated with the construct of 'anxiety about change'. The most common constructs (table 6.14) associated with anxiety about change were related to the 'inner attitude' category determined by confidence, calm, control over emotions), to organisational skills such as problem solving, defining clear goals, planning, and to communication skills. These ingredients are perceived as important by managers as far as change is concerned.

Total constructs N= 112	France	UK
Inner Attitude (confident, calm etc.)	18	8
Organisation (problem solving, planning etc)	9	8
Commitment	9	4
Empathy	5	1
Communication	5	9
Experience	4	2
Motivation	4	3
Management style	4	6
Delegation	1	0
Means to manage	2	0
Coping Strategies	0	2
Causes of stress	0	3
Others	2	3

Table 6.14 Constructs associated with anxiety about change

V. Comments on the findings

The aim of this investigation was to explore differences in construing stress among British and French managers holding comparable jobs. It was expected that managers from the same cultural environment would share the same patterns of thinking regarding stress.

Similarities were found between French and British managers regarding the fact that the supplied construct, anxiety about change, was seen to be associated with the same themes. However, differences were shown in the types of constructs

managers used overall. For example, British managers were more likely to use coping strategies whereas French managers mentioned a lot of constructs referring to empathic attitude.

Confirming the patterns found in the socionets, British managers demonstrated a higher variability in their rating of the constructs associated with stress than the French did. This means that they had a less tight construing than the French managers. According to some research, this finding could be interpreted as an indication of the cognitive complexity of the respondents on the subject, i.e. they are able to discriminate more among situations.

The fact that the French managers had a common pattern of representation between themselves may indicate that either they have less knowledge on the subject (which would corroborate with the fact that they said during the interviews that they were not familiar with the term stress) or that their common perception reflects an organisational culture pattern.

The analyses of individual grids, especially from French respondent 3, reveal a feature that was also found in looking at some other French grids, that is that stress is being seen as positive, by which the attitude of a stressed manager could be justified. In other words if the manager is stressed, it is because he is doing a lot for the company or the customer. This could explain the reason for being stressed. This characteristic was also found in the British grids, but to a lesser extent.

The question about the validity and reliability of the findings needs to be asked at this stage. It is often argued that the findings are difficult to generalize, as what has been elicited from one respondent is difficult to compare with another.

One way of looking at the validity of the grids, according to Fransella and Bannister (1972) is through the patterns and relationships in the data. Kelly (1955) viewed the validity of a grid as the extent to which it would increase understanding.

During this research, some limitations of this technique have been encountered. The first limitation was that the technique was time consuming and required full

training to enable the researcher to feel confident asking managers to spend their time on this exercise.

The technique itself seems simple at first sight, but is rather complex. It involves constant judgment between the aim of the exercise and the responses of the participant on the spot. Participants expressed some difficulty in the fact that it was hard to rate the elements involving managers and employees on a same construct when the construct was more directed to one or the other. So their rating was close to the mean of the scale. This is a suggested technique but not encouraged. It would probably have been more useful to supply an element that would be a second manager that they know, rather than an employee.

Finally, the analysis of the results at group level was not easy as the choice of software for such analysis and opportunities for training was limited. However, the study results brought some new understanding about French and British managers' differences that were consistent with previous findings in the interviews.

VI. Conclusion

Several analyses at group and individual levels have been carried out and results show differences and, to a lesser extent, similarities between managers from both countries in their perception of a stress person at work and anxiety about change. French managers rated stress constructs in a more similar manner than the British managers, who had more variation in their rating. French managers mentioned more personal qualities in association with stress than the British did. Overall, constructs associated with anxiety about change were not differently perceived.

Having examined the perceptions of stress from French and British managers through two qualitative studies and having found similarities as well as differences, we will now try to confirm some of these differences through a quantitative study.

The next study will look at the differences in the levels of stress and how the characteristics of the work environment are associated with the managers' well-being.

Chapter Seven: Relationship between causes of stress, coping strategies and well-being among French and British managers

I. Introduction

In order to understand how aspects of work intervene in the stress process and affect the general well-being of individuals, the present quantitative study has been designed. It will look at whether the differences previously found among French and British managers' perceptions of job demand and relationships at work as being causes of stress are replicated in the same way in a larger sample of managers.

The study will also explore the individual aspects involved in the stress experience. Research has given evidence that variables such as coping strategies may alter the impact of the organizational stressors. This interacting or altering hypothesis will then be tested along with the stress levels among managers.

II. Background

The two previous qualitative studies showed that managers perceived stress to be linked with organizational aspects and with individuals' personality and abilities. Some of them mentioned ill health problems due to stress, but the direct link between a stressful environment and ill health problems was not clear-cut in managers' minds. One manager invoked strongly that the reasons for being stressed were due to personal problems at home. However, stress research has shown that work variables have important implications for the socio-psychological and physical health of individuals (Harrison, 1995).

Two of the major work characteristics responsible for stress among managers were the job demand or workload and relationships at work. Research has shown that these variables have main effects on health but also that these negative effects on health may be altered by the strategies people develop to cope with stress and the amount of support they receive in their job.

However, it always remains a challenge in stress studies to demonstrate that work is causing serious illness and injury, but moreover that the social organization of work also causes serious physical illness (Karasek and Theorell, 1990). Evidence of the presence of stress by job dissatisfaction is insufficient, according to the authors.

Quick et al., (1998) tried to answer the question "How can accidents, heart attacks and diabetes *all* be associated with something such as stress?" The link between stress and health can be measured either objectively or subjectively at several levels: physiological or psychological.

Steptoe (1991) explains the importance of measuring the physiological responses to stress. First, physiological pathways mediate many of the links between stress and illness. Second, they provide much objective evidence of the presence of stress than self-reports. The most commonly used outcomes according to Steptoe (1991) include parameters such as musculoskeletal parameters (e.g. muscle tension), neuroendocrine parameters (e.g. catecholamines), cardiovascular measures (heart rate, blood pressure) and immune-related parameters (e.g. immunoglobulins, lymphocytes).

As previously mentioned, several studies have shown the link between stress and cardiovascular disease (Karasek and Theorell, 1990). Alfredsson, Karasek and Theorell (1982) found that hectic work and low control over variety and work pace were associated with increased risk of myocardial infarction. Heart disease is responsible for 38% of male and 17% of female deaths among 35-64 year olds in England and Wales (Sutherland and Cooper, 1988).

Most studies on stress do not use physiological measures because the researchers do not have the qualifications necessary in this field, and would require a nurse or doctor who could meet each study participant for testing, making the process difficult to set up and expensive. Moreover, we agree with Lazarus and other researchers that the cognitive outcomes may be as valid as the physiological ones, if we define stress primarily as a perception or interpretation of a situation and the person's psychological state.

Psychological outcomes

According to Cox et al., (2000), the literature which describes the translation from a normal psychological reaction to events and to psychological illness is not well

formed. A wide range of psychological outcomes has been measured in stress studies. These include changes in cognition, emotion and behaviour. Health behaviours such as exercise, relaxation, sleep and diet are impaired by the stress experience and other health-risk behaviours such as smoking, drinking are enhanced. Also, irritability, attention span and memory can be affected (Cox et al., 2000).

The concept of well-being is often used to measure stress outcomes. Well-being refers to psychological and physical health including short-term affective and physiological outcomes and chronic, long term mental and physical functioning (Edwards et al., 2000).

Instruments that measure well-being include the General Health Questionnaire (GHQ) (Goldberg, 1978) and the General Well-Being Questionnaire (GWBQ) of Cox, Thirlaway, Gotts, & Cox, S. 1983). Because the use of the GHQ is ethically questionable in work environments and may be more appropriate in clinical settings, a scale of the GWBQ will be used in this study.

The GWBQ is a symptom checklist designed to measure suboptimum health over a period of six months. It refers to the feeling of being worn out and indicates the levels of fatigue and cognitive deficits and the feeling of being tense or uptight, which includes physical symptoms.

Ill health habits are also an indication of the level of stress, therefore questions about alcohol intake, cigarette smoking, and physical exercise are asked to managers. In addition to differences in stress levels, the moderating effects of coping strategies between job demand and outcomes will be examined. The separate effects of strategies are also worth looking at. Research has shown that focused strategies moderate the effects of stressful environment and more particularly that focus-problem strategies have a stronger positive impact on strain than emotion-focused strategies (Bhagat, Allie and Ford, 1995).

Stress then will then epitomized, not as a cause (stressor) or as a response (health or organizational outcomes), but as the relationship between the two. Sample equivalence and measurement similarity in both countries have been maintained in order to enhance the meaningfulness of the findings of the present study.

Hypotheses

As previously said, there are contradictory findings in previous research, regarding differences and similarities in stress between French and British managers. Our first qualitative study shows that differences exist in the perception of what causes stress at work. British managers seemed to explain stress primarily by their workload and short deadlines, i.e. job demand. French managers put more emphasis on relationships at work as a source of stress. Therefore the research hypotheses (Hypothesis 1 and Hypothesis 2) will test the stressors difference in order to validate previous qualitative findings.

Secondly, as Karasek and Theorell (1990) suggest, the evidence of the presence of stress by job dissatisfaction is insufficient, therefore there is a need to test the link between stressors and aspects of general well-being, i.e the main effects of job demand and relationship on well-being (Hypothesis 4 and Hypothesis 5).

Thirdly, our second qualitative study using repertory grids indicates that coping strategies used to deal with stress were more frequently mentioned by British managers. Also, British managers' views on stress were more diversified than those of the French managers as indicated in the sociograms. Moreover, as suggested by Aldwin (1994), Northern European cultures tend to prefer emotional control while in Latin European countries expression of emotions is expected. It is then worthwhile to test if managers deal differently with stress i.e. do they use more problem-solving or emotion-focused strategies to deal with stress and this influence their well-being (Hypothesis 3 and Hypothesis 7).

Finally, it is also expected (Hypothesis 6) that support will influence the relationship between job demands and outcomes as there is a large body of evidence supporting the buffering effect hypothesis.

EXPECTED DIFFERENCES/SIMILARITIES

Hypothesis 1: There will be a difference in the level of satisfaction of job demand. British managers will report a higher level of dissatisfaction in job demand than the French managers, as previous qualitative findings suggested.

Hypothesis 2: There will be a difference in the level of satisfaction with relationships at work (including conflicts). French managers will report higher levels of dissatisfaction than their British counterparts.

Hypothesis 3: There will be differences in the coping strategies used by managers in both countries with French managers more emotionally-oriented strategies than British managers as French belong to Latin cultures which are more permissive of expression of feelings and emotions than Anglo Saxon cultures.

EXPECTED MAIN EFFECTS ON OUTCOMES

Hypothesis 4: Job demands will have main effects on well-being and intention to leave the organisation for the British managers and to a lesser extent for French managers.

Hypothesis 5: Relationships at work will have main effects on well-being and intention to leave the organisation in the French sample only.

EXPECTED INTERACTION EFFECTS

Hypothesis 6: Support will moderate the relationship between job demands, and outcomes in both samples.

Hypothesis 7: Coping strategies will moderate the relationship between job demands and outcomes in both samples.

III. Methodology

III. 1 Sample

The sample included in the study was matched as much as possible in terms of age, gender, occupation, geographical area (Paris or London areas) and type of industry (transport and international courier service industry). Participants were managers

mostly from first level management or supervisors. They came from five organizations (three from France and two from the UK). A fifth organization has been added to these four, as the total participants to survey in one French organisation was very low. A matching sample was important for reducing sampling bias.

The whole sample comprises 156 managers: 62 from France and 94 from the UK. The French sample had 15 females and 46 males with a mean age of 36 years. The average length of service in the company was 12 years and tenure in the actual job was 4 years. In comparison, managers for the British sample were 15 females and 78 males with a mean age of 40 years. The average length of service in the company was 12 years and tenure in the current job was 4 years.

III. 2 Procedure

Data were collected by a structured questionnaire. In France 153 questionnaires were distributed among managers. 62 completed questionnaires were returned providing a response rate of 40.5 %. In the British sample, 260 questionnaires were distributed and 94 were returned, yielding a response rate of 36%.

The questionnaire has been translated into French by the present author and the translation checked by a professional translator. There was no time available at that stage of the study to do a back-translation as it would have been appropriate to do to eliminate items bias. However, one part of the questionnaire was already in French and English version, such as the coping strategies questionnaire (WCCL), and the other part was in an items check-list format keeping the questions very short to prevent misinterpretation. Finally, the French version of the GWBQ questionnaire was employed in a longitudinal study afterwards and indicated good psychometric properties and face validity.

The validity of the translation was tested in a pilot phase where some participants and senior managers gave comments about the wording of some items. Preliminary meetings were held with the human resources manager, senior managers, health and safety managers at their request, to introduce the survey and have their full support to launch the survey.

Questionnaires were then sent to the human resource manager or senior managers to be distributed internally. A prepaid envelope was provided to return the questionnaire directly to the researcher's Institute address.

III. 3 Measures

The choice of constructs to be included in the study was guided by both theoretical and practical considerations. Our previous findings and the desire from participating organisations to have a relatively short questionnaire determined its design.

The category items included work stressors derived from the Work Environment Satisfaction questionnaire developed by Cox and colleagues. This part of the questionnaire was a check-list of items where respondents were asked to evaluate how satisfactory they found each aspect of their work environment on a 5-point Likert-type scale (from 0 to 4). High scores indicated a high level of satisfaction. These scales consistently demonstrated good reliability (above .70) when used by Cox and colleagues.

Job demands

This scale included 5 items which were: workload, control over workload, variety, interesting task, possibility to concentrate without being disturbed.

Organisational support

Support included 6 items, which were: feedback, communication and support from supervisor, communication with senior management, information given during change, participation/consultation in decisions, which affect your job. Rather than social support, functional support was deemed a more appropriate dimension to investigate among this managerial population, given the fact that managers mentioned these aspects of support during the preliminary interviews.

Relationships at work

The scale chosen for this variable included 3 items that focused on cooperation and practical help from colleagues, quality of colleagues' work and conflict handling within the team.

Coping strategies

A revised version by Vitaliano et al., (1985) of the Ways of Coping Checklist (WCCL) from Folkman and Lazarus (1984) was used. It tapped two main dimensions of coping. One dimension includes problem-solving focused coping that deals with the direct management of the source of stress. The second dimension comprised emotion-focused coping that is centered on the regulation of stressful emotions (Vitaliano et al., 1985). As there was a need to shorten the present questionnaire at the request of the human resource managers of each company participating in the study, only four sub-scales out of five were administered to managers reducing the questionnaire from 29 items to 17 items. The 'wishful thinking' sub scale was omitted.

A first coping sub-scale included five items describing problem-focused aspects with items such as 'I made a plan of action and followed it'. 'I just took things one step at a time'. The other three sub-scales referred to emotionally focused strategies. One sub-scale referred to seeking social support with four items such as 'I accepted sympathy and understanding from someone'. Another sub-scale of coping dealt with avoidance and had five items such as: 'I kept my feelings to myself', 'I refused to believe it had happened'. The last sub-scale was about self-blame with three items such as 'I criticized or lectured myself', 'I felt guilty'. The rating scale indicated how much individuals used the strategy ranging from 0: no, 1: mostly no, 2: mostly yes, 3 yes.

Work values

Eleven work values selected from the Value Survey Module questionnaire (Hofstede, 1982 and 1984) employed a 5-point Likert-type scale (from 0 to 4). Higher scores denoted that the values were of utmost importance. Examples of values are job security, cooperation and relationships with supervisors. As previously explained in chapter three, values will be analyzed as single items, not as dimensions, because individuals of the same country do not have the same employer. With employees coming from different organizations, it is more difficult to fully control for the effects of organizational culture.

General Well-Being

A scale of worn out derived from the GWBQ included 12 items and relates more to the physical symptoms of being tense. The scale has been shown to have ample internal reliability, validity, and factor congruence (Cox et al., 1983). Participants state

how often they have experienced each of the 12 *worn out* symptoms on a 5-point scale ranging from 0 never to 4 all the time. Higher scores indicate poorer health.

Intention to leave the organisation

One single item was used to test in a yes/no format, if managers had the opportunity to change job and leave the organisation, would they do so? 'No' was coded 1 and 'yes' was coded 2'. It is not commonly accepted to have a single item to measure a construct, because misinterpretation is more likely to occur than with the use of several questions tapping one dimension. However this item was judged clear enough to stand on its own.

Background information

Managers were asked for details of their job position, length of employment in their organisation, tenure in the current job, the number of people they had to supervise, number of hours worked per week, days of absence in the last six months, age and gender.

Other questions have been asked (see questionnaire in the appendix) to the participants but have not been included in the present work because of their lack of psychometric properties.

Pilot testing

The questionnaire was sent to the contact person in each organization for comments, and feedback. The length of the questionnaire was seen as an obstacle in three organizations out of four, therefore questions have been deleted in order to ensure a better response rate.

III. 4 Data analysis

Descriptive and multivariate statistical analyses have been performed on the data. In order to perform hierarchical regression analyses, assumptions of normality, linearity and homoscedasticity of the data distribution were met. The minimum ratio of cases to independent variables is 5:1 i.e 5 cases for one variable. Although Tabachnick and Fidell (1989) advocate that "if either standard multiple or hierarchical regression is used, one would like to have 20 times more cases than IVs", the authors also suggest

that the "bare requirement is to have at least 5 times more cases than IVs". In our study, we met the minimum required ratio. As significant correlations were found between the variables, it was possible to undertake regression analyses.

Moderators and mediators analyses

In order to undertake moderator or mediator analyses, Baron and Kenny (1986) give advice on how we can statistically distinguish the variables that are moderators or mediators. A moderator (e.g. coping strategies) is defined as a second independent variable, which has a differential impact on the dependent variable (e.g. well-being). It interacts with the predictor (e.g. workload) to determine when and under which circumstances the outcome is affected. Moderator effects occur when there is a statistically significant interaction indicating that the effects of the presumed moderator on outcomes differ as a function of the level of the moderator variable. It is desirable that the moderator be uncorrelated with both the predictor and the dependent variable.

A mediator variable, as the name implies, is the transmitter of the effects of the independent variable on outcomes. Mediators explain how or why effects occur. Because the independent variable is assumed to cause the mediator, these two variables should be correlated (Baron and Kenny, 1986).

IV. Results

Descriptive statistics

The means, standard deviations (SD in parenthesis) and alpha reliability coefficients of variables are presented in table 7.1 below.

	FRANCE	UK	FR.	UK
Variables	Mean & SD	Mean & SD	Alpha	Alpha
Job Demand (5 items)	11.35 (2.80)	11.51(3.53)	.60	.79
Relationships at work (3 items)	7.06 (2.38)	7.72 (2.12)	.82	.71
Organisational Support (6 items)	13.17 (4.47)	12.79 (5.39)	.86	.88
Coping Strategies (overall) (17 items)	26.41(5.65)	24.78 (5.45)	.65	.56
Problem-focused	10.73 (2.09)	10.17 (2.03)	.54	.41
Seeking Social Support	8.01 (2.47)	7.23 (2.30)	.60	.52
Self-blame	3.19 (2.23)	2.64 (1.94)	.73	.57
Avoidance	4.22 (2.49)	4.77 (2.81)	.39	.40
General well-being (12 items)	19.90 (6.26)	19.55 (7.77)	.81	.86
Intention to Quit (1 item)	1.39 (.49)	1.51 (.50)	-	-
Work values (overall 11 items)	33.99 (3.97)	34 (4.30)	.72	.71
1. Have sufficient time left for your personal or family life	3.26 (.68)	3.50 (.56)	-	-
2. Have challenging tasks to do, from which you can get a personal sense of accomplishment	3.23 (.74)	3.16 (.65)	-	-
3. Have a good working relationship with your direct supervisor	3.21 (.63)	3.33 (.60)	-	-
4. Have security of employment	2.95 (.93)	3.42 (.66)	-	-
5. Have considerable freedom to adopt your own approach to the job	3.10 (.76)	3.03 (.76)	-	-
6. Work with people who cooperate well with one another	3.40 (.61)	3.20 (.68)	-	-
7. Be consulted by your immediate manager in his/her decisions	3.16 (.73)	2.94 (.67)	-	-
8. Make a real contribution to the success of your company	3.13 (.66)	3.18 (.59)	-	-
9. Have an opportunity for advancement to higher level jobs	3.23 (.71)	2.97 (.89)	-	-
10. Work in a prestigious organisation	2.18 (1.09)	2.55 (1.02)	-	-
11. Work in a well-defined job situation where the requirements are clear	3.13 (.64)	2.89 (.80)	-	-

Table 7.1 Means, Standard deviations and reliability coefficients

The Cronbach reliability coefficient of all scales used was calculated. It indicates the degree of internal consistency of the items making up the scale. Most reliabilities were acceptable. A reliability coefficient of 0.70 or above is commonly judged as being satisfactory (Nunally, 1978).

The scale of job demand for the French sample was below .70, but was not judged as being a major obstacle for further use of this scale. The scale of coping was also below .70 in both samples. This type of coefficient level for coping is usually found in coping studies (e.g. Sinha, 2000; Bhagat et al., 1995). Vitaliano et al., (1985) indicate that some researchers have argued that coping behavior is situation-specific and as such, within-subject consistency and inter-item correlations (i.e. coefficient alpha, Cronbach, 1951) of coping behavior should not be too high (Cone, 1977; McFall, 1977, Alwin, 1994).

The variables used in this study had acceptable levels of kurtosis and skewness reflecting a normal distribution of scores and therefore allowing the use of parametric tests.

Differences between French and British managers

Results (table 7.1) show that the level of satisfaction regarding job demand was just above the average of the scale in both samples. UK sample mean was 11.51, (SD = 3.53), France sample mean was 11.35 (SD = 2.80). Independent t-test analyses reveal no significant differences between the two samples, therefore, hypothesis 1 stating that British managers will be more dissatisfied with job demand than the French managers was not confirmed.

Hypothesis 2, which stated that only French managers would perceive dissatisfaction with relationships at work (including conflicts) as dissatisfactory, was partially confirmed. Relationships at work were perceived as being satisfactory in both samples. The British sample mean was = 7.72, (SD = 2.12) and the French sample mean was = 7.06, (SD = 2.38). There were no significant differences found between the means.

However, within this scale, when the specific item related to conflicts was examined separately (table 7.2) , it was found below the scale mean for the French managers

(mean = 1.98, SD = 1.03) and above the scale mean for the British managers (mean = 2.38, SD = .99), indicating a significant difference ($t = 2.514$, $p < .014$). This may partly confirm our hypothesis that relationships at work are more an issue for French managers than British ones, particularly on conflicts aspects.

	FRANCE	UK	Differences	
	Mean & SD	Mean & SD	t -test	p value
Satisfaction about how conflicts are handled in your team or unit.	1.98 (1.03)	2.38 (.99)	2.514	0.014

Table 7.2 Differences between countries on the level of satisfaction about 'conflicts'

To test hypothesis 3 on the differences in coping strategies, an analysis on the sub-scale emotion-focused and problem-focused coping has been carried out (table 7.3). A marginal difference was found on the sub-scale seeking social support ($t = -1.967$, $p < .051$). Although this difference was not significant, it was so close to significance that it may be argued that French managers are more likely to use emotion-focused coping than British managers. Problem-focused strategies were used more than emotion-focused coping strategies in both samples, self-blame and avoidance strategies were the least used strategies in both samples. The fact that problem-focused strategies were the most commonly used strategies confirmed Lazarus' argument about the fact that this occurs when coping is evaluated in specific context.

	FRANCE	UK	Differences	
Variables	Mean & SD	Mean & SD	t -test	p value
Problem-focused	10.73 (2.09)	10.17 (2.04)	-	-
Seeking Social Support	8.01 (2.47)	7.23 (2.30)	-1.967	.051
Self-blame	3.19 (2.23)	2.64 (1.94)	-	-
Avoidance	4.22 (2.49)	4.77 (2.81)	-	-

Table 7.3. Differences between countries on coping strategies sub-scales.

No differences were found on outcomes, i.e intention to quit and general well-being. The level of intention to quit was lower in the French sample (61% had no intention to

quit) than in the British sample (49% had no intention to quit) but this difference did not reach statistical significance. The mean of well-being in the UK sample was 19.55 (SD = 7.77), and the mean of the French sample was 19.9 (SD = 6.26).

No statistical differences were found on work hours per week. On average, British managers worked 44.7 hours per week (SD = 6.73), with 31.2% of them working above 48 hours a week. French managers worked 42.7 hours per week (SD = 6.71), with only 16.7% of them working more than 48 hours a week.

Work values have been analyzed separately, not as a particular dimension, and revealed that British managers scored higher on individualistic values than the French did, replicating previous findings from Hofstede (1980, 1984). When we tried to aggregate items in an individualism dimension we obtained a very poor reliability coefficient. No further analyses such as correlations or regression analyses could be done on this dimension or single items. Therefore we could only infer the presence of differences in cultural work values among French and British managers, as most surveys do.

Correlations analyses

Pearson correlations were computed to test the relationships between stressors and the dependent variables. These correlations are presented in table 7.4 for both samples. Well-being was positively correlated with intention to leave in both samples, British managers (.304) and French managers (.315). The more worn out managers were, the more they had the intention to change job and leave the organisation.

In the British sample, all work characteristics i.e job demand (-.448) and organisational support (-.341) correlated with well-being except for relationships at work, the highest correlation being job demand. The more satisfactory job demand and support were perceived, the less British managers reported levels of worn out.

Similarly, in the French sample, all work characteristics correlated with well-being except relationships at work, with job demand (-.455) and support (-.435) respectively.

The work characteristics correlated differently in both samples on the second outcome i.e. intention to leave the organisation. In the British sample, all correlated except relationships at work. Job demand (-.283) and job support (-.431) having the highest correlation.

In the French sample, there was a different picture. Job demands (-.303) and relationships at work (-.278) were negatively correlated with the intention to quit but job support was not. The more French managers were satisfied with job demands and relationships at work, the less they reported their intention to quit the organisation. This confirms the importance of interpersonal relations for the French sample.

Days of absence correlated with job support in the British sample (-.235), indicating that the more absent managers were, the less support they perceived. Interestingly, the more absent they were, the more they employed avoidance coping strategies (.224).

Correlations between outcomes

As could be expected, intention to leave and well-being were correlated, suggesting that the level of stress may influence the intention to quit or vice versa, as correlations do not indicate causation.

Correlations between stressors and coping

In the UK sample, the correlation between problem-focused coping and job support was the highest correlation (.439) among coping and stressors, indicating that the more managers perceived having support in their job, the more they dealt with stressful situations employing problem solving methods.

In the French sample, the correlation between problem-focused coping and job demand was the single significant correlation among coping strategies and stressors (.326), indicating that the more satisfied managers were with the demands in their job, the more they were using problem-solving methods.

	1	2	3	4	5	6	7	8	9	10	11
1. Job demand		.285*	.574**	.326*	.166	.199	-.026	-.218	-.455**	-.303*	-.103
2. Relations	.336**		.400**	-.043	-.026	.162	.013	.065	-.241	-.278*	-.052
3. Support	.535**	.536**		.146	.221	.205	.029	.033	-.435**	-.211	-.030
4. Problem coping	.309**	.299**	.439**		.313*	.004	.040	-.100	-.272*	-.169	-.132
5. Support coping	.087	.326**	.229*	.349**		.181	.297*	.028	-.011	.096	-.147
6. Avoid coping	-.004	-.162	-.122	-.037	-.024		.169	-.077	.108	.118	.072
7. Blamed coping	.033	.030	.029	.134	.147	.272*		.006	.113	.112	-.036
8. Alcohol intake	.150	.052	.094	-.224*	-.002	.028	.220*		.167	.194	.094
9. Decreased Well-being (Worn out)	-.448**	-.149	-.341**	-.313**	.037	.300**	.363**	.354**		.315*	.145
10. Int. to leave	-.283**	-.178	-.431**	-.120	-.002	.157	.082	.010	.304**		.243
11. Absence	-.124	.031	-.235*	-.118	-.113	.224*	-.151	-.191	.096	.172	

Table 7.4 Pearson product-moment correlations of variables for both samples (Correlations of the French sample are in the upper right triangle) *p<.05, **p<.01

Correlations between outcomes and coping

In both samples, problem-focused coping strategies correlated negatively with well-being, for UK (- .313) and for France (- .272). The more managers use problem focused strategies, the less they report worn out symptoms. Two other types of coping strategies were positively correlated with feeling worn out in the UK sample only. These were avoidance (.30) and blamed self (.363). The more managers used these strategies, the more they reported worn out symptoms.

Regression analyses

A series of regression analyses has been performed to test for the main and interactive effects on outcomes. Only significant effects are reported in tables 7.5 and 7.6 below. Gender and age are necessary factors to control, as research shows that differences exist in stress studies, so these variables have been entered at step one in the regression, followed by the independent variable at step two. Each independent variable has been entered separately in the regression analyses after the control variables.

MAIN EFFECTS

Hypothesis 4 which stated that job demands will have main effects on well-being and intention to leave the organisation for British managers and, to a lesser extent for the French, was confirmed. Regression analyses reported in table 7.5 show that job demand had main effect on well-being and intention to leave in the British sample. It had main effect also for the French sample but no effect on intention to quit.

Hypothesis 5 stating that relationships will have main effects, particularly in the French sample, was partially confirmed. There were no effects in the British sample as expected. There were main effects only on intention to leave in the French sample and no effects on well-being.

	Regression coefficient on variable outcome <i>Well-being</i> (worn out)				
	Country	Adjusted R2	R2 change	Beta	t & sign.
Job Demand	France	.206	.148	-.410	-3.258**
Job Demand	UK	.185	.209	-.460	-4.725**
Org. Support	France	.159	.103	-.336	-2.643*
Org. Support	UK	.089	.117	-.344	-3.341**
Pb-coping	UK	.071	.100	-.317	-3.039**
Blame-self	UK	.105	.132	.367	3.584**
Avoidance	UK	.094	.086	.296	2.795**

Table 7. 5 Regression coefficient showing the relationship between stressors, coping and well-being (* p<0.05 ; ** p<0.01).

	Regression coefficient on variable outcome <i>Intention to quit</i>				
	Country	Adjusted R2	R2 change	Beta	t & sign.
Job Demand	UK	.191	.159	-.403	-4.211**
Job Demand	France	.151	.127	-.375	-2.925**
Org. Support	UK	.210	.175	-.420	-4.462**
Org. Support	France	.108	.087	-.307	-2.355**
Relations	France	.096	.076	-.276	-2.185*

Table 7.6 Regression coefficient showing the relationship between stressors and intention to leave the organisation. (* p<0.05 ; ** p<0.01)

Finally, problem-focused strategies were revealed to be important for managers' health. Main effects of this type of strategy were found on well-being in the British sample. This indicates that managers who use problem-solving strategies are less likely to report feelings of being worn out. On the other hand, blame and avoidance coping strategies also had main effects on well-being, indicating that managers who use these strategies are more likely to report worn out symptoms. It has also been found that coping strategies correlated with health behaviours such as alcohol intake and smoking cigarettes.

In the French sample, there was also a correlation between problem-focused coping but no main effect on worn out.

INTERACTION EFFECTS

Contrary to the expectations stated in hypotheses 6 and 7, there were no interaction effects of organisational support or coping on the relationship between job demands and outcomes. One probable cause for the lack of interaction effects could be the small sample size.

V. Discussion

The major findings of the present study are that there were no differences in stress levels on work features among French and British managers. Contrary to expectations from hypotheses 1 and 2, British managers were not dissatisfied with their job demands and the French managers were not dissatisfied with the relationships on the whole, as previously found in interviews.

These contradictory results prove the importance of surveying a larger group of respondents in order to get a clear picture about stress issues. However, this also means that individual differences exist and individual measures, as well as group measures, need to be implemented in order to meet employees' needs.

If there were no differences in levels of stress between French and British samples, there were differences in the prediction of well-being, partially confirming hypotheses 4 and 5. In the UK sample, job demand was a significant predictor of well-being with job demand being the highest predictor in the UK sample, and to a lesser extent for French managers.

There was a difference in the main effect that relationships had on intention to leave the organisation. Only in the French sample, were these latter effects found. This may indicate that the aspect of relationships at work is a definite distinctive work feature in some French businesses. It is worth noting that the item 'satisfaction with conflicts' had a significant difference. French managers were less satisfied than the British

managers on this issue. However, it would be unwise to draw a definitive conclusion based on one item difference. It can only be taken as a tentative explanation. A more precise scale including items on conflict should be used to test further this suggested Franco-British difference.

These findings demonstrate that organisational causes of stress affect managers' well-being differently in the French and British samples. It is worth noting that overall, all correlations obtained between stress and health outcomes were not very high, accounting for less than 50% of the variance in the outcome variable.

This result is not surprising in stress research, as argued by Aldwin (1994), who notes that "the correlations between stress and health outcomes are typically in the .20s and .30s and that it is a positive finding, because it suggests as a species that we are rather resilient to stress. Unlike some laboratory rats, we tend not to become ill at the slightest bit of adversity!" However, the author concludes, "the relatively modest relation between stress and health increases the difficulty in establishing a definitive causal relation between a stressor and a particular disease, because not everyone who experiences stress will become ill".

The fact that no interaction effects of job support and coping strategies were found, as predicted in hypotheses 6 and 7, can be due to the small sample size but also to the fact that the measuring instrument needed to be more specific and should have related more closely to the particular work situation of the managers, consequently being more meaningful for them.

Coping strategies

Findings indicate weak evidence that individual strategies for coping with stress may differ in both national samples. Problem-focused and seeking social support strategies were the most employed ways of coping with a stressful situation. Avoidance coping and blamed-self strategies were not used as much by managers. A marginal difference was found on seeking social support indicating that French managers would use this type of strategy more than their British counterparts. However, it would be inappropriate to conclude that French managers used more emotionally oriented

coping strategies, as marginal differences were found only in one sub-scale out of 3 representing emotional aspects of coping.

If there was no evidence that ways of coping, either problem-focused or emotion-focused, alter the effects of job demands on well-being, there was evidence among British managers that problem-focused strategies were negatively correlated with unhealthy habits such as number of units of alcohol intake (-.224). In turn, these habits were positively correlated with the feeling of being worn out (.354).

In studies of coping effectiveness, 'successful coping' is interpreted as the strategy associated with the fewest psychological symptoms under stress (Folkman and Lazarus, 1980). Researchers using the problem and emotion-focused coping measurement to look at the link between coping strategies and psychological symptoms, deduce the effectiveness of coping strategies.

However, there are inconsistencies among studies as to what can be considered an effective coping strategy (Oakland and Ostell, 1996). For example, the authors cite Aldwin and Revenson (1987) and Folkman and Lazarus (1986), who found that avoidance and denial were more strongly related to poorer psychological symptoms. Others such as Hamburg and Adams (1967) found that avoidance had positive outcomes in severely injured patients. Similarly confronting coping is adaptive in some studies (Rogestine, Van Kammen, Fox, Docherty, Rosenblatt, Boyhd and Bunney, 1979) but not in others (Folkman and Lazarus, 1986).

There is, in general, a tendency to view emotional-coping strategies as related to negative outcomes, whereas problem-focused tends to function as a stress-buffer. In the present study, there was evidence that problem-focused strategies had a positive impact on well-being and strategies dealing with emotions, though social support had a negative impact.

Limitations of the findings and further research

The findings of this study have some limitations. First, the fact that the study is cross-sectional, does not inform fully on how people perceive and cope with stress over the

long term and prevents the identification of causal effects. It only gives a picture at one time period. Further research employing a longitudinal design is necessary.

Another limitation is that sample-specific measures do not allow the assessment of the levels of job properties according to Haynes, Wall, Bolden and Rick (1999). There is no way to determine whether scores defined as high (or low) in one study are equivalent to those in another. For this purpose, norms should be used (Haynes et al., 1999). The present findings are therefore an indication of stress levels that needs to be further tested. To be able to use norms, a larger and representative sample of organisations in each country is needed, which was beyond the resources of this PhD thesis.

Although we could not demonstrate the construct validity of our findings, due to the small sample size, that prevented us from performing factor analysis or confirmatory analysis, Cronbach and Meehl (1955) have argued that one form of evidence for the construct validity of a measure is the successful prediction of associations between theoretically related variables. For example, the transactional model of stress would predict that coping strategies should be related to one's appraisal of stressors and one's responses to stressors (Vitaliano et al., 1985), which is the case in the present study. Most of the coping strategies correlated with job demand and well-being in both samples and had main effect in the UK sample.

Further research is needed to investigate how people cope with stress. The present findings highlight the use of coping strategies that were very broad. It may be worth looking at specific coping resources inherent to the specific context of work individuals are in, and that may determine their impact on well-being.

Also, evaluating these resources in a more controlled manner with pre-post test measures and a control group, will perhaps inform us more about how people cope with stress. This will be our focus in the next study that could not be carried out in a cross-cultural context, therefore no cultural differences will be examined but simply the hypothesis that specific coping resources may affect well-being.

VI. Conclusion

This study was an exploration of the types of causes of stress that impinge managers' well-being and what types of coping strategies French and British managers will use to reduce stress. Findings suggest that while job demand may be a predictor of well-being in both French and British samples, relationships at work may affect more French managers. They provide support to the relationship between stressors and ill health.

The strategies used to cope with stress were almost similar in both samples. There was a marginal difference revealing that French managers used more social support strategies to face a stressful situation. This may be an indication of cultural differences but needs to be further tested. The next study will investigate more fully the ways people cope with the demands placed on them, by looking at the role of their coping resources.

Chapter Eight: Effects of job demand and coping resources on well-being: a case study

I. Introduction

The present case-study is an in-depth exploration of the effects of job demand and coping on well-being. In the last study, problem-focus and seeking social support as coping strategies were correlated with well-being in the French sample and problem-focus had main effects on well-being in the British sample. Although this typology of coping strategies may be interesting, it is perhaps more informative to look at the specific tools individuals use to cope with stress and, in particular, the resources they have available at hand, such as their abilities, confidence and skills, and the support they receive from their employer to meet the demands of their job. As Leiter (2000) suggests, professional ability and skills are fundamental tools to cope with job demand.

This chapter describes the research model, design and methods used to test job demand and enhanced coping resources in a call center environment of a theme park industry in France. The study was originally planned to be carried out in a French and British cultural context, as cultural differences may influence how people perceive support and use their coping resources. However, due to organisational changes within the company, in the midst of the research process, the possibility to carry out the research in the second country was no longer available. Nevertheless, it was thought viable to continue the research in a single country with a sample of French managers and employees, as the aim was first to test the hypothesis regarding coping, not about a population difference. The latter can be tested in further research.

II. Background

Research shows the importance of possessing coping resources in reducing the effects of stress (Kirmeyer, 1988; Ospow and Davis, 1988; Parkes, 1994) or reducing job

demands. Leiter (2000) suggests that the transactional model of stress allows for diverse perspectives on coping strategies by considering stress as an appraised imbalance of demands over resources (Cox, 1978; Lazarus and Folkman, 1984). "In the most general sense, coping involves reducing demand, increasing resources or some combination of the two. While strategies that enhance resources may encompass the acquisition of material resources, they may primarily involve increasing skills or gaining confidence in existing abilities" (Leiter, 2000).

Coping resources incorporate a range of strategies and tools for dealing with stress (Parkes, 1994) and include cognitive or behavioural aspects or the seeking of social support (Ospow and Spokane, 1987). Payne (1991) suggests that there is an a priori case for arguing that cognitive abilities influence the experience of everyday stress and the way people deal with it. However, empirical investigations of this kind are relatively rare in the literature though the evidence is strong enough to suggest that cognitive abilities may be just as important as other individual difference variables in predicting and explaining stress. It would seem that clever people cope better on average (Payne, 1991).

Self-efficacy can also be regarded as a possible coping resource. Bandura (1977) found that people who are confident of their capacity to apply effective coping responses are less likely to experience stress when encountering demands.

One way of enhancing skills and ability can be through training. Cox et al., (2000) support this view as one possible way to alleviate stress, arguing that "...given current knowledge of the relationship between work hazards and stress, approaches (among others) based on workers training in order to increase their work ability are also possible...".

"Despite the importance of training to the individual coping capacity...the provision of training is often overlooked either in its quantity or quality" (Leiter, 2000). While it is usually believed that specific stress-oriented training interventions, whether individually or organisationally oriented, would reduce employees' stress, it is rarely

hypothesized that a training intervention, not meant to reduce stress in the first place but to enhance abilities and skills, could well reduce stress levels.

However, if training is necessary to develop skills, the context in which these skills are performed is crucial. There is ample evidence that when social support and more particularly support from management is available, the perception of stress decreases (Terry, Nielsen and Perchard, 1993). Managerial support can refer to regular feedback, communication with supervisor but also to more formal coaching sessions.

Leiter (2000) gives value to individual coaching sessions in addition to training as a possible way of enhancing coping resources and argues "that individual coaching supplements formal training as a means of enhancing occupational skills. It is a resource-intensive form of training that consumes expertise for a small audience. Yet, it is one with special benefits for individual coping capacity. Through one to one exchanges mentors may adapt teaching to the specific problems that individuals encounter while attempting to apply developing skills to a novel situation. This form of instruction is particularly appropriate to the specific application of a complex skill".

Training and coaching will be tested in the present study to see how they extend the coping capacity of individuals. The work environment where the study took place was the Customer Reservations Operations of an international theme park organisation.

Context of the evaluation

Before the training sessions took place, the training needs were sought by the external consultants to tailor the content of the training. The training needs expressed by the management were to increase the ability of the sales people to sell products and services. There were no explicit objectives to reduce stress and improve well-being of the sales agents. A tailor-made intervention, which included a sales training, was then devised. The intervention comprised four phases:

The first phase was a preparation phase, during which a Steering Group was created, whose role was to coordinate the work of various focus groups and to validate the final

decisions. A variety of people were involved in the Steering Group, including several sales agents, team leaders, the training director, the management and the external consultants. The task of each focus group was to help redefine the company's products and services in order to offer customers a clearer understanding of the services.

The second phase was to design a specific sales model. Following the work of the focus groups, the consultant was able to bring together the important selling points that the sales agents should not miss in their dialogue with the customer.

The evaluation of the sales model constituted the third phase. The validation of the sales model was performed through a pre-post test design with a control group that included 30 sales agents and was done by the external consultant. The results indicated that as a result of training, participants were able to increase their performance results. It was then decided that the content of the training was appropriate and ready to be delivered to more sales agents.

The fourth phase consisted of the delivery of the training, followed by coaching sessions. The training was delivered to more than 150 agents, 18 team leaders and some employees from other departments. It is worth noting that the training had different formats. There was a two-day training for sales agents from most services and a two-day training plus a third day for agents dealing mostly with clients' reservations. Finally, team leaders received a three-day training including not only sales techniques, but also some coaching techniques. Team leaders also received individual coaching sessions from the external consultant. Sales agents had more or less regular coaching and monitoring sessions from their team leaders before and after training.

We approached the management of the department to offer an evaluation of the effectiveness of their training, stating that our research aim was primary to evaluate stress at work and therefore questions about well-being would be asked to sales agents. The management and the external consultant agreed to this proposal. The study with this company lasted from May 1999 until September 2000.

III. Research model and hypotheses

Jerusalem (1993) suggests that individual coping strategies or "resource factors are merely taken as predictors of each of the criteria separately, whereas the complex network of hypothesized relations and mediating processes between personal resources, environmental constraints, stress perceptions and coping strategies, and health outcomes have not been empirically tested as a whole within a common model structure". The present study is an attempt to validate a theoretical model (figure 8.1) that will include individual, organisational coping resources, their main and interactive effects on well-being and the impact of job demand, either subjective or objective, on well-being.

The research model posits that individual and organisational coping resources will increase after a training and coaching programme. Individual resources such as self-efficacy are usually found to be increased after training, as participants change their beliefs and are more confident in achieving their goals. Cognitive ability is expected to enhance, as participants will acquire more knowledge about selling techniques. Finally, skills enhancement is also expected as a result of training coupled with coaching sessions, as managers trained the sales agents in the field on how to answer properly to a client.

Therefore hypothesis 1 states that Individual Coping Resources (Cognitive ability, professional skills, self-efficacy) will be higher after training.

The enhancement of organisational factors is as important as the enhancement of individual resources in influencing the perception of job demand and well-being. The training and coaching sessions are expected to bring more positive perceptions of support and resources.

Hypothesis 2 will be that Organisational Coping Resources (Managerial support, and organisational resources) will be better perceived after training.

Given that both the ICR and OCR are enhancement through training (and this will be measured through a quasi-experiment design), the assumption will then be that the extent to which participants have improved their own knowledge, skills and self-efficacy (ICR) and the extent to which the organisational environment (OCR) is supportive, both will influence their well-being, hence hypotheses 3 and 4.

Hypothesis 3: Individual Coping Resources will have main effects on well-being after training.

Hypothesis 4: Organisational Coping Resources will have main effects on well-being after training.

The model also predicts that job demand will have direct effects on well-being as objective job demand, epitomized by the number of calls sales agents are required to take per day, would slightly decrease. The number of calls per day was a subject of debate in the organisation. Most call centers have the tendency to maximize the number of calls and reduce the length of the call. However, what was taught during the sales training was how to listen carefully to the client's questions and the sales technique required spending more time per call. There was then an optimum number of calls per day that a sales agent should take in order to get a good conversion rate i.e. converting a call into a sale.

Sales agents would not have to care about the quantity (although a number of calls per day is expected) but would pay attention on the quality of the call. Therefore the hypothesis that subjective job demand would be perceived as more positive may have a direct effect on well-being.

Hypothesis 5: Objective and subjective job demand will have direct effects on well-being after training as job demand is expected to become more qualitative.

These influences may act in a direct way or act as moderating or mediating factors, as postulated by the transactional model of Lazarus and Folkman (1986). For example, the negative effect of job demand on well-being may simply be 'under control' by the fact that people equipped with more knowledge, being more confident, receiving at the same time more managerial support would deal better with the demand and 'protect' their general well-being. These processes will give the following hypotheses:

Hypothesis 6 is that Individual Coping Resources will moderate the relationship between job demand and well-being after training.

Hypothesis 7 is that Organisational Coping Resources will moderate the relationship between job demand and well-being after training.

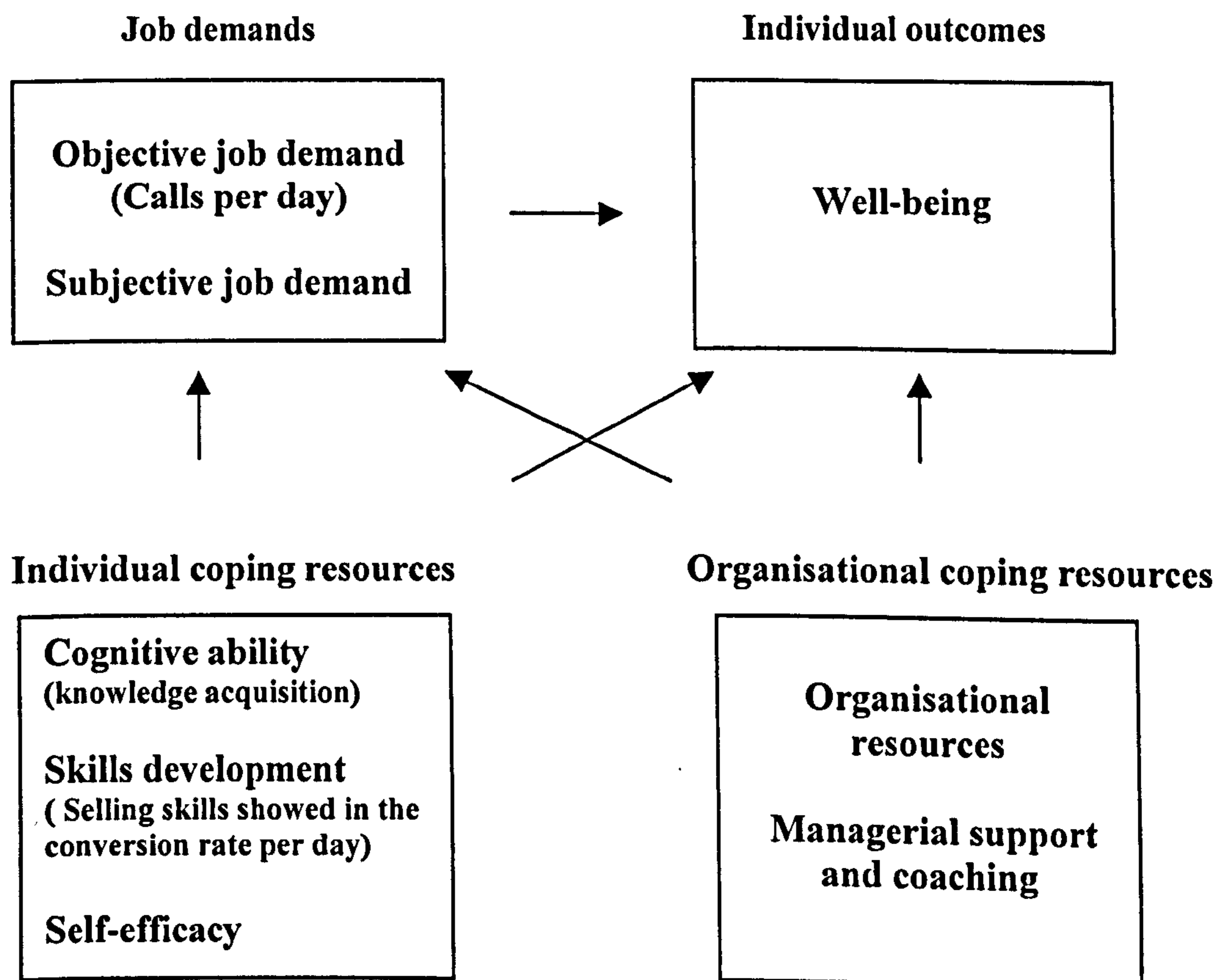


Figure 8.1 Coping resources and stress model

IV. Methodology

IV.1 Research designs

Two designs have been used for this case study, a pre-post test design and a quasi-experiment design. The first one is particularly relevant to test the research hypothesis, the second was used to test the effectiveness of training at the request of the client.

Pre-post test design

The pre-post design included an evaluation on 3 separate occasions, i.e. a pretest before the training (pre-training), a posttest just after the training (post-training) and a follow-up test 9 weeks after the training.

	PRE TRAINING Time 1	POST TRAINING Time 2	FOLLOW UP Time 3
Training reactions	Pre training	Post training	Follow-up
Job Demands			
Subjective job demand	Pre training	N/A	Follow-up
Objective job demand (Number of calls per day)	Pre training	N/A	Follow-up
Individual Coping Resources			
Cognitive ability	Pre training	Post training	Follow-up
Professional skills (number of sales per day)	Pre training	N/A	Follow-up
Self-efficacy	Pre training	N/A	Follow-up
Organisational Coping Resources			
Managerial support and coaching	Pre training	N/A	Follow-up
Organisational resources	Pre training	N/A	Follow-up
Number of coaching sessions	Pre training	N/A	Follow-up
Outcomes			
General well-being	Pre training	N/A	Follow-up

Table 8.1 Longitudinal design pre-post tests and follow-up.

Not all the measures have been taken 3 times (see table). For example, it was not appropriate to ask participants to complete the well-being questionnaire 2 days after they had completed it. The scores would have been meaningless.

Quasi-experimental Design

A quasi-experimental design with a test administered on 3 occasions, i.e. a pretest, a posttest and a follow-up test 9 weeks later was also used. Ideally, the control group should have been a group not having any training at all or having a different treatment, but this was not possible in this context. The control group chosen was the one whose training date was later than the treatment group date of training.

EXPERIMEN- TAL GROUP	PRE TRAINING	TRAINING	POST TRAINING	FOLLOW- UP
CONTROL GROUP	PRE TRAINING		POST TRAINING	FOLLOW- UP

Table 8.2 Quasi-experimental design

IV.2 Sample

A total of 150 participants took part in the case study. Participants were first line managers or sales agents working in a call centre of the theme park industry in France. The pre-post test design included 102 sales agents. The 17 sales managers were tested separately as they received different training and coaching sessions. In the quasi-experimental design there were a total of 71 sales agents (Control group N=31 and Treatment group N=40). However, for the measurement of the performance, i.e the skills enhancement, only 22 sales agents (Control group N = 12, Treatment group N = 10) were included, as the performance scores were not all given by the company, due to the fact that, for some of the agents, performance was calculated differently.

	Gender	Mean Age & range	Length of service (in months) & range	Job Tenure (in months) & range	N Pre-Training	N Post-Training	N Follow-up
Longitudinal design							
Managers N=17	5 M 12 F	31 (25-36)	72 (12-102)	15 (6-60)	14	14	16
Sales agents N=102	28 M 74 F	31 (19-45)	34 (3-108)	15 (1-84)	102	102	66
Quasi-experimental design							
Treatment Group N=40	7 M 33 F	28 (21-40)	35 (5-96)	15 (1-60)	40	40	34
Control Group N=31	8 M 23 F	27 (20-36)	36 (2-132)	14 (2-72)	31	31	24

Table 8.3 Study 4 sample

IV.3 Data collection

A two-day training session was offered once to each agent between October 1999 and July 2000. The content of the training covered sales techniques as well as information about tools introduced into the sales department to measure performance. In addition, participants received individual coaching and monitoring sessions from their managers.

Managers attended the training twice (once between managers themselves and a second time with their team members). They received individual coaching sessions not from their own manager, but from the external consultants.

A questionnaire was administered by the trainers in charge of the sales training delivery at the beginning of each training session and at the end. Written and oral instructions were provided to each trainer to administer the questionnaire. The same

questionnaires were sent at the 9 week follow-up, after the training session, by mail to the participants with a pre-paid envelope or collected on site.

A series of 22 semi-structured interviews were conducted at the end of all of the final training programs to examine the benefits of the training intervention, whether skills have improved and whether people cope better with job demand.

Development of questionnaire and testing

The development of the questionnaire was developed with reference to the trainer's guides and by conducting interviews with two trainers, sales agents and managers who were experienced or had a sale experience for discussion, questionnaire testing and validation (5 managers, 4 sales agents). The whole questionnaire was first tested with a group of sales agents and managers to test its face validity. No major obstacles were found in the understanding of the questions.

Distribution, administration and collection of questionnaires

The trainers had to administrate the questionnaire according to a procedure written by the researcher. It was agreed that confidentiality would be maintained, as the questionnaires were not anonymous. This point was emphasized.

IV. 4 Measures

The effectiveness of both interventions is measured in two ways. One is by objective measures, such as job demand (number of calls) and professional skills (conversion rate). The second is by self-reports regarding training reactions, perceptions of job demand, self-efficacy, managerial support, resources and well-being.

Training reactions

Three items measured the trainees reactions to the training on a 6-point scale ranging from strongly disagree =1 to strongly agree=6. Items were: 'I think that this training is going to be very useful in my job'; 'I perceive this training as a real improvement in my job'; 'I am going to have the opportunity to put the content of this training into practice'. These questions were written in the future tense in the questionnaire provided prior to the training, and in the past tense in the follow-up questionnaire.

Well being

The General Well Being Questionnaire (Cox, et al., 1983) includes a scale of worn out symptoms as presented in the previous study. Participants indicated how often they have experienced each of the 12 worn out symptoms on a 5-point scale ranging from 0=never to 4= all the time. The length of time they had to recall having these symptoms was 3 months instead of 6 months. Higher scores indicated poorer health.

Job Satisfaction

One single-item measured overall job satisfaction on a 6-points Likert scale. The item was worded as follow: 'Overall, I am satisfied with the type of job I do'. Scarpello and Campbell (1983) argue that a single-item measure of overall job satisfaction is preferable to a scale that includes satisfaction ratings for different facets of the job. Also, Wanous, Reichers and Hudy (1997) found this single-item measure acceptable based on a meta-analysis that indicated convergent validity and reliability.

Objective job demand

The number of calls taken was recorded each day for each agent during a 10 month period (from 23 September 99 until 27 July 00). The company provided us with the raw data in terms of calls taken per day, per person. From this data, we calculated the average number of calls per day for each sales agent for each week. Within each week the number of calls per day was averaged over the number of days worked. The number of of calls taken per day ranged from 8.38 to 105 calls prior to training, and from 22 to 108 calls after training. The time period chosen for the evaluation of the

average calls taken was 9 weeks before and 9 weeks after each training so the 9 weeks period after training coincided with the completion of the follow-up questionnaire.

Subjective job demand

Three items defined job demand on a scale ranging from 1 to 6 (1: strongly disagree, 2: disagree, 3: slightly disagree, 4: slightly agree, 5: agree, 6: strongly agree). They were derived from the demand scale of Dollard and Winefield (1998) and indicated the degree to which the pressure at work and the time urgency dominated the work environment. Items were: 'There always seems to be an urgency about everything', 'The workload does not endanger the quality of the work I perform' and 'Sometimes, it is difficult to face the workload that is given to me'. Reversed scores were computed accordingly. A reliability of .72 was found by the authors using these items.

Managerial support and coaching

Managerial support has been assessed with 5 items on a scale ranging from 1 to 6 (1: strongly disagree, 2: disagree, 3: slightly disagree, 4: slightly agree, 5: agree, 6: strongly agree) which taps, according to Kirmeyer and Dougherty (1988), the *functional* component of support offered by management through regular coaching sessions as well as the *structural* component of support, i.e. the availability of support. Items included 'My supervisor gives me useful feedback that I put into practice'; 'My job allows me to develop my skills and talent'; 'My supervisor's manager gives us all the support that we need'; 'The coaching and monitoring with my supervisor are really helpful'; 'The number of coaching and monitoring sessions that I have per month is enough'.

Organisational resources

Six items made up this scale and tapped dimensions in the organisation that were practical and social resources. Items were: 'I received enough training to do my job'; 'I receive enough information on the products and services to do my job'; 'I have the necessary resources and equipment to do my job'; 'I can use the work methods that suit me the best to do my job'; 'I can give my opinion concerning decisions that concern my job'; 'In general, my opinion or suggestions are taken into account by the management'.

Each item was rated on a scale ranging from 1 to 6 (1: strongly disagree, 2: disagree, 3: slightly disagree, 4: slightly agree, 5: agree, 6: strongly agree).

Self-efficacy

A measure of general self-efficacy from Sherer, Maddux, Mercandente, Prentice Dunn, Jacob and Rogers (1982) included 16 items such as 'Failure just makes me try harder', 'I avoid facing difficulties', 'If I can't do a job the first time, I keep trying until I can' etc. Respondents rated agreement with each item on a scale ranging from 1 to 6 (1: strongly disagree, 2: disagree, 3: slightly disagree, 4: slightly agree, 5: agree, 6: strongly agree). Reversed items were converted for scoring. The higher the score, the higher self-efficacy.

Professional skills

The number of sales was recorded each day by the company for each agent during a 10 month period (from 23 September 99 until 27 July 00). The company provided us the raw data in terms of bookings (number of sales divided by the number of calls) made per day per person. From this data, we calculated the average conversion rate per day per person for each week by using an average weighted by the number of calls taken. Within each week the conversion rate of each day was averaged over the number of days worked. The conversion rate ranged from 0% to 22% prior to training and from 3% to 44% after training. The time period chosen for the evaluation of the agents' skills was the same as for the average number of calls, i.e. 9 weeks before and 9 weeks after each training.

Cognitive ability

The measure chosen to measure cognitive ability was the measurement of knowledge organisation rather than declarative knowledge after training. Research shows that knowledge organisation is distinct from declarative knowledge and is a good predictor of task performance (Kraiger, Salas and Cannon –Bowers, 1995).

Two techniques have been used to represent this structural knowledge. One is through the Pathfinder algorithm (Schvaneveldt, Durso and Dearholt, 1985; Schvanevelt,

1990). The second is through Multidimensional Scaling (MDS) (Kruskal, 1964). Both techniques share the goals of reducing large amounts of proximity data to an interpretable form, but achieve their goals in a different way. It was necessary to use both techniques to ensure the validity of the results.

MDS is designed to detect the hidden structure of similarity judgments. It positions points along one or n dimensions in space. The process is similar to determining geographical locations of cities based on the mileage between all pairs of cities. Formal metrics such as Euclidean distances are used to compare two representations i.e. two pairs of constructs and quantifying the similarity. The Euclidean distance represents the psychological distance between the concepts.

Pathfinder uses a graph-theoretic technique, which judges the importance of the relationships between items in each pair of concepts. It uses an algorithm that transforms raw ratings into a network structure where the similarity among concepts is described by linkages among nodes (Kraiger et al., 1995).

An advantage of Pathfinder over MDS is that Pathfinder takes into account the strong links between data as suggested by their proximity while MDS does not. MDS tries to fit all ratings data to a multidimensional space using a least-square measure called stress. This process is said to distort the data representation.

There are four steps to follow in each technique, with the two first steps being similar and the last two steps being different.

The four stages described by Kraiger et al., (1995) are:

stage 1: defining a referent structure for a training domain

stage 2: eliciting trainees' judgments of relatedness among key concepts

stage 3: deriving representations of trainees' knowledge given these judgments

stage 4: evaluating the quality of the derived representations

Stage 1: Five subject matter experts (trainers and sales managers) have elicited the relevant constructs to be included in the knowledge questionnaire. Originally a list of seven constructs was elicited but reduced to five, as the questionnaire was felt by the participants to be too long. The five constructs elicited were placed in every possible pair-wise comparison using Ross (1934) ordering, giving a total of 10 questions (see section C of the questionnaire). Two additional questions were asked for use by the external consultant giving the training.

Stage 2: The trainees were instructed to indicate how similar or dissimilar each construct in each pairwise comparison was from each other. A 9-point scale was used ranging from 1: not at all similar to 9: completely similar. An example was given at the top of the questionnaire in order for the trainees to understand the question.

Stage 3: The configurations obtained can be analyzed qualitatively, i.e. the researcher interprets the meaning of the cognitive map obtained by looking at distances between the points obtained in a dimension or through further calculations such as ratios obtained from multi-dimensional scaling or correlations computed with Pathfinder.

Stage 4: The analysis of the configurations in the present study used both ratios from MDS and correlations from Pathfinder to cross-validate the findings.

IV. 5 Data analysis

Multivariate statistics have been employed for analysis of the results as well as repeated anova analysis for the quasi-experiment. More specific analyses needed to be developed for the cognitive ability, skills and job demands as we just discussed.

Analysis of cognitive ability: MDS data analyses

Similarity ratings made by each trainee were summarized in half matrices and entered into ALSCAL, an SPSSx programme for MDS. Data was treated as ordinal (i.e. non-

metric) with ties untied. Several elements were taken into account to analyze the MDS data. First the S-stress value indicates the goodness of fit between data and the configuration obtained. An S-stress of 0 indicates a good fit while an S-stress of 1 indicates a poor fit.

However, careful attention should be given to the S-stress when it is close to zero because it could be a reflection of what is called a degenerative solution. It can occur when there are no iterations or only one that is performed to obtain the S-stress value. Usually, the MDS procedure computes 30 iterations on average with the present type of data. Therefore the S-Stress value should not be misleading. As we had few constructs in the present study, the better MDS configuration was one with a single dimension.

Then a ratio was calculated between distances as follows:

Calculation of the mean of expected similar constructs

$$(C1+C2+C3)/3 = \text{Mean 1}$$

Calculation of the absolute value of the average distances of similar constructs from the mean

$$|C1 - \text{Mean1}| = AC1$$

$$|C2 - \text{Mean1}| = AC2$$

$$|C3 - \text{Mean1}| = AC3$$

$$\text{Average distance 1} = (AC1 + AC2 + AC3)/3$$

Calculation of the absolute value of the average distance of the remaining constructs (expected to be widely separated from the similar ones)

$$|C4 - \text{mean1}| = AC4$$

$$|C5 - \text{mean1}| = AC5$$

$$\text{Average distance 2} = (AC4 + AC5)/2$$

Calculation of the ratio between average distance 1 and distance 2

$$\text{Ratio} = \text{Average distance 1} / \text{average distance 2}$$

If the ratio obtained is large, it means that the constructs are closely grouped and therefore perceived as similar. If the ratio obtained is low, it means that the constructs are widely separated and therefore perceived as different. For example, the ratio obtained ranged from $-.41$ to 1.72 ($SD= 1.57$) at time 3.

Analysis of cognitive ability: Pathfinder data analysis

To cross-validate the data obtained by the computation of the ratios, Pathfinder was used. Several types of analyses are possible with Pathfinder, such as an index of similarity called C and correlations. The C similarity between two networks is determined by the correspondence of links in the two networks. The C similarity is defined by the number of links in common divided by the number of links that are in either network. There is an associated p-value that is given which reflects how much more or less similar two networks are than would be expected by chance. Due to the small number of constructs in the present study, and therefore the small number of links, it was impossible to use the C index of similarity.

Correlations analyses between the expert map and each trainee's map were used and were thought to be the most relevant analyses for the present data. Pathfinder analyses were simply used to cross-validate the MDS ratios results. The correlations obtained showed the same patterns of findings than the ratios at the three different times, therefore we were quite confident about the type of analysis performed by two different tools.

V. Results

Descriptive statistics

Paired sample t-tests, standard deviations (in parenthesis) and alpha reliability coefficients of variables have been computed and are presented in table 8.4. The Cronbach reliability coefficients had acceptable levels of reliability, except for two variables: job demand and managerial support, reflecting a lack of variance between the items making up the scale.

Results from the paired t-tests indicated that participants were more satisfied after training or at follow-up on several dimensions. Their level of worn out was also lower after training than before. Training reactions were higher just after training and then decreased significantly at follow up though the scores still indicated a good level of satisfaction.

	PRE TRAINING (Time 1)	POST TRAINING (Time 2)	Paired sample t-test	FOLLOW UP (Time 3)	Paired sample t-test	Reliability Coefficient Alpha
Variables	Mean & SD	Mean & SD	T2-T1	Mean & SD	T3-T1	Time 1 Time 3
Training reactions	14.37 (2.08)	15.07 (2.39)	-3.60 ***	12.55 (2.88)	5.64***	.81 .83
Demands						
Subjective job demand	10.62 (2.64)	N/A	N/A	11.50 (2.38)	-2.98***	.50 .59
Objective job demand (number of calls per day)	66.91 (17.64)	N/A	N/A	55.25 (18.5)	3.99***	N/A N/A
Individual Coping Resources						
Cognitive ability	1.20 (.83)	2 (1.57)	-3.426***	1.72 (1.57)	-2.29*	N/A N/A
Professional skills (number of sales per day)	.1378 (0.004)	N/A	N/A	.1881 (0.007)	-4.16***	N/A N/A
Self-efficacy	72.40 (8.19)	N/A	N/A	71.81 (8.35)	.73	.80 .82
Organisational Coping Resources						
Managerial support & coaching	19.76 (3.50)	N/A	N/A	19.56 (4.13)	.39	.62 .65
Organisational resources	22.67 (3.84)	N/A	N/A	24.03 (3.70)	-2.66**	.73 .72
Number of coaching sessions	.37 (.52)	N/A	N/A	.57 (.56)	-2.26*	N/A N/A
Outcomes						
General well-being (worn out) (12 items)	16.71 (4.58)	N/A	N/A	15.31 (5.36)	1.98*	.68 .75

Table 8.4. Paired samples t-tests and alpha coefficients. (* p<0.05 ; ** p<0.01 ; ***p<0.001).

Among the personal cognitive resources, the results of cognitive ability scores show that trainees were closer to the expert model after training and still close after 9 weeks, as indicated by a larger MDS ratio than at time 1. However, these results need to be taken with caution. Although the ratios indicate that the trainees integrated the sales model that was taught during the training, some trainees had real difficulties in understanding the sales questionnaire and scored at random. Overall, trainees had learned the principles of the selling technique model, but the questionnaire would need to be simplified to give each trainee an equal chance to understand and complete it.

Their professional skills indicated an impressive increase. After training the average conversion rate was 19% compared to 14% before their training. This is quite an encouraging result for the sales trainer and the company management.

Finally the last coping resource at a personal level was self-efficacy. No improvement was noticeable after training. It is worth noting that the level of self-efficacy was already high before the training. This result may also be due to the fact that this scale was a general measure of self-efficacy, therefore did not touch on the more specific behaviours that the training may have changed. Hypothesis 1 was therefore partially confirmed.

Hypothesis 2, stating that organisational coping resources would improve after training, is not confirmed, with no significant change in managerial support and coaching, contrary to expectations. It was expected that coaching and monitoring would be more actively provided by managers. The number of coaching sessions had significantly improved but was still low (not everyone got one session per month).

In order to test the additional hypotheses, correlations analyses were performed on the data separately, for sales agents (table 8.5) and managers (table 8.6), since managers' professional skills and objective job demands were not evaluated. Their core professional skills were not to answer customers, calls but to manage their team. No measurements of these particular skills were available.

	1	2	3	4	5	6	7	8	9	10
1.Training reactions		-.120	.062	-.015	.046	.015	.211*	-.021	.003	.117
2. Job demand (calls)	.150		-.120	.030	-.126	.055	.059	-.069	-.015	.177
3. Subjective job demand satisfaction	.019	.431*		-.195	-.046	.009	.039	.212*	-.170	-.059
Ind. Coping Resources										
4. Cognitive ability (MDS ratio <i>r.</i>)	.284*	-.062	-.072		-.008	-.189	-.097	.023	-.012	.156
5. Professional skills	-.016	-.167	.066	.322		.011	-.100	-.100	-.116	-.151
6. Self-efficacy	.170	.298	.183	.081	.109		.088	.114	-.259*	.005
Org. Coping Resources										
7. Management support & coaching	.576**	-.013	.031	.291*	.339	.204		.405**	-.142	.311**
8. Organisational resources	.332**	.129	.168	.207	.126	.204	.454**		-.305**	.324**
Outcomes										
9. Well-being (Worn out)	-.102	-.515**	-.244*	-.128	-.010	-.404**	-.234(*)	-.047		-.119
10. Job satisfaction	.263*	.191	.023	.278*	.226	.314*	.349**	.168	-.239(*)	

Table 8. 5 Pearson product-moment correlations of variables two months after training among *sales agents* (Correlations prior to training (Time 1) are in the upper right triangle) (*) p<.06; *p<.05 ; **p<.01

	1	2	3	4	5	6	7	8
1. Training reactions		.343	-.558	.298	.114	.771**	-.380	.060
2. Subjective job demand satisfaction	.064		.105	-.014	.146	.393	-.421	-.083
Ind. Coping Resources								
3. Cognitive ability	.255	-.293		.538	-.015	-.563	.268	.375
4. Self-efficacy	.486(*)	.167	.510		.262	.358	.055	.414
Org. Coping Resources								
5. Management support & coaching	.416	.225	.026	.326		.213	-.039	.221
6. Organisational resources	.461	.439	.129	.432	.559*		-.536*	.025
Outcomes								
7. Well-being (Worn out)	-.383	-.525*	-.175	-.404	.401	-.556*		-.138
8. Job satisfaction	.295	-.184	.380	.626**	.389	.348	-.486(*)	

Table 8.6 Pearson product-moment correlations of variables two months after training among *managers* (Correlations prior to training (Time 1) are in the upper right triangle) (*)p<.05 ; **p<.01

Correlations analyses

Correlations between outcomes

Pearson correlations analysis indicated that well-being (worn out) was negatively linked with job satisfaction at time 3 (follow-up). The more sales agents were satisfied with their job, the less they reported feeling worn out (-.239). This correlation was even stronger for the managers (-.486).

Correlations between individual coping resources and outcomes (well-being and job satisfaction).

At time 3 (follow-up), cognitive ability was positively correlated with training (.284) for the sales agents. The more they learned the sales model, the more satisfied they were in their training reactions. Also the more they learned, the more they were satisfied with their job (.278) and with organisational resources (.291).

Professional skills were not correlated with any of the variables or outcomes. This could be due to the fact that this measurement reflects a raw metric of the skills, rather than an organic picture of the way people exhibit their skills. However, the advantage of this measure is that it reflects exactly the aptitude of a person to sell over an 18 week period.

Self-efficacy was negatively correlated with well-being (-.404) at follow-up and, to a lesser extent, at time 1 (-.259). This result is not surprising as self-confidence and optimism are important ingredients to sustain good health. This correlation was not present among managers. Self-efficacy was also positively correlated with job satisfaction (.314) at follow-up only. The more sales agents were satisfied with their job, the more they reported higher levels of self-efficacy. This correlation was also found for managers and was relatively strong (.626), explaining 36% of the variance.

Correlations between organisational coping resources and outcomes (well-being and job satisfaction).

While organisational resources were negatively correlated with well-being at time 1 (-.305) indicating that the more satisfied sales agents were with resources the less they were worn out, this correlation was not found at time 3, but it was found among managers (-.556). Resources correlated positively at time 3, with training reactions (.332), cognitive ability, (.291) and managerial support (.454).

Managerial support and coaching was positively correlated with job satisfaction (.311) and resources (.405) at time 1, but correlated positively with training reactions at time 3 (.576). This link between training and support is important, as the success of the training is linked to the follow-up that the management has put in place in terms of coaching and monitoring sessions.

Correlations with job demand

Objective job demand (calls taken per day) was positively correlated at time 3 with the workload satisfaction (.431). The more sales agents answered calls, the more they were satisfied with their workload. Also another correlation indicated that the more they answered calls, the less they were worn out (-.515).

These findings have to be interpreted in the context of the call center objectives. Sales agents in this department deal with incoming calls, which are distributed among them by chance. There can be days with few phone calls and agents that we spoke to informally reported experiencing boredom. So there is an optimum number of calls and if the number of calls is significantly below or above this level, agents are dissatisfied with their workload and their health. The more sales agents (-.244) and managers (-.525) were satisfied with their (subjective) workload, the less they reported being worn out.

Training and well-being

While training reactions had no correlations with well-being for sales agents at time 3, they were correlated for managers (-.564). The more satisfied they were with the training, the less they reported feeling worn out.

Although the correlations between variables were not as frequent as we had expected, some were strong enough for the main effects of well-being to be computed.

Regression Analyses

	Regression coefficient on variable outcome <i>Well-being at follow-up</i>				
	N	Adjusted R square	R square change	Beta	t & sign.
Subjective job demand	60	.045	.061	-.244	-2.017*
Objective job demand	33(*)	.262	.305	-.584	-3.634**
Self-efficacy	65	.147	.173	-.417	-3.603**

Table 8.7 Regression coefficient showing the relationship between job demand, self-efficacy and well-being. (* p<0.05 ; ** p<0.01)

(*)The number of cases, N=33, for the objective job demand (number of calls taken per day) is lower than those of subjective job demand (N=60) as when the number of calls were recorded, i.e.before training and over a period of two months after training, some sales agents were not taking calls for part of that period, or were absent. The number of cases were lower for subjective job demand than self-efficacy due to the fact that less respondents answered to this question.

Hypothesis 3 was partially confirmed with self-efficacy having direct effects on well-being. However, organisational resources, contrary to expectations, did not have any effect on well-being, refuting hypothesis 4.

The major findings of regression analyses (table 8.7) concerned job demand. Job demand measured objectively and by self-reports had main effects on sales agents' well-being, confirming hypothesis 5. No interactive effects were found, contrary to expectations formulated in hypotheses 6 and 7.

A second set of results obtained through the quasi-experimental design confirmed that objective job demand has decreased due to training, which could mean that the training might have helped sales agents transform the calls with the clients in a qualitative manner.

Quasi-experimental design

The strategy used to measure objective job demands was to take into account the scores during a period of 9 weeks before training (same time period for all participants) and during a period of 9 weeks after training (same period for all participants). This strategy controlled for possible events that could have influenced the training effects.

	Objective job demands (Number of calls per day)	
	Pre-training	Post-training
Treatment Group N= 10	Mean = 72.99 SD = 13.73	Mean = 47.93 SD= 7.31
Control Group N=12	Mean = 73.9 SD = 18.95	Mean = 71.99 SD = 32.40

Job demand decrease can be calculated as follows:

Post training mean – Pre training mean = 25.06. Then $25.06/72.99 = -34\%$ decrease in the treatment group against -2.6% in the control group.

A repeated-measures ANOVA analysis was undertaken and indicated an F-ratio within subject effect of 6.872 $p < .006$ for the differences between the groups and an F-ratio of 9.328 $p < .016$ for the differences between time 1 (prior to training) and time 3 (follow-up).

Another variable that differentiated the control group from the experimental group was the skills enhancement. The same strategy has been used to calculate an average skill enhancement, before and after training.

	Professional skills (conversation rate)	
	Pre-training	Post-training
Treatment Group N =10	Mean=.117 SD=.01	Mean=.147 SD=.04
Control Group N=12	Mean = .123 SD = .03	Mean= .122 SD= .03

Skill enhancement as inferred by the conversion rate increase can be calculated as follows:

Post training mean - Pre training mean = 3. Then $3/117 = +25\%$ increase in the treatment group compared to 0% in the control group.

A repeated-measures ANOVA indicated an F-ratio within subject effect of 4.564 $p < .045$ for the differences between the groups and an F-ratio of 4.366 $p < 0.05$ for the differences between time 1 (prior to training) and time 3 (follow-up).

There were no other differences between the control and the experimental group on the variables included in this study. Worn out decreased significantly, but this was true for both groups. To understand better the quantitative results, a qualitative study has been conducted in which 22 sales agents and managers have been interviewed regarding the effects of the training, and are reported below.

Results of the qualitative study

A series of 22 semi-structured interviews was carried out after all trainings were completed to discover what types of benefit the training brought to the participants in their job and the type of follow-up they expected.

Sample

The choice of the sample was made within 5 functions and at random within the function. Among the participants interviewed, some had taken part in the control group.

The questions asked during the interviews were:

1. *Was the training useful? In what ways?*
2. *What did you change or what do you do now with the client, that you did not do before the training?*
3. *Did you have any coaching and monitoring sessions with your team leader? What do you think about it?*
4. *What is the follow-up that you want for the next year or the coming months? What is needed to improve your skills?*

The content of the interviews was not recorded and has been analyzed by a simple content analysis.

Results of the interviews with the sales agents

The usefulness of training

This training has been judged as useful by the majority of people interviewed, except for some agents from a specific department, who did not see how to apply the training content in their activities. However, among these some have said that after they attended the third day called 'journée d'adaptation', especially designed for this

department, they could understand what kind of questions to ask to their agencies and be more at ease in selling. Apart from the lack of practical aspects for some agents of this specific department, the training has helped the agents to increase the customer satisfaction, to enrich their job, and the calls with the clients are described as more interesting and pleasant due to the new selling technique.

The changes that have occurred since the training

Changes have taken place in sales behaviour in different ways. For some agents, there is no change at all or no systematic change in the way they deal with their clients, the sales model is only applied from time to time. They justify this by the fact that they cannot be focused all the time to apply the method or the situation is not appropriate for the use of this method (e.g. a customer who is in a hurry or an international guest (means not French)).

Others for whom French was not their mother tongue, found it harder to apply the model in French. However, for the majority of people interviewed, there is a genuine effort to understand the clients' needs in a different way and as a result they found their calls more interesting and/or and have better booking results.

The perception of coaching and monitoring after training

In general, the agents say that they did not have any or only a few sessions of coaching and monitoring and that they would like to have more of them. Some prefer to have coaching sessions and others prefer monitoring sessions. Others see benefits in both types of sessions.

The follow-up that they want after the training

Several ideas for the follow-up have been suggested, including improvements in the service delivered to the client. The highest priority is for coaching and monitoring sessions, followed by a refresher training with the trainer, and then meetings with their team leader to understand what works well and what needs to be improved.

Results of the interviews with the team leaders

The usefulness of training

The training has been useful and has enriched the job. It has allowed the establishment of a common culture in the way services are sold to the clients.

The changes that have occurred since the training

More coaching has been done and managers give more feedback about individual and group performance to their team. The managers said they have changed how they coach their team.

The follow-up that they want after the training

Refresher training and organisational changes such as increasing pay and the number of team leaders have been strongly suggested.

The agents that were part of the control group said that they have asked the people already trained what they had learned, and tried to change their way of dealing with the clients and use the new selling technique.

VI. Discussion

The research question for this study was: Do individuals experience less stress as a result of enhanced coping resources and change in job demand? This investigation required three stages of analyses. One stage was to measure if job demand and coping resources had improved by comparing time 3 and time 1. A paired sample t-test provided these comparisons. There were positive changes after the sales training intervention in most of the variables tested. The perception of job demand was significantly more positive and the level of worn out significantly decreased at time 3.

A second stage of analyses to answer fully the research question was the need to know whether job demand had main effects on well-being, and whether enhanced resources at time 3 had interactive effects with well-being, so regression analyses were undertaken.

Finally, a third stage of analysis refers to the underlying question that could be asked: were the effects found in the reduction of stress due to the training intervention? To answer to this question a control group was needed, i.e. sales agents that had no training in order to compare their perceptions with those who received the training, therefore a quasi-experiment was used.

The role of job demand on well-being

Quantitative and qualitative job demand had main effects on well-being with a better perception of workload having positive effects on well-being. Although quantitative demand decreased at time 3 and had main effect on well-being, the direction of the correlation was negative. The less calls sales agents took, the more they felt worn out. Repeated measure ANOVA indicated that objective job demand (calls) changed as a result of training, but qualitative job demand was perceived in the same way by the control and experimental group.

For the managers, the t-test results show that they perceive the job demand as being difficult to face at time 3. Their satisfaction was average (8.5 out of 18) while one of the agents was above the mean (11.5 out of 18). This can explain why not all of them did carried out as many coaching sessions as was expected by the agents.

However the managers more satisfied with their job demand were also less worn out.

The role of enhanced coping resources in the work-stress process

Individual coping resources improved in terms of cognitive ability and skills enhancement. However, they did not have main or interacting effects on well-being.

These results were surprising and need further research, perhaps involving the measurement of more specific skills that would affect well-being.

Organisational coping resources partially improved. The level of satisfaction with the organisational resources (information, participation, etc) increased significantly, although the level of managerial support remained the same, but was already perceived as satisfactory. There were no correlations of these variables with well-being so regression analyses were not performed, except for self-efficacy. The self-efficacy level did not increase after training, but was already high at time 1 prior to training. Regression analysis showed main effects on well-being, but no interactive effects between job demand and well-being.

Similarities between the control and the experimental group

Repeated measures ANOVA on all the variables, other than objective demand and skills improvement, indicate similarities in their perception. These results can be due to the fact that social variables are very difficult to measure in a controlled manner. Even if sales agents who formed the control group did not participate in the training, they discussed the content of the training when their colleagues had done the training, as confirmed through the follow-up interviews.

All sales agents had an interest in the new sales technique they were taught because they were informed at the beginning of the whole program, that participants who used it improved their performance. As an element of their pay was pay for performance, their motivation to understand how to master this new model was high. Finally their motivation extended to variables such as perceiving the resources of the organisation more positively and their level of worn out decreased as well as that of the experimental group. Only their raw skills performance scores did not improve significantly, as well as their number of calls, which remained the same. This indicated that the whole intervention, and not only the training itself, has created a climate of change for all groups.

Differences between agents and managers

It is worth outlining that managers received far more intense training and coaching sessions than agents did. This may explain why training reactions are linked to their reporting of wornout symptoms, which is significantly lower at follow-up. Even if coping resources as measured in this study did not indicate any effect on well-being, there is evidence that managers' health was associated with their reactions to training, so it probably helped them to cope better.

Positive effects of the sales training

Probably the biggest impact of the sales training was to improve the sales agents' skills. The performance of the sales agents, as indicated in both the quasi-experimental and the pre-post design, gave evidence of this impact. Nevertheless, it is important to stress that the positive increase in skills performance is due to a combination of factors. The senior management as well as the sales managers were fully involved during the whole year of the training intervention and were very supportive of the whole operation. It is unlikely that the theoretical content of a two-day training would have been enough to boost the motivation of the sales agents and their managers to use a new sales model and to continue to do it over several months. A culture change is needed for the success of such an intervention.

Does a sales training reduce stress?

If we look at it from the perspective of the quasi-experimental design, the training did not reduce stress in terms of level of worn out. Both groups had their levels of worn out significantly reduced at follow-up. We cannot ascertain that training was then responsible for this positive outcome. However, the whole training intervention that

was not limited to 2 days in a classroom, but was complemented by actions (diagnosis, focus groups) before and after the training (coaching), was probably responsible for triggering actions that led to the reduction in stress among sales agents and more so among managers. This conclusion cannot be proven by the statistical analyses that we have at hand.

An interesting result was found, though, for the managers where a correlation indicated a link between training reactions and their well-being, which significantly improved at time 2. There are therefore presumptions that training had some beneficial effects on well-being, but this was not statistically and methodologically proven for managers, as no control group was available.

The significant decrease in agents and managers' worn out symptoms is an important result, as it should be said that their level was not very high prior to training. Due to the possible effects of regression to mean when measurement is taken twice, it was unlikely that significant differences appeared between time 1 and time 3.

Limitations of the present study and further research

The present findings have some limitations. If results were quite satisfactory in terms of the increase of the work environment features for sales agents and managers, in terms of testing the research question, improvements can be made in future research. The idea of testing the cognitive ability of participants by using a questionnaire taping the knowledge structure, rather than the declarative knowledge, remains to be tested. This type of questionnaire is quite uncommon in organisational settings and participants spent a long time answering the questions. More elements should have been included to be able to use the pathfinder analysis fully.

The sole use of an objective measure to test skills enhancement is not perhaps the best measure to use for obtaining correlations with other variables. Objective or different types of measures than the core questionnaire have the benefits of reducing the

common variance that occurs due to the use of the same source of testing, but in this case it was perhaps not sensitive enough to capture the process of the enhancement of the agents' skills . Further research needs to employ a measure more related to the training content than to the end results of the skills.

Also, the measurement of the variables in this study was not free of bias such as social desirability bias. Social desirability had to do with respondents scoring items more positively, as they think the researcher or their manager expect the scores to be. As the questionnaires were not anonymous in order to be able to track the person at time 2 and time 3, participants were asked to write their name on the questionnaire. This could have inflated the results and lead respondents to lower their level of worn out and increase their scores in self-efficacy, which were quite high. A more sophisticated and anonymous coding system has to be found in order to avoid these effects.

While having a control group remains a key to establishing strong findings about causation, it is however a difficult task to control all the extraneous variables that are present in an organisational setting. People work so closely with one another in this type of environment, constantly sharing their experiences or 'tips', especially when they are new. An option suggested by Griffiths (1999) is to look for more qualitative measurements to confirm the results.

VII. Conclusion

The case-study was an attempt to discover whether job demand and coping resources would play a distinctive role in well-being. Results from a pre-post test design show that sales agents perceived in general their work environment more positively nine weeks after training. However, there was no indication that the coping resources that were tested in this study had direct or buffering effects on well-being, except self-efficacy, which had main effects. A better perception of job demand also had main effects on well-being. Finally, results from a quasi-experiment with a control group did

not confirm that improvements were due to training, except for skills enhancement and objective job demands.

Chapter Nine: Conclusions

The main focus of this chapter is to bring together the four empirical studies presented in this thesis and their major findings. Another purpose is to explore the contribution of the present research, its limitations, implications and possible directions for new research.

Integration of the four empirical studies

The four studies have been designed in a hierarchical order, starting with an investigation of the general perception of stress in a qualitative manner, then measuring in a quantitative way, the effects of stressors and coping strategies on well-being. The final study concludes by measuring precise and specific hypotheses regarding the effects of coping resources on well-being using a longitudinal design.

The impetus to start this cross-cultural research on stress through the use of qualitative methods, i.e. semi-structured interviews and repertory grids, was to avoid influencing respondents in their answers regarding their views on stress. It is too often assumed that people understand terms in the same way and in particular 'stress', because it is part of everyday language. The first qualitative study shows that different social representations exist between French and British managers as to what constitutes stress.

Following the first study, a triangulation method was applied whereby an object can be studied from different perspectives in order to either validate previous findings or to complement them. In this case, the second study was designed to complement the first one and focuses on the beliefs managers hold on stress, how they construe a stressed versus non-stressed person at work. Interestingly, British managers were the only group to mention coping strategies in relation to stress in the repertory grid exercise.

These two qualitative studies provided hypotheses about three major aspects of stress, namely that differences may exist between French and British managers

regarding their perception of job demand, relationships at work as potential stressors and differences in coping strategies.

Although the results found in our third study on coping strategies were valuable, the coping strategies that managers were asked to rate were on the one hand, very general and on the other hand, it was thought that some strategies were dependent upon the organisational context individuals were in. For example, if managers said they made an action plan in a stressful situation, it probably depended on the external resources that were available to make such an action plan. Therefore it was important to investigate the notion of coping resources further by looking at coping at the individual and the organisational level and in a 'controlled' situation. This was done through a case-study which employed control and treatment groups as well as longitudinal measures.

Summary of major findings

The thesis attempted to answer four research questions. Three focused on the examination of cross-cultural differences in the perception of stress, stress levels and coping among a French and British matching sample of managers. The fourth research question investigated the coping mechanism among managers and employees, looking at the effects of enhanced coping resources on their well-being.

A collection of different methods and tools has been employed to collect and analyze the data (e.g. interviews, repertory grids with Ingrid and Rep Grid software, structural knowledge questionnaires, MDS ratios, the pathfinder algorithm, index of reliability and quasi-experiments) in order to answer the research questions using multiple perspectives and cross-validation of the findings.

The findings indicated that the concept of stress itself seemed to drive different cultural representations. The French managers understand stress more in terms of its social aspects, whereas the British managers perceive its more organisational aspects. Also French managers tend to construe stress in the same manner (i.e. the rating of their constructs against the elements was similar) whereas British managers have more diverse ratings, suggesting a more varied view as to what

constitutes a stressed person at work. British managers were the only group to mention the term coping strategies when asked to think about a stressed or non stressed person.

In a subsequent study, when asked to name how often they used coping strategies, managers' answers reveal that if there were no strong differences in the types of strategies used, there were however differences in the way coping strategies affect French and British managers' well-being.

There was a positive influence on well-being when British managers used problem-focused coping strategies, and a negative influence when they used avoidance and blame coping strategies. By contrast, no linear relationships between coping and well-being were found among French managers.

Other findings show that interpersonal relationships at work were correlated with well-being and were a predictor of intention to leave the organisation only in the French sample.

Our last research question regarding the role of coping resources on well-being leads us to evaluate a training intervention that was not primarily designed to reduce stress, but to enhance performance in the workplace. The assumption was that training would increase coping resources (e.g. cognitive ability, skills and self-efficacy) and in turn these would increase well-being. To investigate this question, a rather complex research and intervention process was necessary. It involved the interaction of multiple actors (e.g. the external consultant delivering the training and accepting its evaluation, the senior management of the organisation and sales managers interested in the evaluation of the effectiveness of the training).

It also involved the use of different tools to collect and analyze data and, in terms of time and financial resources, it involved negotiations and compromises. The measurements were made at different times and on different variables including sensitive variables such as the skills enhancement reflected in the individual performance.

Our research question was: Do individuals experience less stress as a result of enhanced coping resources? Findings show that managers and employees were less worn out at the follow-up evaluation, but there was no evidence that this was due to enhanced coping strategies.

Job demand had main effects on well-being, as previously found by other researchers. Changes in cognitive ability were also significant at follow-up. Contrary to expectations, coping resources, other than self-efficacy, did not affect well-being.

The well-being of the workforce improved significantly when it was tested nine weeks after training, but there was no indication that it was due to training. This finding is nevertheless important to consider because the level of worn out of the employees was already low before training, and due to regression to mean effects that occur when individuals are measured at two separate times, a significant decrease in worn out symptoms was improbable, but has been observed.

A noticeable finding which statistically demonstrated the positive impact of training, was the enhancement of skills as shown in the comparison between the control and experimental group. The experimental group who received training performed better than the control group who had no training. However it should be said that there were no statistical correlations between the amount of learning, as measured by MDS ratios and the skills improvement. This suggests that factors other than knowledge strongly influence the successful deployment of the new sales model by the agents. To identify this, it would have been necessary to identify and control for this variable, which was beyond the scope of this study.

Contribution of the research

The contribution of this thesis is two-fold. It includes theoretical and methodological advances in fields of cross-cultural stress and coping resources.

Theoretical advances

The body of knowledge on stress and coping is already well advanced. At cross-cultural level, it is less developed. In this sense, the present work has enriched the understanding of cultural differences particularly among French and British managers.

Compared to previous cross-cultural studies on organisational behaviour, the present work not only confirmed previous findings but also provided novel insights showing that, if stress is a universal phenomenon, it is also culturally context-specific. In this case, cultural differences were found between French and British managers in the way, for example, they perceive conflicting relationships and the effects of their coping strategies on well-being. Some of these cultural differences were already found in two comparative studies in the 1970s and two more recent studies carried out by Stora and Travers outlining that relations and communication were major stressors among the French respondents. These results give grounds to test these cross-cultural differences further using a larger sample of managers drawn from different sectors of industry.

Methodological advances

Although the findings are exploratory rather than confirmatory, the qualitative methods used, such as semi-structured interviews and repertory grids, have given valuable insights regarding the perception and construing of stress at a cross-cultural level and are complementary techniques to quantitative methods.

One novel contribution of this thesis is the measurement of enhanced coping resources and their effects on well-being. The evaluation of cognitive ability as an individual coping resource is rarely investigated in training evaluation. Using a tailor-made questionnaire that tapped the knowledge structure, rather than the declarative knowledge of the participants, gave a new opportunity for researchers and practitioners to evaluate learning during or after training. The comparison between two methods of knowledge structure questionnaire analysis, i.e. ratios obtained in multidimensional scaling compared with Pathfinder correlations, served to validate the findings and this approach is still rare in the literature.

The fact that training has been evaluated at different levels, (training reactions, learning (cognitive ability) and skills improvement) allowed us to draw stronger conclusions about its effectiveness. Training evaluation is still too rare in research and particularly the measurement of skills or performance. Therefore, although training evaluation was not the primary goal of this research, but was necessary to investigate the research question, the present work has demonstrated practical and methodological value.

Finally, the use of a longitudinal design and objective measures have permitted the control of the common variance that occurs when measures of the independent and dependent variables are collected from the same sources.

Limitations and further research

A major limitation of the research was the sample size used in the cross-cultural studies. It would have given more external validity to the cross-cultural findings if more organisations were added in the sample from different sectors from both countries, or if the number of respondents from the same industry had been higher. A larger sample of respondents would have permitted us to perform confirmatory factor analyses to confirm the construct validity of the scales used. However, it is not an easy process to obtain a matching sample of respondents from the same industry from different countries. Efforts have been made to include more companies, but they declined the offer of participation.

Also due to the fact that the qualitative research and the case study were time consuming and involved the learning of a new research process and techniques (content analysis, involvement of coders, repertory grids, pathfinder software etc.), less time was devoted to increasing the sample size of the second study. This limitation therefore leaves the findings at an exploratory stage and hypotheses can be drawn from the cross-cultural work at this stage, but no firm conclusions can be made.

In addition, the instrument that was used to measure coping strategies may be improved and questions be more specific for the respondents. The coping strategies defined in our questionnaire were probably too broad to be able to reveal cultural differences. Having said that, it is not easy to find a common coping questionnaire for use in cross-cultural settings, which can include more context-specific questions, but effort can be made towards this goal.

Further research using qualitative and quantitative methods is necessary to enrich the research perspective, especially in cross-cultural research. Qualitative method investigation allows for examining cultural differences more in depth, but of course implies belonging to the culturalist school. As Shackleton and Abbas (1990) state, 'cross-cultural investigations of organizational processes have culminated in an ongoing debate between those who believe that organizational management is a science governed by universal principles, the so-called culture free thesis, and those who argue that these principles are determined by a relative culture, the so-called culture-specific or culturalist school'. The researchers' views have to fall into the second school of thought.

To improve the findings, matching samples are strong strategies to discover differences, as argued by Hofstede (1984), but their size and diversity in terms of industry sector are important elements to take into account to prove the external validity of the results.

The work done during our last study gave evidence of the difficulty of using quasi-experiments in an organisational setting and perhaps a novel approach, as suggested by Griffiths, is to measure effectiveness of interventions and their relation to stress in a more qualitative way, this would imply that the positivism paradigm needs to be less predominant in research.

Implications of the research for organizational practice

Although the findings of this thesis do not provide firm evidence in statistical terms that job-related training would reduce stress, nevertheless there is the temptation to

argue that such an intervention, coupled with a genuine interest and involvement from the management at all levels, may indirectly participate in the reduction of stress or a better perception of the job demand. More precise evaluation is needed to strongly prove this case.

This would mean that the current stress management interventions that are provided to employees are perhaps not the only ones to consider for stress reduction. They are costly and their effects are short-term. As Parkes and Sparkes (1998) explain, "natural experiments involving changes in objective work conditions that do not intend primarily to reduce stress can however provide information about the causal links between work conditions and well-being".

Human resources managers and particularly sales managers may consider that the benefits of training may be two-fold: enhancing skills and performance and reducing stress while raising job satisfaction. Sales' agents improved their performance after training. Although the present work does not support that enhancement of well-being and job satisfaction was due to training, there are however strong suggestions that training had a positive effect on individuals as indicated in correlations analyses. Training reactions were positively correlated with managers' well-being and they were also positively correlated with job satisfaction of sales agents.

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APPENDIX

Appendix 1: List of psychosocial hazards (Study 1 Chapter Five)

***Appendix 2: Socionets representing French and British construct links
(Study 2 Chapter Six)***

***Appendix 3: Example of letter sent to the companies surveyed
and questionnaire used in study 3 (Chapter Seven)***

Appendix 4: Questionnaires used in study 4 (Chapter Eight)

- ***Questionnaire used at the start of training***
- ***Questionnaire used at the end of training***
- ***Questionnaire used at follow-up***

Appendix 1: List of psychosocial hazards (study 1 Chapter Five)

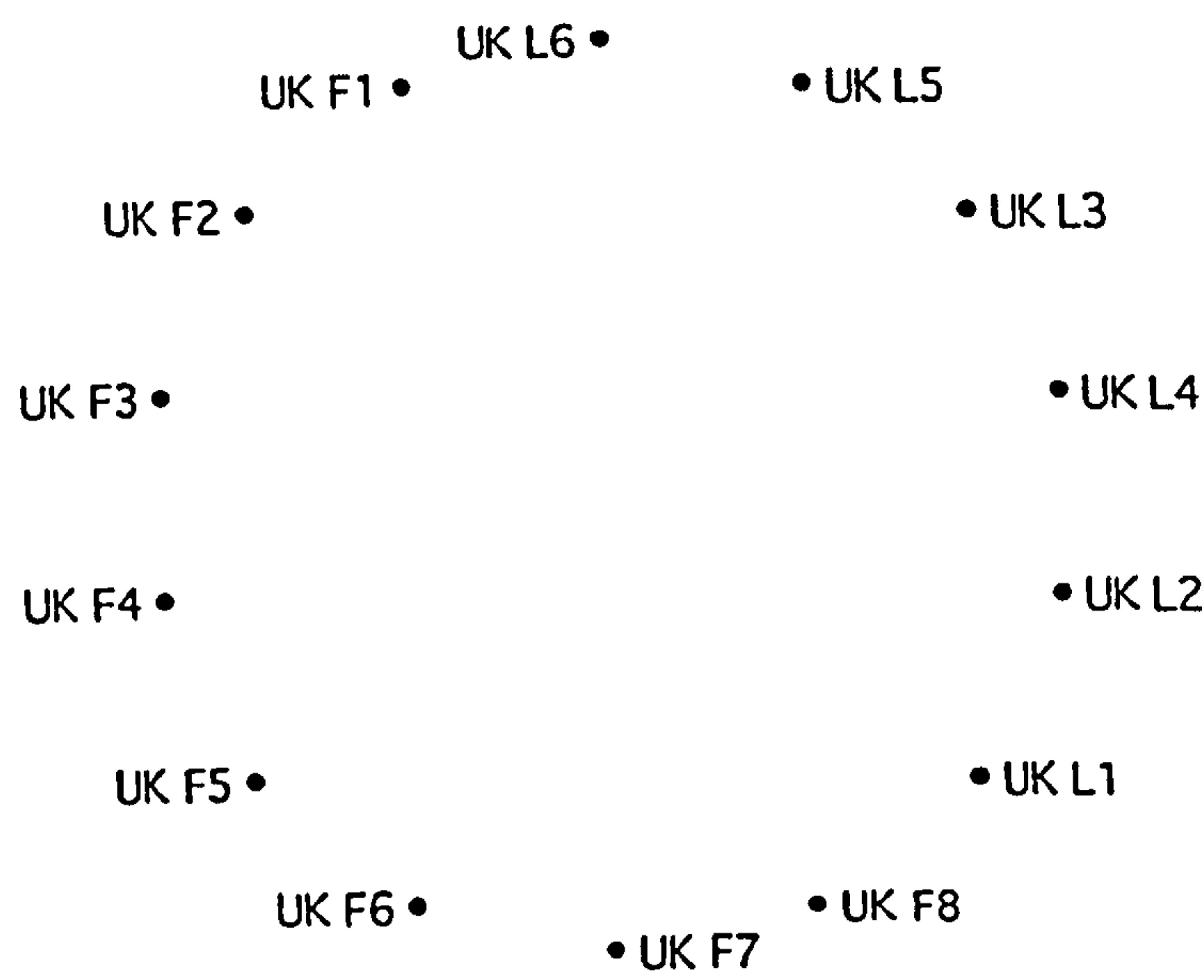
Category	Conditions defining the hazard
CONTEXT TO WORK	
Organisational culture and function	Poor communication. Low levels of support for problem solving & personal development. Lack of definition of organisational objectives.
Role in organisation	Role ambiguity and role conflict. Responsibility for people.
Career development	Career stagnation and uncertainty. Underpromotion or overpromotion. Poor pay. Job insecurity. Low social value to work.
Decision latitude/control	Low participation in decision making. Lack of control over work (control particularly in the form of participation is also a context and wider organizational issue).
Interpersonal relationships at work	Social or physical isolation. Poor relationships with superiors. Interpersonal conflict. Lack of social support.
Home-work interface	Conflicting demands of work and home. Low support at home. Dual career problems.
CONTENT OF WORK	
Work environment and work equipment	Problems regarding the reliability, availability, suitability and maintenance or repair of both equipment and facilities.
Task design	Lack of variety or short work cycles. Fragmented or meaningless work. Underuse of skills, high uncertainty.
Workload / Workspace	Work overload or under load. Lack of control over pacing. High levels of time pressure.
Work schedule	Shift working. Inflexible work schedules. Unpredictable hours. Long or unsocial hours.

Psychosocial hazards at work (Cox 1993, Cox et al., 2000)

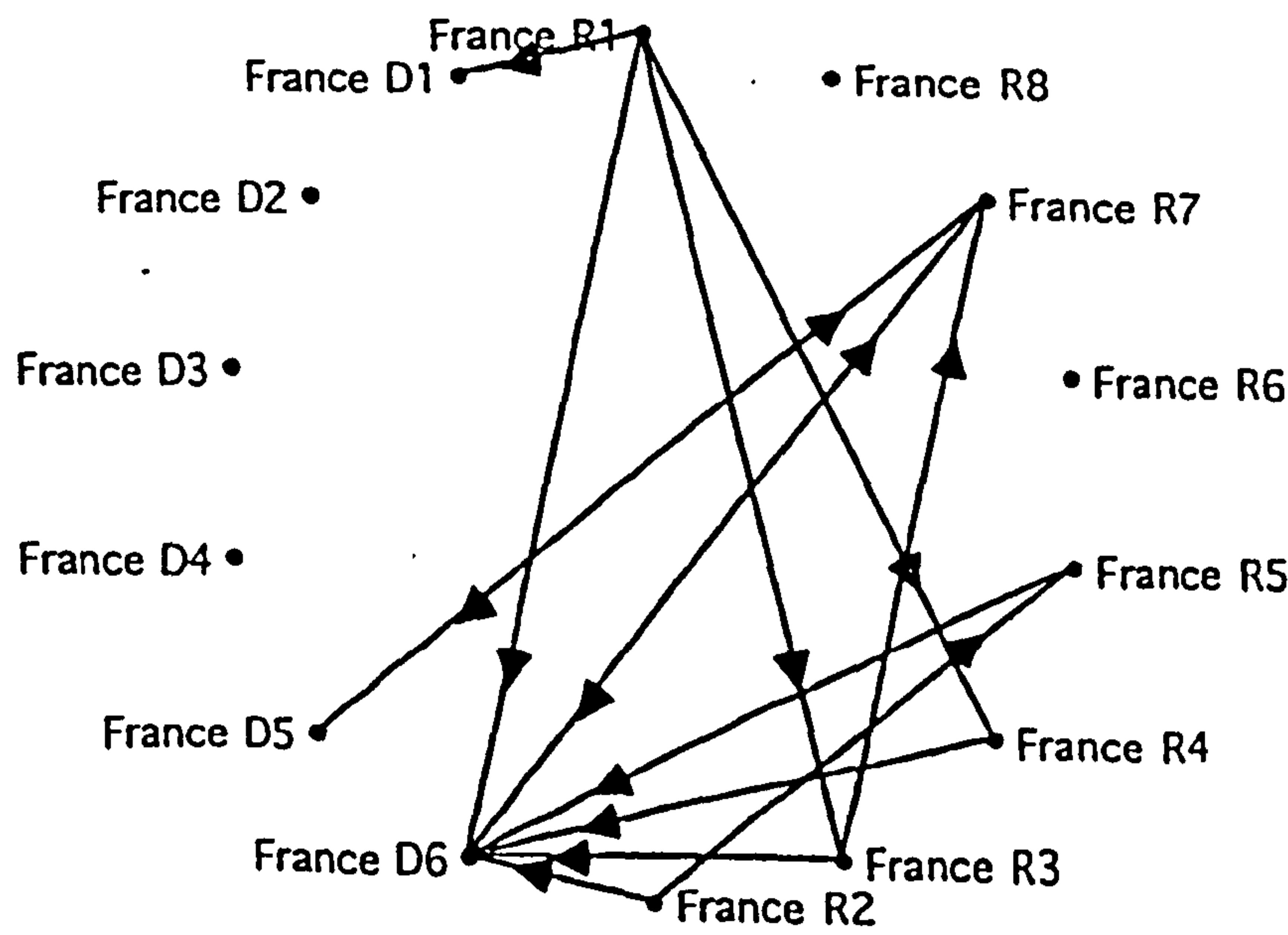
**Appendix 2: Socionets representing French and British construct links
(Study 2 Chapter Six)**

Appendix 2

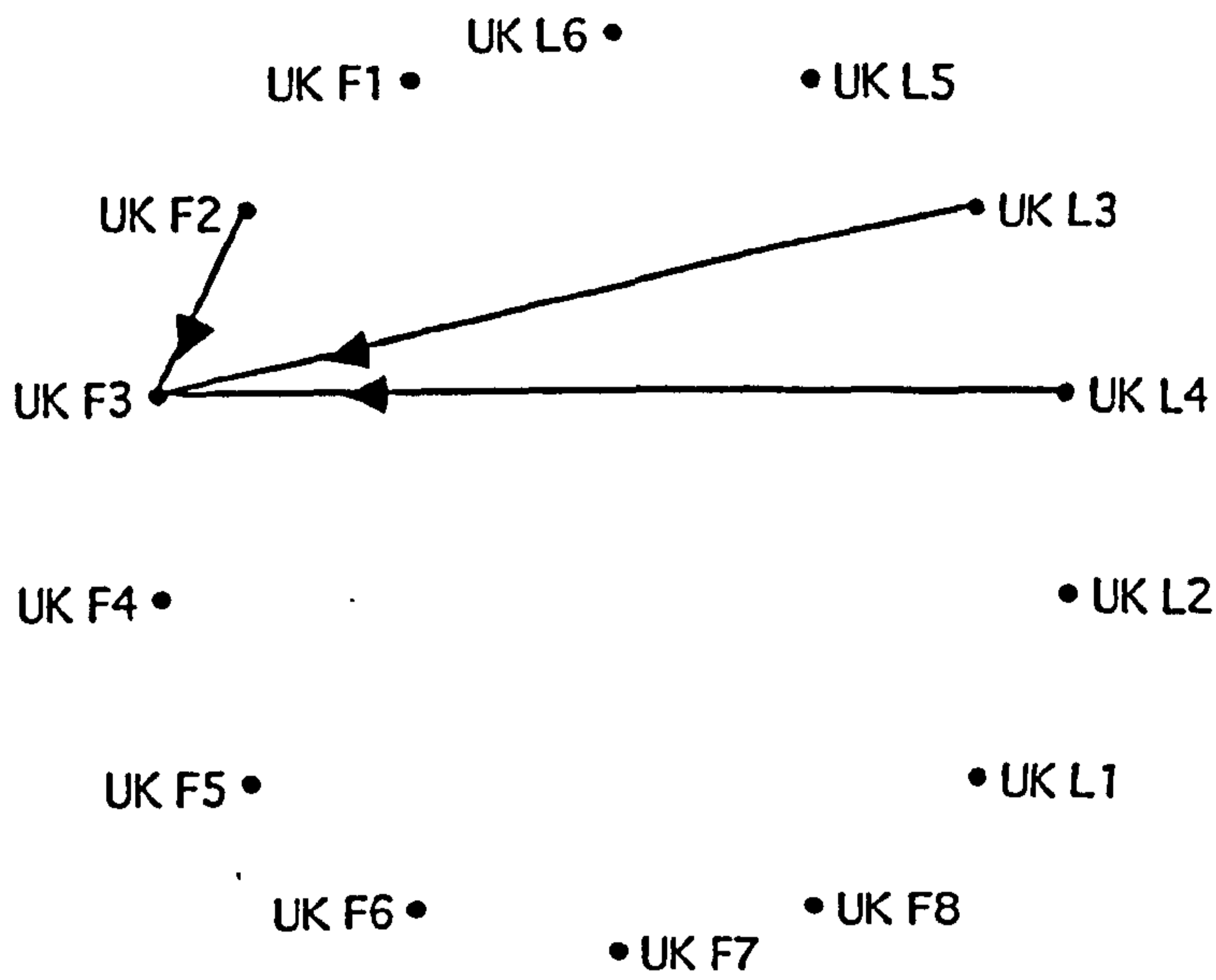
Construct Links (at least 50% over 97.0)



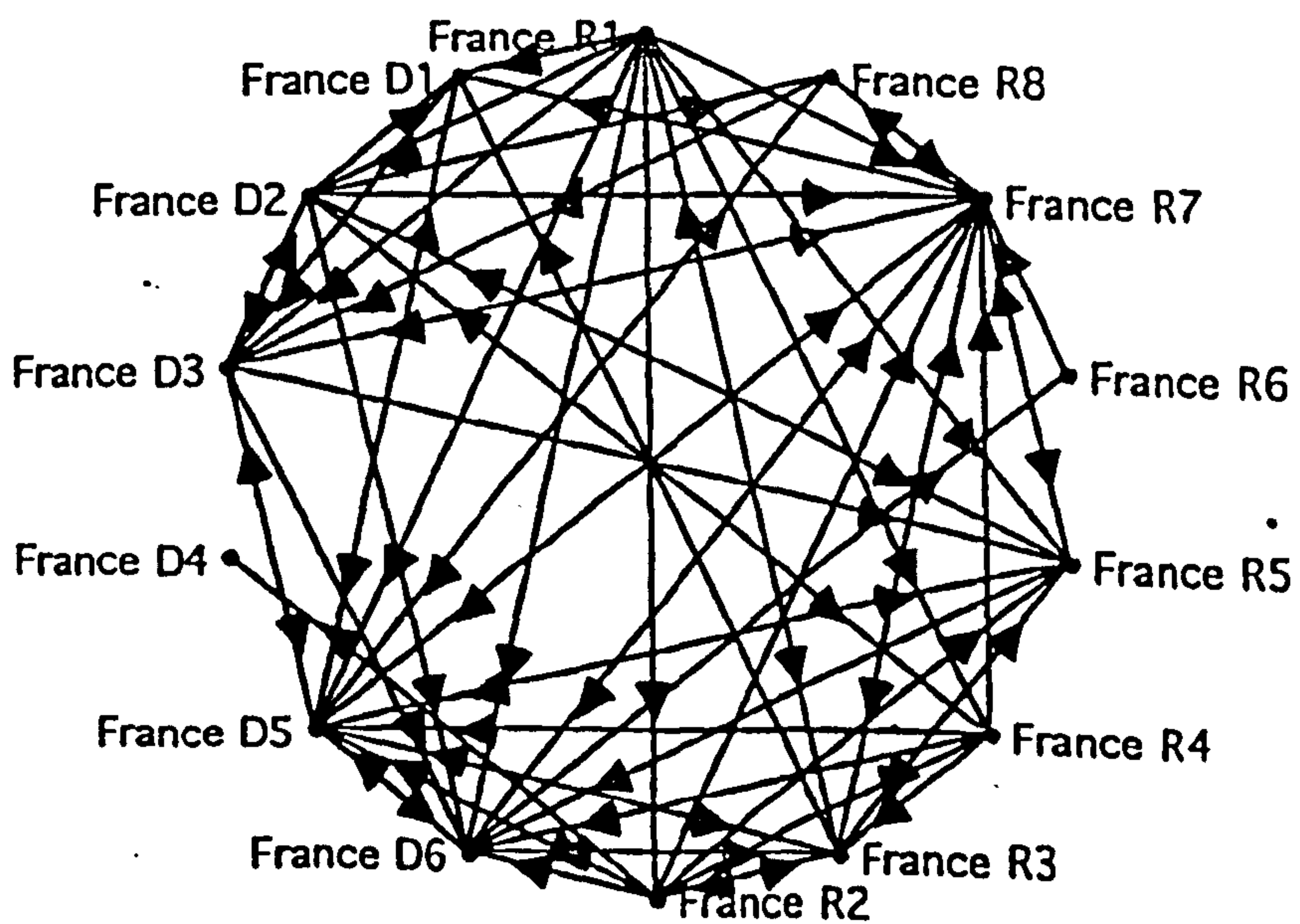
Construct Links (at least 50% over 97.0)



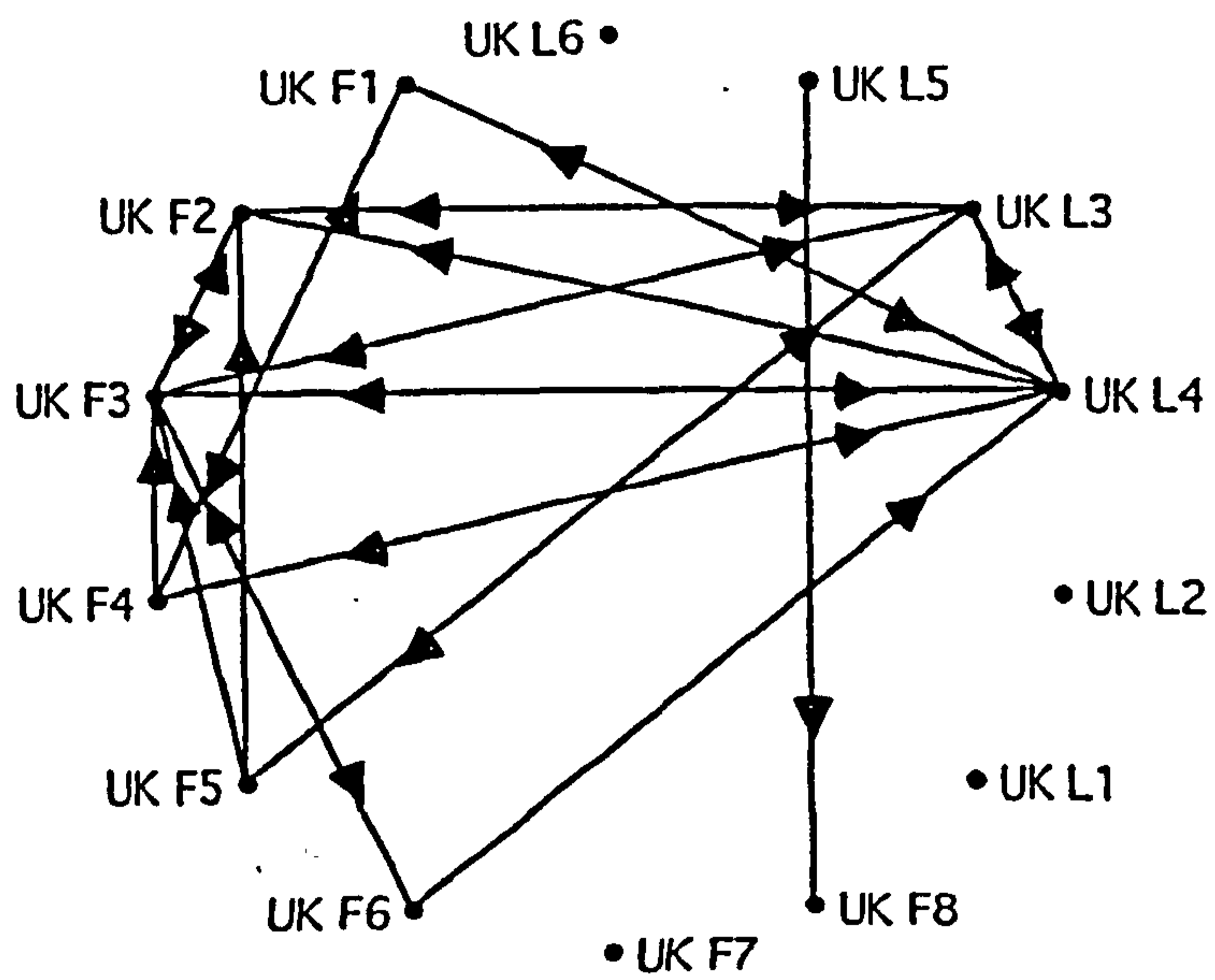
Construct Links (at least 50% over 95.0)



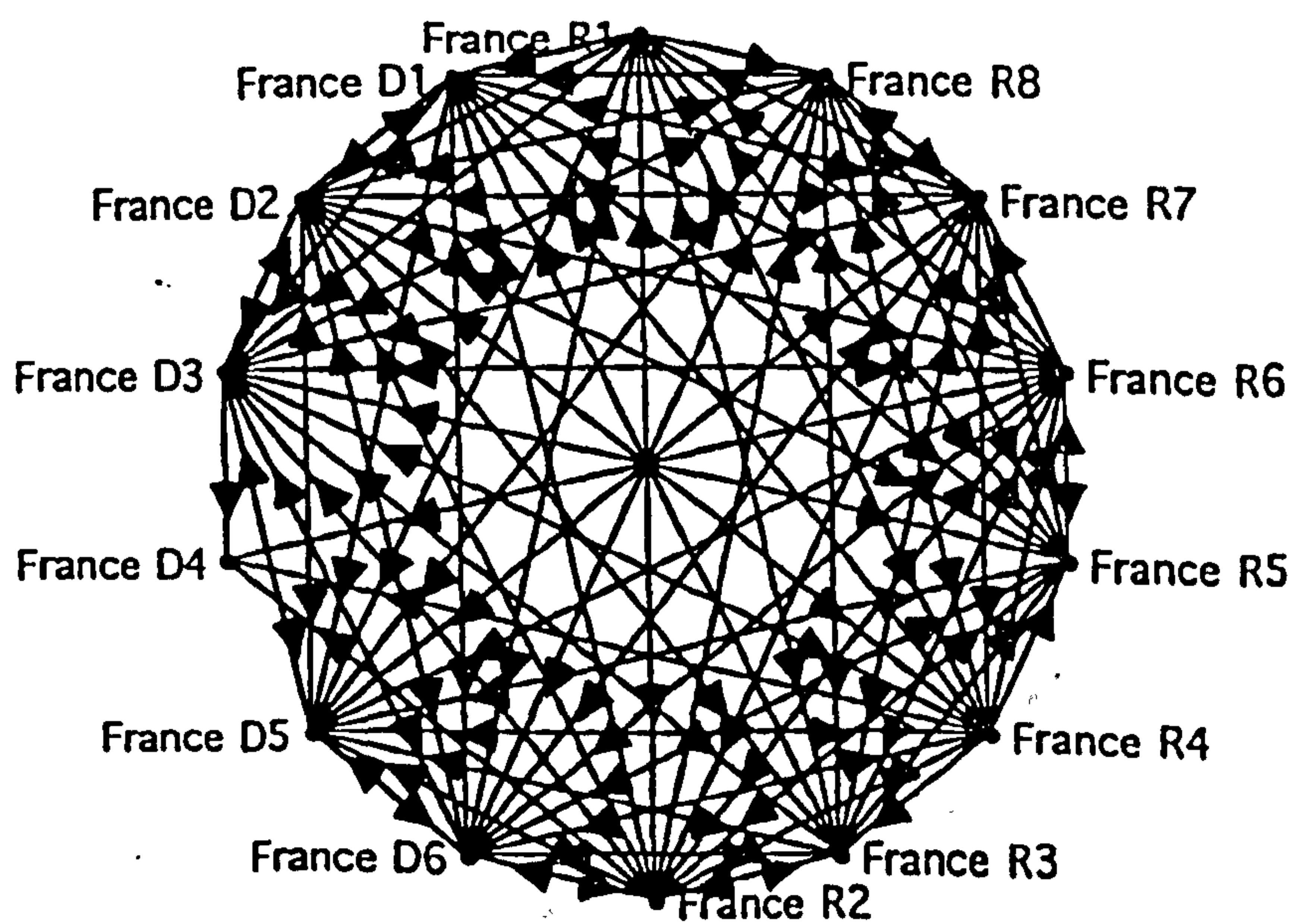
Construct Links (at least 50% over 95.0)



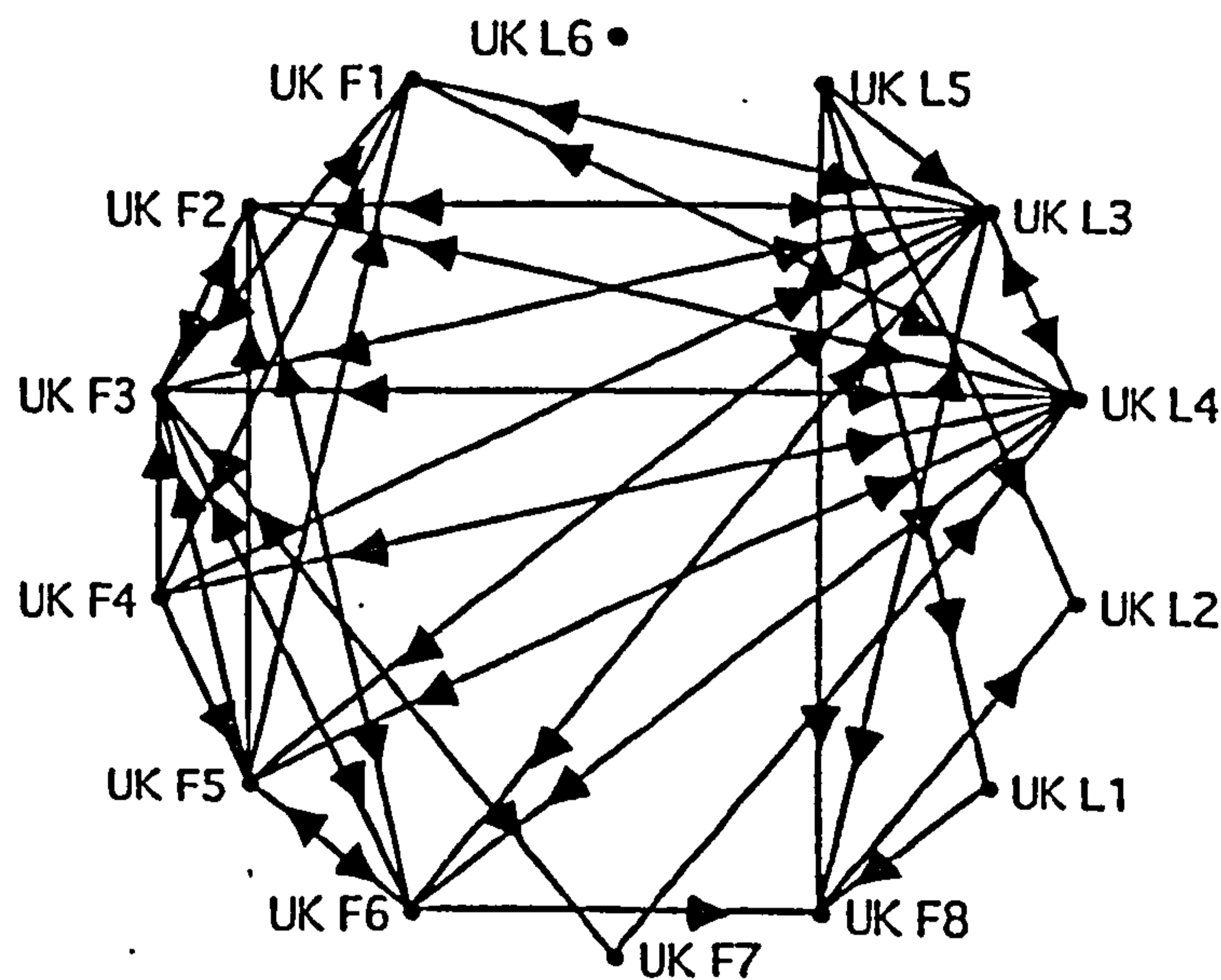
Construct Links (at least 50% over 90.0)



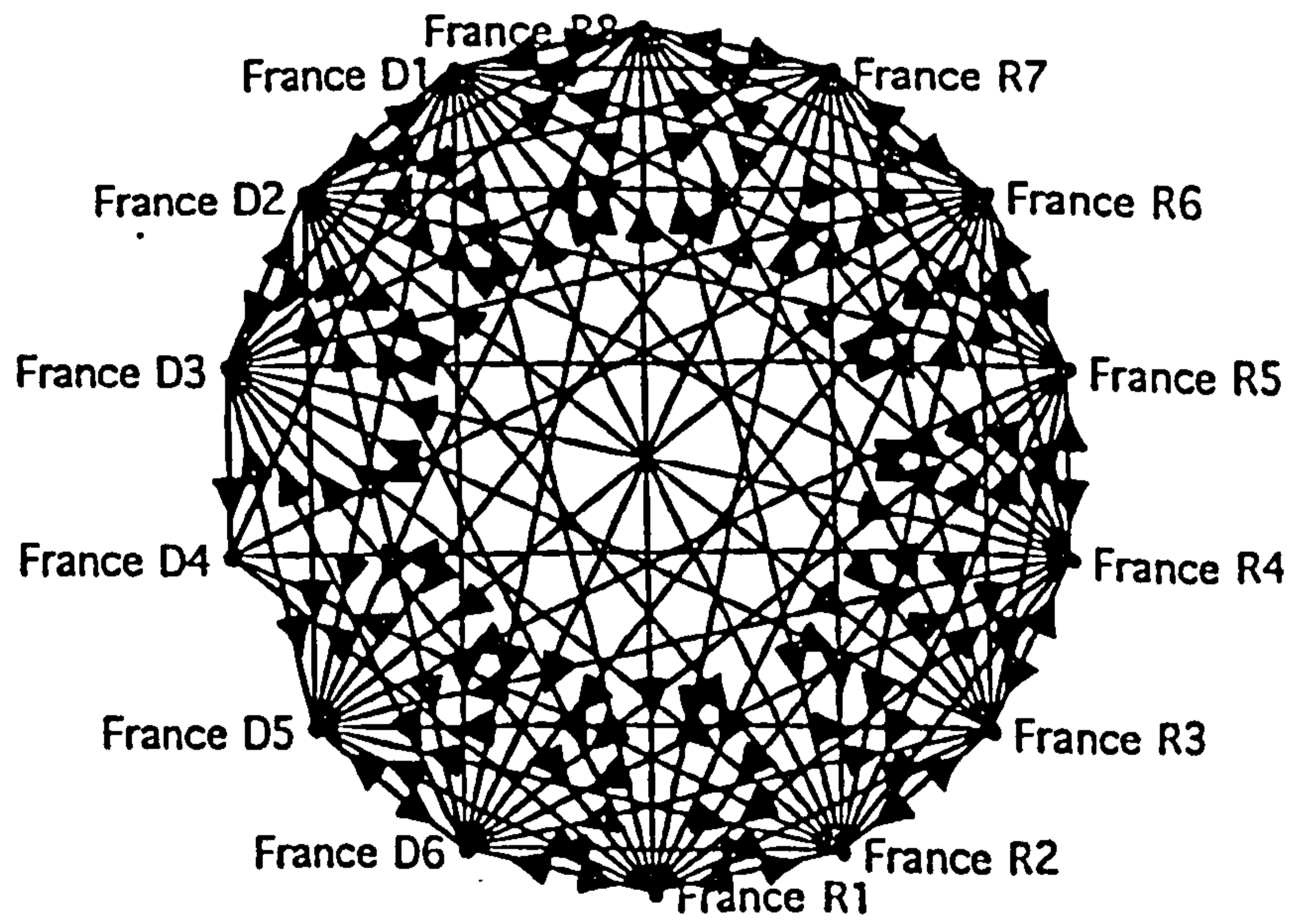
Construct Links (at least 50% over 90.0)



Construct Links (at least 50% over 85.0)



Construct Links (at least 50% over 85.0)



Appendix 3: Example of letter sent to the companies surveyed and questionnaire used in study 3 (Chapter Seven).

XXXXXX

To: All OP and CS Managers

From: XXXXX

Date: May 1999

Subject: Research on the work environment and health at work

We have been contacted by Mrs. Nadine Mellor, a researcher from the Institute of Work, Health and Organisations based in the Business School of Nottingham University. The subject of the research conducted by Mrs. Mellor is a study of the effects of the work environment on managers' health.

Similar studies have been made in different organisations in England by Prof. Cox and Dr. Griffiths from the Institute which were funded by the Health and Safety Executive. We have agreed to support the project within XXXXX and would be grateful for the cooperation of all Managers from the Customer and Operations Services.

The outcomes of the study will provide XXXXX with information which will help to understand fully the effects of the working conditions. The questionnaire is anonymous and we will inform you of the results.

We are hoping that as many people as possible will cooperate in the study. The questionnaire will take 25 minutes to complete. You may want to take the form home for completion but in any case it should be ready to be sent in the prepaid envelope provided, before the **May 28, 1999**.

Thank you for your cooperation.



Institute of Work, Health & Organisations

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*A World Health Organisation Collaborating Centre
in Occupational Health*

RESEARCH ON THE WORK ENVIRONMENT AND HEALTH AT WORK

NB: It is important to answer **all** the questions otherwise the questionnaire cannot be analyzed. If the question is **not applicable**, write **NA** next to it. Thank you.

Section 1. Your personal work values

This section examines your personal work values, i.e. what is important or less important in a job. This information is relevant as our aim is to study international differences. Please think of **an ideal job** – disregarding your present job. In choosing an ideal job, circle the number which reflects the degree of importance you give to each statement listed below.

	0 of very little or no importance	1 of little importance	2 of moderate importance	3 very important	4 of utmost importance
1. Have sufficient time left for your personal or family life	0	1	2	3	4
2. Have challenging tasks to do, from which you can get a personal sense of accomplishment	0	1	2	3	4
3. Have a good working relationship with your direct supervisor	0	1	2	3	4
4. Have security of employment	0	1	2	3	4
5. Have considerable freedom to adopt your own approach to the job	0	1	2	3	4
6. Work with people who cooperate well with one another	0	1	2	3	4
7. Be consulted by your immediate manager in his/her decisions	0	1	2	3	4
8. Make a real contribution to the success of your company	0	1	2	3	4
9. Have an opportunity for advancement to higher level jobs	0	1	2	3	4
10. Work in a prestigious organisation	0	1	2	3	4
11. Work in a well-defined job situation where the requirements are clear	0	1	2	3	4

Section 2. Satisfaction with your work environment

This section describes different aspects of the working environment, relating either to the content of your job or to the organisational context in which you work. Please circle the number which most accurately reflects your level of satisfaction for each item.

0	1	2	3	4
Very		Neither		Very
Unsatisfactory	Unsatisfactory	Unsatisfactory/Satisfactory	Satisfactory	Satisfactory

Work design

1. Your workload, the amount of tasks to be done	0	1	2	3	4
2. The amount of control you have over your workload	0	1	2	3	4
3. The amount of time you work under time pressure to complete a task quickly	0	1	2	3	4
4. The amount of time you spend doing the work of others who are absent	0	1	2	3	4
5. The variety of the tasks you have to perform	0	1	2	3	4
6. How interesting your work is	0	1	2	3	4
7. The priorities which are given to you to perform tasks	0	1	2	3	4
8. The number of conflicting demands you have	0	1	2	3	4
9. The possibility to concentrate without being disturbed	0	1	2	3	4
10. The quality of feedback you get from your direct manager about how well (or badly) you are doing the job	0	1	2	3	4
11. The amount of paperwork (reports, etc) you have to do	0	1	2	3	4
12. The availability of the work equipment or tools	0	1	2	3	4
13. The level of noise in your immediate work area	0	1	2	3	4

Work organisation

1. The pattern of shift working (if not applicable to you, write NA)	0	1	2	3	4
2. The amount of time spent working outside of contracted hours (i.e. overtime)	0	1	2	3	4
3. Arranging opportunities to take time off or holidays	0	1	2	3	4
4. The staffing levels (i.e. enough people to do the job)in your department	0	1	2	3	4
5. The support (listening, help) from management about home problems	0	1	2	3	4

0	1	2	3	4
Very		Neither		Very
Unsatisfactory	Unsatisfactory	Unsatisfactory/Satisfactory	Satisfactory	Satisfactory

Career and pay

1. Job security	0	1	2	3	4
2. The extent to which your pay reflects the level of responsibility you have	0	1	2	3	4
3. The way promotion is handled within XXXXX	0	1	2	3	4

Interpersonal relations

1. The co-operation and practical help you can get from your colleagues	0	1	2	3	4
2. The quality of your colleagues' work within your department	0	1	2	3	4
3. The way conflicts are handled within the unit or team	0	1	2	3	4
4. The support you can get from the Human Resource department	0	1	2	3	4

Organisational issues

1. The clarity of information given to you when changes occur within XXXXX	0	1	2	3	4
2. The frequency you have to deal with aggressive or violent customers	0	1	2	3	4
3. The quality of management training offered within XXXXX	0	1	2	3	4
4. The quality of stress management training i.e. how to handle violent customers or how to cope with stress at work	0	1	2	3	4
5. Participation and consultation in decisions which affect your job	0	1	2	3	4
6. Quality (i.e. helpful, genuine) of communication with your immediate manager	0	1	2	3	4
7. Quality of communication with senior management in your department	0	1	2	3	4
8. Support (listening, help) from your immediate manager	0	1	2	3	4

Home / Work balance

This section asks about the frequency to which your work interfere with your private life. Please circle the appropriate number ranging from 0 = always to 4 = never.

	always	often	at times	rarely	never
1. Worrying about my job is interfering with my relationship with my partner	0	1	2	3	4
2. I receive support from my partner or friends about work problems	0	1	2	3	4
3. After work, I am not able to “switch off” at home	0	1	2	3	4

Section 3. Your own coping strategies

This section lists several ways of coping with stressful or difficult situations. Please think about a stressful event at work in which you were involved and indicate which strategies you used to cope with the situation. Please circle the number which reflects your opinion, from No = 0 to 3 = Yes

	No	Mostly no	Mostly yes	Yes
1. I made a plan of action and followed it	0	1	2	3
2. I shared my concern with someone	0	1	2	3
3. I tried hard to reach the solution I wanted	0	1	2	3
4. I took things one step at a time	0	1	2	3
5. I looked for the ‘silver lining’, i.e. I tried to look for positive aspects	0	1	2	3
6. I talked to someone to find out more about the situation	0	1	2	3
7. I felt guilty	0	1	2	3
8. I didn't let my emotions show	0	1	2	3
9. I dreamt about a place or a time which was much better than this	0	1	2	3
10. I refused to believe it had really happened	0	1	2	3
11. I realized I brought the problem on myself	0	1	2	3
12. I tried not to isolate myself from other people	0	1	2	3
13. I accepted sympathy and understanding from someone	0	1	2	3
14. I changed my attitude/behaviour in a positive manner so that I could face the situation better	0	1	2	3
15. I criticized or lectured myself	0	1	2	3
16. I jogged or did some physical exercise	0	1	2	3
17. I tried to make myself feel better by drinking alcohol, smoking or eating	0	1	2	3

Section 4. Your general health and well-being

This section is concerned with how well you have been feeling. Please read each question carefully and decide how often, **over the last six months**, you have experienced the various symptoms that are listed. Please circle the appropriate number on the response scale from 0 = never to 4 = all the time.

<i>How often ...</i>	never	rarely	some times	often	all the time
1. Have you found yourself becoming easily bored ?	0	1	2	3	4
2. Have you become easily annoyed or irritated	0	1	2	3	4
3. Have you had to clear your throat ?	0	1	2	3	4
4. Has your thinking got mixed up when you have had to do things quickly ?	0	1	2	3	4
5. Have you done things on impulse ?	0	1	2	3	4
6. Have you forgotten things ?	0	1	2	3	4
7. Have things got on your nerves and worn you out ?	0	1	2	3	4
8. Have you become tired easily ?	0	1	2	3	4
9. Has your face become flushed ?	0	1	2	3	4
10. Have you had difficulty in falling or staying asleep ?	0	1	2	3	4
11. Have your feelings been easily hurt ?	0	1	2	3	4
12. Has it been hard for you to make up your mind ?	0	1	2	3	4

Section 5. Your health- related behaviors

Please remember that your responses are anonymous and confidential. These data would be useful for our analyses. Please tick the appropriate box.

1. Do you smoke ?

☐ YES☐ NO
2. If YES, do you smoke :

- less than 10 cigarettes per day ?☐ YES☐ NO

- more than 20 cigarettes per day ?☐ YES☐ NO
3. Do you drink alcohol ?

☐ YES☐ NO
4. If YES, do you consume :

- less than 14 units* per week ?☐ YES☐ NO

- more than 35 units per week ?☐ YES☐ NO

* (1 unit = half of a pint of beer, 1 glass of wine or spirits)
5. How many hours do you sleep per night on average?

☐ 1- 4 hours sleep☐ 5 - 6 hours sleep☐ 7 hours or more
6. Do you practice a sport or exercise regularly ?

☐ YES☐ NO
7. How healthy are you ?

☐ Very healthy☐ Quite healthy☐ Not really healthy

Section 6. Background information

This final section is to provide us with background information about the population under study. It is not our intention to identify any particular individual. Please give the information requested or tick the statements which apply to you.

A . In which country do you work ?

B. In which department do you work ?

1. What is your current job position ?
(e.g customer service manager, etc)

2. How long have you been employed by XXXXX? yearsmonths

3. For how long have you held your current position ? yearsmonths

4. How many people do you manage/supervise directly ? people

5. Are you ? ☐ Male ☐ Female

6. How old are you (to the nearest year) ? years

7. How many hours do you work per week on average? hours/week

8. How many days in the last 6 months did you have off
for sickness ? days

9. In the last 12 months, did you encounter any negative
event private or professional (for example divorce,
death of close relative, redundancy of partner) which
affected you ? ☐ YES ☐ NO

10. If you had the opportunity to change job and leave
XXXXX, would you do so ? ☐ YES ☐ NO

Thank you for your cooperation

Appendix 4: Questionnaires used in study 4 (Chapter Eight)

- ***Questionnaire used at the start of training***
- ***Questionnaire used at the end of training***
- ***Questionnaire used at follow-up***



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TRAINING EVALUATION (at the start of the training)

The aim of the current questionnaire is to analyze the effects of the sales training. Several sections are meant to identify the different factors which are present in the training effectiveness. These sections are : A: Background information, B: Training perception, C: Knowledge structure regarding selling techniques, D: Some aspects of the working conditions, E: Work methods and F: General well-being.

We ask you to answer the questionnaire individually, as precisely and sincerely as possible. The CONFIDENTIALITY is guaranteed. Individual responses will not be seen by XXXXX. Only group results will be communicated to XXXXX. However it is important that you write your name on the questionnaire so that we can compare this questionnaire with another two that your will be asked to complete at the end of training (only sections B et C) and two to three months after training. Thank you for your cooperation.

Nadine Mellor.

Section C cont'd

- (a) To establish priorities in time management
(b) To deal with important items first

Example:

(6 = slightly similar) because 'importance' is a criterion of priority but not the only one, 'urgency' is another one.

1 (a) One of the efficient sales techniques

(b) The skill of the sales person to guess/presume what the guest is thinking
Not at all Not very Dissimilar Slightly A little Slightly Very Completely
similar similar dissimilar similar similar similar similar similar
1 2 3 4 5 6 7 8 9

2 (a) Avoid asking the guest questions about his/her current dissatisfaction

(b) To understand that a request from the guest can be a sales opportunity
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

3 (a) One of the efficient sales techniques

(b) Asking the guest about his/her latent (non explicit) needs
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

4 (a) The skill of the sales person to guess/presume what the guest is thinking

(b) Avoid asking the guest questions about his/her current dissatisfaction
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

5 (a) Asking the guest about his/her latent (non explicit) needs

(b) To understand that a request from the guest can be a sales opportunity
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

6 (a) Avoid asking the guest questions about his/her current dissatisfaction

(b) One of the efficient sales techniques
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

7 (a) Asking the guest about his/her latent (non explicit) needs

(b) The skill of the sales person to guess/presume what the guest is thinking
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

8 (a) To understand that a request from the guest can be a sales opportunity

(b) One of the efficient sales techniques
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

9 (a) Avoid asking the guest questions about his/her current dissatisfaction

(b) Asking the guest about his/her latent (non explicit) needs
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

10 (a) To introduce XXX products to the guest at the start of the call

(b) One of the efficient sales techniques
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

11 (a) To understand that a request from the guest can be a sales opportunity

(b) The skill of the sales person to guess/presume what the guest is thinking
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

12 (a) One of the efficient sales techniques

(b) The more the sales person talks during the call with the guest, the better the sales person masters the call
Not at all Not at all Completely
similar similar similar
1 2 3 4 5 6 7 8 9

Section D. The following statements concern some of your working conditions. Please, indicate your level of agreement or disagreement for each statement by circling a number between 1 and 6.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
1. I receive enough training to do my job.	1	2	3	4	5	6
2. I receive enough information on the XXXXX products and services to do my job.	1	2	3	4	5	6
3. I have the necessary resources and equipment to do my job.	1	2	3	4	5	6
4. I can use the work methods that suit me the best to do my job.	1	2	3	4	5	6
5. I can give my opinion concerning decisions that concern my job.	1	2	3	4	5	6
6. In general, my opinion or suggestions are taken into account by the management.	1	2	3	4	5	6
7. My supervisor gives me useful feedbacks that I put into practice.	1	2	3	4	5	6
8. My job allows me to develop my skills and talent.	1	2	3	4	5	6
9. I am satisfied with my pay for the kind of job I do.	1	2	3	4	5	6
10. My supervisor's manager gives us all the support that we need.	1	2	3	4	5	6
11. Sometimes, it is difficult to face the workload that is given to me.	1	2	3	4	5	6
12. The workload does not endanger the quality of work I perform.	1	2	3	4	5	6
13. I feel that there is always an urgency about everything.	1	2	3	4	5	6
14. Overall, I am satisfied with the type of job I do.	1	2	3	4	5	6
15. I am proud to work for XXXXX.	1	2	3	4	5	6
16. I am satisfied with the level of responsibility I am given in my job.	1	2	3	4	5	6
17. The coaching & monitoring with my supervisor are really helpful	1	2	3	4	5	6
18. The number of coaching & monitoring session I have per month is enough	1	2	3	4	5	6
19. How many coaching & monitoring sessions do you have per month ?	<input type="checkbox"/> none	<input type="checkbox"/> 1 to 3	<input type="checkbox"/> 4 to 10	<input type="checkbox"/> more than 10		

Section E This section concerns your preferred methods of tackling your tasks or events in general. Please indicate your level of agreement or disagreement with each statement by circling a number between 1 and 6.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
1. When I make plans, I am certain I can make them work.	1	2	3	4	5	6
2. If I can't do a job the first time, I keep trying until I can.	1	2	3	4	5	6
3. When I set important goals for myself, I rarely achieve them.	1	2	3	4	5	6
4. I give up on things before completing them.	1	2	3	4	5	6
5. I avoid facing difficulties, I prefer to approach them indirectly.	1	2	3	4	5	6
6. If something looks too complicated, I will not even bother to try it.	1	2	3	4	5	6
7. When I have something unpleasant to do, I stick to it until I finish it.	1	2	3	4	5	6
8. When I decide to do something, I go right to work on it .	1	2	3	4	5	6
9. When trying to learn something new, I soon give up if I am not initially successful.	1	2	3	4	5	6
10. When unexpected problems occur, I don't handle them well.	1	2	3	4	5	6
11. I avoid trying to learn new things when they look too difficult for me.	1	2	3	4	5	6
12. Failure just makes me try harder.	1	2	3	4	5	6
13. I feel insecure about my ability to do things.	1	2	3	4	5	6
14. I am a self-reliant person, who relies only on herself to do his/her job.	1	2	3	4	5	6
15. I give up easily.	1	2	3	4	5	6
16. In general, I do not seem capable of dealing with most problems that come up in life.	1	2	3	4	5	6

Section F. This section concerns your general well-being. For each question please indicate how often over the last six months, you have experienced the following symptoms. Please, circle a number on the response scale from 0 to 4.

<i>How often in the last six months...</i>	Never	Rarely	Sometimes	Often	All the time
1. Have you found yourself becoming easily bored ?	0	1	2	3	4
2. Have you become easily annoyed or irritated ?	0	1	2	3	4
3. Have you had to clear your throat ?	0	1	2	3	4
4. Has your thinking got mixed up when you have had to do things quickly ?	0	1	2	3	4
5. Have you done things on impulse?	0	1	2	3	4
6. Have you forgotten things ?	0	1	2	3	4
7. Have things got on your nerves and worn you-out ?	0	1	2	3	4
8. Have you become tired easily ?	0	1	2	3	4
9. Has your face become flushed ?	0	1	2	3	4
10. Have you had difficulty in falling or staying asleep ?	0	1	2	3	4
11. Have your feelings been easily hurt ?	0	1	2	3	4
12. Has it been hard for you to make up your mind ?	0	1	2	3	4

THANK YOU.



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TRAINING EVALUATION (at the end of training)

Please could you write your name and complete sections B and C of the following questionnaire.

Thank you for your cooperation.

Nadine Mellor.

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Name of participant :.....

Date of training :.....

Section B

For each following statement , please indicate the degree of agreement by circling a number between 1 and 6:

- | | Strongly disagree
1 | Disagree
2 | Slightly disagree
3 | Slightly agree
4 | Agree
5 | Strongly Agree
6 |
|---|------------------------|---------------|------------------------|---------------------|------------|---------------------|
| 8. I think that this training is going to be very useful in my job | | | | | | 1 2 3 4 5 6 |
| 9. I perceive this training as a real improvement of my skills | | | | | | 1 2 3 4 5 6 |
| 10. I am going to have the opportunity to put the content of this training into practice. | | | | | | 1 2 3 4 5 6 |
| 11. I find satisfactory the theoretical aspect of the training (presentations) | | | | | | 1 2 3 4 5 6 |
| 12. I find satisfactory the practical aspects of the training (exercises, role play). | | | | | | 1 2 3 4 5 6 |

Section C

On the next page, we ask you to judge if two statements (a) and (b) presented are similar or not. In other words, you are asked to judge if two behaviours described in each pair of sentences say the same thing and mean something similar or not.

Please circle your answer on a scale which goes from 1 to 9.

- | Not at all similar
1 | Not very similar
2 | Dissimilar
3 | Slightly dissimilar
4 | A little dissimilar
5 | Slightly similar
6 | similar
7 | Very similar
8 | Completely similar
9 |
|-------------------------|-----------------------|-----------------|--------------------------|--------------------------|-----------------------|--------------|-------------------|-------------------------|
|-------------------------|-----------------------|-----------------|--------------------------|--------------------------|-----------------------|--------------|-------------------|-------------------------|

If you circle 1 it means that you judge the two sentences (a) and (b) are not at all similar. By circling 9, it means that the two sentences (a) and (b) are similar.

NB: You can use any point on the scale between 1 and 9 according to the degree of similarity

Section C cont'd

(a) To establish priorities in time management
(b) To deal with important items first

Example:

(6 = slightly similar) because 'importance' is a criterion of priority but not the only one, 'urgency' is another one.

- | | | | | | | | | | | |
|---|---|-------------------------|-------------------|----------------------------|-------------------------|-------------------------|---------------------|---------------------------|--|--|
| 1 | (a) One of the efficient sales techniques | | | | | | | | | |
| | (b) The skill of the sales person to guess/presume what the guest is thinking | | | | | | | | | |
| | <i>Not at all similar</i> | <i>Not very similar</i> | <i>Dissimilar</i> | <i>Slightly dissimilar</i> | <i>A little similar</i> | <i>Slightly similar</i> | <i>Very similar</i> | <i>Completely similar</i> | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 2 | (a) Avoid asking the guest questions about his/her current dissatisfaction | | | | | | | | | |
| | (b) To understand that a request from the guest can be a sales opportunity | | | | | | | | | |
| | <i>Not at all similar</i> | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 3 | (a) One of the efficient sales techniques | | | | | | | | | |
| | (b) Asking the guest about his/her latent (non explicit) needs | | | | | | | | | |
| | <i>Not at all similar</i> | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 4 | (a) The skill of the sales person to guess/presume what the guest is thinking | | | | | | | | | |
| | (b) Avoid asking the guest questions about his/her current dissatisfaction | | | | | | | | | |
| | <i>Not at all similar</i> | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 5 | (a) Asking the guest about his/her latent (non explicit) needs | | | | | | | | | |
| | (b) To understand that a request from the guest can be a sales opportunity | | | | | | | | | |
| | <i>Not at all similar</i> | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |
| 6 | (a) Avoid asking the guest questions about his/her current dissatisfaction | | | | | | | | | |
| | (b) One of the efficient sales techniques | | | | | | | | | |
| | <i>Not at all similar</i> | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |

- | | | | | | | | | | | |
|--|-------------------------|---|---|---|---|---|---|---|---|--------------------|
| 7 (a) Asking the guest about his/her latent (non explicit) needs | Not at all similar
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely similar |
| (b) The skill of the sales person to guess/presume what the guest is thinking | | | | | | | | | | |
| 8 (a) To understand that a request from the guest can be a sales opportunity | Not at all similar
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely similar |
| (b) One of the efficient sales techniques | | | | | | | | | | |
| 9 (a) Avoid asking the guest questions about his/her current dissatisfaction | Not at all similar
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely similar |
| (b) Asking the guest about his/her latent (non explicit) needs | | | | | | | | | | |
| 10 (a) To introduce XXX products to the guest at the start of the call | Not at all similar
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely similar |
| (b) One of the efficient sales techniques | | | | | | | | | | |
| 11 (a) To understand that a request from the guest can be a sales opportunity | Not at all similar
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely similar |
| (b) The skill of the sales person to guess/presume what the guest is thinking | | | | | | | | | | |
| 12 (a) One of the efficient sales techniques | Not at all similar
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Completely similar |
| (b) The more the sales person talks during the call with the guest, the better the sales person masters the call | | | | | | | | | | |



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*A World Health Organisation Collaborating Centre
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TRAINING EVALUATION (2 to 3 months after the training)

We would like to thank you for your cooperation in the evaluation of the training. You have already completed the present questionnaire during your training. We ask you to complete it for the last time in order to discover what has happened during 2 to 3 months. You will be informed of the results through your line management.

The questionnaire has several sections which are: A: Training perceptions, B: Coaching and monitoring, C: Knowledge structure regarding selling techniques, D: Some aspects of the working conditions, E: Work methods and F: General well-being. We ask you to answer the questionnaire individually, as precisely and sincerely as possible. It is important not to complete it with your colleague but by yourself as it is your opinion that matters. Please send the questionnaire directly to me by using the envelope provided. Thank you.

Nadine Mellor.

Please write your name :.....

Section A

For each of the following statements regarding the sales training , please indicate your degree of agreement or disagreement by circling a number between 1 and 6:

- | | | | | | | | | | | | |
|-------------------|---|----------|---|-------------------|---|----------------|---|-------|---|----------------|---|
| Strongly disagree | 1 | Disagree | 2 | Slightly disagree | 3 | Slightly agree | 4 | Agree | 5 | Strongly agree | 6 |
|-------------------|---|----------|---|-------------------|---|----------------|---|-------|---|----------------|---|
1. I think that this training has been very useful in my job 1 2 3 4 5 6
2. I perceive this training as a real improvement of my skills 1 2 3 4 5 6
3. I had the opportunity to put the content of this training into practice 1 2 3 4 5 6

Section B

For each of the following statements regarding coaching and monitoring, please indicate your degree of agreement or disagreement by circling a number between 1 and 6:

4. The coaching and monitoring with my supervisor are really helpful 1 2 3 4 5 6
5. The number of coaching and monitoring sessions I have per month is enough 1 2 3 4 5 6

6. How many coaching and monitoring sessions did you have since your sales training ?

- ☐ none ☐ 1 to 3 ☐ 4 to 10 ☐ more than 10

Section C

On the next page, we ask you to judge if two statements (a) and (b) presented are similar or not. In other words, you are asked to judge if two behaviours described in each pair of sentences say the same thing and mean something similar or not.

Please circle your answer on a scale which goes from 1 to 9.

- | | | | | | | | | | | | | | | | | | |
|--------------------|---|------------------|---|------------|---|---------------------|---|------------------|---|------------------|---|---------|---|--------------|---|--------------------|---|
| Not at all similar | 1 | Not very similar | 2 | Dissimilar | 3 | Slightly dissimilar | 4 | A little similar | 5 | Slightly similar | 6 | Similar | 7 | Very similar | 8 | Completely similar | 9 |
|--------------------|---|------------------|---|------------|---|---------------------|---|------------------|---|------------------|---|---------|---|--------------|---|--------------------|---|

If you circle 1 it means that you judge the two sentences (a) and (b) are not at all similar. By circling 9, it means that the two sentences (a) and (b) are similar.

NB: You can use any point on the scale between 1 and 9 according to the degree of similarity

Section C cont'd

- (a) To establish priorities in time management
(b) To deal with important items first

Example:

(6 = slightly similar) because 'importance' is a criterion of priority but not the only one, 'urgency' is another one.

1 (a) One of the efficient sales techniques

(b) The skill of the sales person to guess/presume what the guest is thinking
Not at all Not very Dissimilar Slightly A little Slightly Very Completely
similar similar dissimilar similar similar similar similar similar
1 2 3 4 5 6 7 8 9

2 (a) Avoid asking the guest questions about his/her current dissatisfaction

(b) To understand that a request from the guest can be a sales opportunity
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

3 (a) One of the efficient sales techniques

(b) Asking the guest about his/her latent (non explicit) needs
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

4 (a) The skill of the sales person to guess/presume what the guest is thinking

(b) Avoid asking the guest questions about his/her current dissatisfaction
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

5 (a) Asking the guest about his/her latent (non explicit) needs

(b) To understand that a request from the guest can be a sales opportunity
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

6 (a) Avoid asking the guest questions about his/her current dissatisfaction

(b) One of the efficient sales techniques
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

7 (a) Asking the guest about his/her latent (non explicit) needs

(b) The skill of the sales person to guess/presume what the guest is thinking
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

8 (a) To understand that a request from the guest can be a sales opportunity

(b) One of the efficient sales techniques
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

9 (a) Avoid asking the guest questions about his/her current dissatisfaction

(b) Asking the guest about his/her latent (non explicit) needs
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

10 (a) To introduce XXX products to the guest at the start of the call

(b) One of the efficient sales techniques
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

11 (a) To understand that a request from the guest can be a sales opportunity

(b) The skill of the sales person to guess/presume what the guest is thinking
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

12 (a) One of the efficient sales techniques

(b) The more the sales person talks during the call with the guest, the better the sales person masters the call
Not at all similar Completely similar
1 2 3 4 5 6 7 8 9

Section D. The following statements concern some of your working conditions. Please, indicate your level of agreement or disagreement for each statement by circling a number between 1 and 6.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
1. I receive enough training to do my job.	1	2	3	4	5	6
2. I receive enough information on the XXXXX prodducts and services to do my job.	1	2	3	4	5	6
3. I have the necessary resources and equipment to do my job.	1	2	3	4	5	6
4. I can use the work methods that suit me the best to do my job.	1	2	3	4	5	6
5. I can give my opinion concerning decisions that concern my job.	1	2	3	4	5	6
6. In general, my opinion or suggestions are taken into account by the management.	1	2	3	4	5	6
7. My supervisor gives me useful feedbacks that I put into practice.	1	2	3	4	5	6
8. My job allows me to develop my skills and talent.	1	2	3	4	5	6
9. I am satisfied with my pay for the kind of job I do.	1	2	3	4	5	6
10. My supervisor's manager gives us all the support that we need.	1	2	3	4	5	6
11. Sometimes, it is difficult to face the workload that is given to me.	1	2	3	4	5	6
12. The workload does not endanger the quality of work I perform.	1	2	3	4	5	6
13. I feel that there is always an urgency about everything.	1	2	3	4	5	6
14. Overall, I am satisfied with the type of job I do.	1	2	3	4	5	6
15. I am proud to work for XXXXX.	1	2	3	4	5	6
16. I am satisfied with the level of responsibility I am given in my job.	1	2	3	4	5	6

Section E This section concerns your preferred methods of tackling your tasks or events in general. Please indicate your level of agreement or disagreement with each statement by circling a number between 1 and 6.

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
1. When I make plans, I am certain I can make them work.	1	2	3	4	5	6
2. If I can't do a job the first time, I keep trying until I can.	1	2	3	4	5	6
3. When I set important goals for myself, I rarely achieve them.	1	2	3	4	5	6
4. I give up on things before completing them.	1	2	3	4	5	6
5. I avoid facing difficulties, I prefer to approach them indirectly.	1	2	3	4	5	6
6. If something looks too complicated, I will not even bother to try it.	1	2	3	4	5	6
7. When I have something unpleasant to do, I stick to it until I finish it.	1	2	3	4	5	6
8. When I decide to do something, I go right to work on it .	1	2	3	4	5	6
9. When trying to learn something new, I soon give up if I am not initially successful.	1	2	3	4	5	6
10. When unexpected problems occur, I don't handle them well.	1	2	3	4	5	6
11. I avoid trying to learn new things when they look too difficult for me.	1	2	3	4	5	6
12. Failure just makes me try harder.	1	2	3	4	5	6
13. I feel insecure about my ability to do things.	1	2	3	4	5	6
14. I am a self-reliant person, who relies only on herself to do his/her job.	1	2	3	4	5	6
15. I give up easily.	1	2	3	4	5	6
16. In general, I do not seem capable of dealing with most problems that come up in life.	1	2	3	4	5	6

Section F. This section concerns your general well-being. For each question please indicate how often over the last three months, you have experienced the following symptoms. Please, circle a number on the response scale from 0 to 4.

How often in the last three months...

	Never	Rarely	Sometimes	Often	All the time
1. Have you found yourself becoming easily bored ?	0	1	2	3	4
2. Have you become easily annoyed or irritated ?	0	1	2	3	4
3. Have you had to clear your throat ?	0	1	2	3	4
4. Has your thinking got mixed up when you have had to do things quickly ?	0	1	2	3	4
5. Have you done things on impulse?	0	1	2	3	4
6. Have you forgotten things ?	0	1	2	3	4
7. Have things got on your nerves and worn you out ?	0	1	2	3	4
8. Have you become tired easily ?	0	1	2	3	4
9. Has your face become flushed ?	0	1	2	3	4
10. Have you had difficulty in falling or staying asleep ?	0	1	2	3	4
11. Have your feelings been easily hurt ?	0	1	2	3	4
12. Has it been hard for you to make up your mind ?	0	1	2	3	4

PLEASE GIVE YOUR QUESTIONNAIRE BACK TO
NADINE MELLOR. THANK YOU.

