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Occupational Health and Safety



PSYCHOLOGICAL AND BEHAVIORAL ASPECTS OF RISK

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Psychosocial Risks and Positive Factors among Construction Workers

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Construction Work from a Psychosocial Point of View: An Overview

Construction is a large, dynamic, and complex industrial sector that plays an important role in the US (Behm, 2008) and in European economies. Construction workers and employers build houses, workplaces, and other buildings, and also maintain the physical infrastructures of cities all over the world. However, job fatalities in the construction industry have long been disproportionate to the number of employees in the business. To date, the European Agency for Safety and Health at Work (2008) shows that the construction industry has one of the worst occupational safety and health records in Europe. New data from the International Work Organization (IWO) in 2007 reveals that 60,000 fatal accidents take place in the construction industry every year. This is the equivalent to one death every ten minutes. Therefore, this sector is one of the most afflicted with occupational accidents.

The most obvious job demands on construction sites are physical (for example, working with heavy equipment, noise, vibrations), chemical exposures (for example, asbestos, lead, epoxy resins), which are frequently the most important causes of absenteeism and disability. More than half the cases of sick leave among construction workers are the result of musculoskeletal complaints and physical disorders, mostly related to the lower back. In this sense, the *Fourth European Working Conditions Survey* (European Foundation for the Improvement of Living and Working Conditions, 2007) indicates that the symptoms most reported by construction workers are backache and musculoskeletal complaints. So it seems clear that construction work is an inherently dangerous occupation. But psychosocial risks also play a key role in this industry as demonstrated by the fact that the aforementioned *Fourth European Working Conditions Survey* (2007) states that musculoskeletal complaints in the construction sector are followed by psychosocial factors such as fatigue and stress (22 percent).

Furthermore, the European Agency for Safety and Health at Work (2008) supports the idea of the importance of psychosocial factors in construction work. It shows that the top ten emerging psychosocial risks relate to the following five main topics:

(1) new forms of employment contracts and job insecurity; (2) an aging workforce; (3) work intensification; (4) high emotional demands at work; and (5) poor work-life balance. Of these emerging psychosocial risks, the first relate more with the construction sector. Research into the influence of irregular forms of employment on worker occupational safety and health reveal that non-permanent workers face higher job insecurity, poorer job conditions, higher job demands, and more occupational accidents. Moreover, stress-related tension and exhaustion appear to be more severe for precariously employed workers than for workers with permanent jobs. Specifically, construction workers have to cope with unpredictable working hours, and casual work enters under this heading since it consists of very short and sometimes unpredictable periods of employment, mixed with periods of unemployment. Furthermore, the pace of work set by colleagues affects over 60 percent of workers in the construction sector.

Empirical research also provides results that stress the role of psychosocial factors in this industry. In this sense, we may state that many construction workers feel stressed to meet certain deadlines and to face periods of unemployment between projects. In addition, there are continuous and rapid changes in the work environment, and colleagues come and go when moving from one project to another. Even in large construction firms, the transition from one work site to another with different site managers can be detrimental to worker morale, especially when there is a lack of communication and/or misunderstanding of company policies (Sobeth et al., 2006).

Moreover in studies conducted among Spanish construction workers, Meliá and Becerril (2007) show that psychosocial risks play a role in this occupational sector, and their findings support, for example, that leadership has direct effects on not only the propensity to quit, but also on the perceived quality of the product. Salanova, Gracia and Lorente (2007) reveal that the most important psychosocial demands for construction workers are quantitative and qualitative (mental) overload, and routine. Moreover, workers report high levels of job disenchantment and medium levels of exhaustion. These results agree with the *Fourth European Working Conditions Survey* (2007) which shows how overload factors, such as quality standards requirement, job performance ratings, and doing complex and routine tasks, are the most specific job demands for the construction sector.

Psychosocial risks are not only important in themselves but, apparently, exposure to additional psychosocial risks is likely to exacerbate the level of danger by workers' increasing risk to injury. In this sense, the *Sixth Spanish National Survey of Work Conditions* (National Institute of Occupational Safety and Health at Work, 2007) indicates that workers perceive psychosocial and/or ergonomic aspects, such as negligence, overconfidence, or lack of attention (45 percent), and tiredness or fatigue (17 percent), as the main psychosocial causes of their work accidents.

In short, both physical and psychosocial risks are a great threat for the construction industry, and are missing in research on this topic. Therefore, this chapter focuses on the specific relationship among the different psychosocial factors and the consequences on health and well-being among construction workers. So far, although there is a lack of research into this topic in this particular occupational sector, we provide different research findings that support the idea that psychosocial risks are also a threat for construction workers in their workplaces.

THE RECIPROCAL INFLUENCE BETWEEN PHYSICAL AND PSYCHOSOCIAL RISKS

So far according to research, physical and psychosocial risks apparently move in different directions. However, some studies have linked them (physical and psychosocial risks) among construction workers. For example, Jansen, Bakker and de Jong (2001) tested and refined the Demand-Control-Support (DCS) Model among 210 construction workers. They hypothesized those mental and physical job demands, low job control, and lack of social support at work have direct and synergistic effects on burnout, and that they mediate the relationships between these potentially physical and psychosocial demanding working conditions on the one hand, and physical health complaints on the other. The results show that lack of social support is the most important determinant of burnout and health complaints among construction workers. In addition, physical demands only relate to burnout when participants have poor job control and report high social support. So, these results show an interaction between both kinds of demands and outcomes. Latza, Pfahlberg and Gefeller (2002) investigated the influence of manual stone and brick handling and psychosocial work factors on the risk of chronic low back pain with a longitudinal study of 488 male construction workers. The results indicate that workers with a low satisfaction with their work achievements more frequently suffer chronic low back pain. Similar risks are observed in the sub-group without chronic low back pain in the baseline survey. A strong effect of time pressure is only present for such workers.

Goldenhar, Williams and Swanson (2003) investigated this link among job stressors and injury or near-miss outcomes in a sample of 408 construction workers. The results show that ten of the 12 work-related stressors directly relate to either injury or near misses, including job demands, low job control, job uncertainty, low training, unsafe climate, skill under-utilization, irresponsibility for the safety of others, safety compliance, exposure hours, and job tenure. Other stressors such as harassment/discrimination, job certainty, lack of social support, skill underutilization, safety irresponsibility, safety compliance, and tenure in construction indirectly relate to either injuries through physical symptoms or to near misses through psychological strain.

In a systematic review based on eight articles published about psychosocial factors and musculoskeletal disorders among construction workers, Sobeth et al. (2006) noted how high job strain is the most commonly investigated factor, followed by job satisfaction, job control, and high quantitative job demands. All the studies report an association between musculoskeletal disorders and at least one psychosocial factor. Many of the reported associations are significant, even after adjusting for demographics and the physical demands of the job.

Finally, in a recent study with 147 active construction workers, Salem et al. (2008) not only revealed how psychosocial factors play a significant role in the construction industry, but also their association with physical factors. The results of a factor analysis indicate a significant association between four work compatibility variables (that is, work environment, physical task, performance, and job satisfaction) and musculoskeletal-stress symptoms among these construction workers.

So far, there is evidence for an association between psychosocial factors and musculoskeletal disorders. Moreover, this information is essential to the construction industry since most intervention programs focus only on construction employees' physical demands.

CONSTRUCTION WORKERS ALSO FEEL POSITIVE EXPERIENCES AT WORK

Although past research has shown that high physical and psychosocial demands related to injuries and strain mainly characterize construction work, workers in this sector also enjoy job and personal resources that contribute to positive experiences.

By considering past and recent research on psychosocial risks among construction workers, the following sections of this chapter present some empirical findings related to the negative psychosocial factors of the work environment and their negative consequences on unwell-being, performance, and accidents in workers, as well as the positive psychosocial factors of this work environment that influence feelings of well-being and psychosocial health at work in this occupational sector. So far, we adopt a holistic perspective of the "Positive Psychology" movement to study the psychosocial factors related to the work environment and construction workers' experiences.

The Positive Psychology movement (Seligman and Csikszentmihalyi, 2000) focuses on human strengths and optimal functioning. Specifically, Seligman, and Csikszentmihalyi (2000, p. 5) state that the purpose of Positive Psychology "...is to begin to catalyze a change in the focus of psychology from pre-occupation only with repairing the worst things in life to also building positive qualities." In a similar vein, Cameron, Dutton and Quinn (2003, p. 4) introduces a new discipline, Positive Organizational Scholarship, which is about "...the study of especially positive outcomes, processes, and attributes of organizations and their members". However, our approach goes one step forward with the emergence of a truly Occupational Health Psychology that includes the entire spectrum of employee health and well-being, ranging from ill-health, unwell-being, and poor functioning to positive health, well-being, and optimal functioning. The objectives are to investigate and to improve employees' health and well-being, and to also promote their optimal functioning in groups and occupational settings.

The following sections are a compendium of empirical- and theoretical-based results among construction workers. The first study goes into safety attitudes, climate, and culture and how they relate to safety performance. There is also a description of theoretical models on climate and attitudes toward safety as well as research results about this topic among construction workers. Secondly, the "Social Cognitive Theory" of Albert Bandura proves useful to explain the negative effects of high levels of self-efficacy (overconfidence) among construction workers. Finally, we present some empirical data to illustrate: (1) the main psychosocial risks and positive factors assessed in the Spanish construction industry with a field study done on several construction companies; and (2) an in-depth case study in a construction company.

Safety Attitudes, Climate/Culture, and its Relationship with Safety Performance

In the last decade, researchers have developed specific theories and methods to investigate the psychosocial aspects of safety performance in organizations, and research on safety performance has taken two forms: (1) at an individual level, considering safety attitudes; and (2) at a group/organizational level through the safety climate and safety culture.

SAFETY ATTITUDES AND PERFORMANCE

Different scholars have provided evidence that when people have positive attitudes, they actually display behaviors that allow them to approach, support, or improve the object of attitude. For example, a worker with positive safety attitudes systematically uses personal protective equipment and adopts safety rules at the workplace. Indeed, the other way round is also true with negative attitudes. Ajzen (1988, p. 117) defines an attitude as "someone's positive or negative evaluation of performing a particular behavior of interest." The current dominant idea indicates that under appropriate conditions, we may expect some relationships between attitudes and behaviors. The dominant theoretical models on these topics are the "Theory of Reasoned Action" (TRA) and its subsequent reformulation in the "Theory of Planned Behavior" (TPB) (for further information, see Ajzen, 2001). Briefly, the TPB claims that attitudes often fail to display strong correlations with behavior because of the large number of factors that potentially prevent the attitude from being converted into behavior, such as intentions, subjective norms caused by others, and the perceived behavioral control, which can be explained as efficacy beliefs (see the next section about self-efficacy).

In organizational contexts, safety attitudes relate to safety performance and relate indirectly to accident rates and self-reported injuries. Specifically, those individuals who have more positive safety attitudes are more likely to remain injury-free. To date, Cheyne et al. (2002) have found that safety attitudes positively and significantly relate to engagement in safety activities. McCabe et al. (2008) also document the positive relationships between manager's attitudes and less accidents and physical symptoms.

Findings about attitudes and their relationship to performance have shown the importance of sociodemographic variables such as age. Relationships among safety attitudes, safety performance, and age have been documented, for example, Siu, Phillips and Leung (2003) analyzed the relationships between these three elements (by considering accident rates and occupational injuries, such as safety performance) among construction workers. They show that older workers had more positive safety attitudes than younger ones. But age has a curvilinear effect on occupational injuries with an inverted U shape in which the frequency of injury increased first with age, and then declines. It seems that older construction workers are more experienced and are, therefore, at less risk at work. Besides, older workers may also be aware that fewer job opportunities are available for them, so they are more committed at work and are willing to comply with safety rules.

SAFETY CLIMATE/CULTURE AND PERFORMANCE

At the group/organizational level, research has focused on the study of safety climate and safety culture and their roles in predicting safety performance (that is, occupational accidents and injuries). Safety climate implies a subjective perception and evaluation of safety issues related to the organization, its members, structures, and processes, based on experience in the organizational environment and social relationships. Different terms have been used to define safety climate, such as the extent to which workers "share" attitudes toward safety which allow them to retain control of and responsibility for injury prevention (Doland and Canter, 1993). With a cognitive approach, Griffin and Neal (2000) argued that the definition of safety climate should be purely in terms of perceptions of the work environment, where the perceptions of the policies, procedures, and practices

relate to safety which, at the broadest level, reflect employee perceptions of the value of safety in an organization. On the other hand, safety culture concerns those aspects of the organizational culture which will have an impact on the attitudes and behavior related to increasing or decreasing risks (Guldenmund, 2000).

Safety climate and safety culture have been used interchangeably. Both reflect the attitudes, beliefs, perceptions, and values that employees share in relation to safety. However, safety culture is generally taken to be a more comprehensive construct than safety climate, while the latter is more temporal, subject to commonalities among the individual perceptions of the organization. Cox and Cox (1991) argued that employee attitudes, themselves, are one of the most important indices of safety culture and safety climate. Then, safety climate refers to the perceived state of safety culture at a particular place and a particular time, it is relatively unstable, and is subject to change depending on the features of the current environment or prevailing conditions (Wiegmann et al., 2002).

Some researchers have sought to determine whether different groups of workers within an organization or sector report different safety climates. They suggest that no universal set of safety climate factors exist among industrial sectors or even companies (Arboleda et al., 2003; Cox et al., 1998). In addition, different sub-climates are liable to exist at different levels within an organization. To date, McCabe et al. (2008) found different professional sub-climates to simultaneously co-exist at different levels within an organization (for example, youth, apprentices, and temporary employees) in the construction industry, and they suggest that health and safety programs need to focus specifically on these different safety sub-climates in order to be more effective.

A further step in research is about how safety climate and culture predict safety performance indicators such as perceived risk, accidents, and injuries. For example, the fact that a supervisor never talks about safety might influence his/her subordinates' beliefs that safety is not important at all and, in turn, develop a negative attitude toward safety at the workplace. Alternatively, a stronger safety climate could encourage employees to take greater responsibility in the safety of the organization which influences their engagement in safety behaviors (Hofmann and Stetzer, 1996).

Companies with low accident rates have stimulated the study of safety climate. These companies show a consistently high interest in and commitment to safety performance which relate to the successful implementation of safety intervention programs. This interest shows in the popularity of safety climate and culture surveys within the companies' repertoire of safety measures (for example, national intervention plans, statistical analysis, and publications). Consequently nowadays, there is a growing body of evidence which suggests that safety climate positively influences safety performance, that is, safety practices, safe behavior, and the lack of accidents at work.

In risk environments, such as the construction industry, it is essential to audit safety climate and management practices. However, the special features of the construction industry, as mentioned in above, are such that many workers involved in sub-contracted companies affect the nature and stability of risks, the structure of the companies, the relationships of workers with the main company, and the stability of the social relationships at the workplace. This affects the development of the safety climate over time, which makes longitudinal studies about this topic in the construction industry a difficult task. To date, the cross-cultural research in construction workers from England, Hong Kong, and Spain by Mellá et al. (2008) concludes that under situations such as outsourcing, and

lack of social contact of workers with managers and supervisors, it is hard for managers and supervisors to influence the formation and development of safety climate and safety culture among their subordinates. The results of this research show that the worker safety responses in all the samples did not relate to perceived risks. Workers can psychologically protect themselves by perceiving that external factors, and not their own personal safety responses, attribute to risks. We may understand these results as an indicator of the need for appropriate and effective intervention to create positive attitudes among employees and to simultaneously generate climate and safety culture. Companies must provide safety protection and increase safety supervision and enforcement in these special contexts (that is, social support, effective communication, interpersonal relations, enhance training, and so on).

Self-Efficacy and Safety Performance

The previous section highlights the importance of attitudes toward safety performance in the construction industry, as well as the safety climate/culture. But other variables are also important in determining safety performance, such as self-efficacy. This section includes several research findings about the (positive and negative) consequences of self-efficacy in their relationship with safety performance.

SELF-EFFICACY AND POSITIVE OUTCOMES

The framework of Albert Bandura's Social Cognitive Theory (SCT) frames efficacy beliefs into what, at the individual level, defines self-efficacy as "beliefs in one's capabilities to organize and execute courses of action required to produce given attainments" (Bandura, 1997, p. 3). At the group level however, the SCT extends the conception of human agency to collective efficacy beliefs, defined as "group's shared belief in its conjoint capabilities to organize and to execute the courses of action required to produce given levels of attainments" (Bandura, 1997, p. 477). Efficacy beliefs (both self-efficacy and collective efficacy beliefs) play a key role in human functioning because they affect behavior through goals and aspirations, outcome expectations, affective proclivities and perception of impediments, and opportunities in the social environment.

Briefly, efficacy beliefs have effects on people's thinking, acting, and feelings. In this sense, efficacy relates with human behavior and, therefore, with performance. Efficacy beliefs have a strong motivational effect because they influence decisions (selective effects), effort, and persistence (motivational effects) through self-regulatory mechanisms which depend on the environment. Therefore, a person showing high levels of efficacy in an activity feels involved and connected with it, so we may expect positive results. Along these lines, there are many studies that link high levels of self-efficacy with positive outcomes in different settings, areas, or domains. For example, high levels of efficacy beliefs have a strong connection with work engagement and motivation, and psychological well-being at both the individual and organizational levels.

To date, Latham (2005) has found positive relationships among self-efficacy, motivation, commitment, and job performance. Xanthopoulou et al. (2008) discovered that work engagement mediates the relationship between self-efficacy and (in-role and extra-role) performance. These works are examples of decades of empirical research that

has generated numerous studies that demonstrate positive relationships between self-efficacy and different motivational and behavioral outcomes, such as work performance, in a variety of work and organizational settings (Stajkovic and Luthans, 1998). As explained before, this is because when efficacy beliefs levels are high and individuals believe they can control their environment effectively, employees are more likely to perceive job demands as challenging, and job and other personal resources as being abundant. Consequently, individuals are more likely to engage in their tasks and perform well (Salanova et al., 2010).

WHEN SELF-EFFICACY HAS NEGATIVE CONSEQUENCES: THE CASE OF OVERCONFIDENCE

Given these positive outcomes being related to self-efficacy research, one may well think that the consequences of high levels of self-efficacy are always desirable. However, research also had shown the "dark" side of self-efficacy. For example, Salomon (1984) found that when people consider a task easy, they invest less effort and learning is lower. Whyte, Saks and Hook (1997) also postulated that self-efficacy could act as a source of inappropriate persistence; that is, in those domains in which an individual displays high self-efficacy and has been successful in the past, he/she may not persist long enough, and even develop overconfidence. Vancouver and colleagues (2001; 2002) conducted several studies about this topic and concluded that high self-efficacy leads to relaxation and reduces future performance over time at the intra-person level, but not at the inter-person level. They also showed that self-efficacy leads to overconfidence and, hence, increases the likelihood of committing logic errors during tasks. Finally, Yeo and Neal (2006) also found similar relationships between self-efficacy and performance in tasks that involve learning. They indicated that the positive relationships between efficacy beliefs and performance are due to an error of analysis in the study. That is, the results are based on cross-sectional studies and only take into account the effects between groups. But longitudinal studies, which reveal intra-changes over time, show that these negative effects of efficacy beliefs are evident.

So far, although research suggests that self-efficacy usually associates with positive outcomes, it may also relate to less desirable outcomes. Even Bandura (1997) affirmed that an optimistic view raises aspirations and maintains motivation, thus allowing people to take greater advantage of their talent, thereby contributing to psychological well-being and personal achievements. This indicates that an optimistic assessment of one's self-efficacy relates to positive results, but not to an overly optimistic assessment since an exaggerated sense of personal efficacy could "blind" a person who faces difficulties or risks.

Moreover, Bandura noted (personal communication, Stanford, October 2005) that efficacy beliefs have a different impact on both: activities that involve risks and those that imply creative/innovative behaviors. In this sense, Salanova, Lorente and Martínez (2009) conducted research to compare three settings: a learning setting, an innovative setting, and a risky one. Their results show that the greater the self-efficacy in the learning and innovative settings, the better academic performance and the more creative behavior, respectively. They also reveal that whereas the greater the self-efficacy in the risky setting, the lower the safety performance.

Experiencing overconfidence can perhaps motivate people to set unrealistic safety goals. In this sense, Salanova, Gracia and Lorente (2007) found that overconfidence is one of the main perceived causes of accidents in the construction industry. Later, Salanova et al. (2009) showed that overconfident people display less safety performance. Moreover, Real (2007) observed that workers with high self-efficacy are less affected by risk perceptions than workers with low safety efficacy. Hence, overconfident people perhaps perceive risks as less dangerous and, consequently, their responses to a given threat are minimum. Given this scenario, we believe that high levels of efficacy beliefs in risky settings, like the construction industry, may relate to poor safety performance which could lead to negligence at work, or even to occupational accidents.

Furthermore, we can conclude that although many studies demonstrate the positive consequences of self-efficacy, other studies also show the negative effects of overconfidence on safety performance, such as the construction industry. The following sections describe the method and theoretical background that we followed to undertake some of the above-mentioned empirical studies.

Empirical Studies on Psychosocial Factors Management

On the next pages, we describe the way in which we adapted our theoretical models (the "Resources-Experiences-Demands Model", RED Model, at the job level; and the "HEalthy and Resilient Organization Model", the HERO Model, at the organization level) to the Spanish construction industry, following two different approaches which both use qualitative and quantitative methodologies. Firstly, we followed the first steps of the so-called "Action-Research" (AR) approach to assess worker psychosocial factors (Study 1); secondly, we conducted a case study to assess a healthy organization (Study 2). But first we explain the theoretical background of both which helped guide our studies.

THEORETICAL BACKGROUND

Due to the applied character of studies about psychosocial factors on construction work, we consider the so-called AR approach as one of the most suitable methodological approaches to explore the psychosocial factors at construction sites. Briefly, one definition of the AR approach is an "emergent inquiry process in which behavioral science knowledge integrates with existing organizational knowledge and applies to solve real organizational problems [...]. It is an evolving change process that is undertaken in a spirit of collaboration and co-inquiry" (Sbari and Pasmore, 1985, p. 439). The AR approach refers to the change process based on systematic data collection, and the selection of an action (intervention) based on results when organizational constraints allow it (Robbins, 2005). Therefore, the aim of this approach is to provide a methodology to handle planned changes such as improving worker's well-being at construction sites.

However, we had to ground this applied methodology on theoretical bases. To do so, we used the RED Model (Salanova et al., 2007) (see Figure 13.1) grounded on the positive psychology movement. It extends the "Dual Process Model" (Schaufeli and Bakker, 2004) which, in turn, extends the "Job Demands-Resources Model" (JDR Model) (Demerouti et al., 2001). The JDR Model indicates that the amount of stress experienced at work results from the combination of job demands and low job resources which are available

to cope with these demands. *Job demands* (that is, quantitative overload, role conflict) refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) efforts or skills which, therefore, relate to certain physiological and/or psychological costs. *Job resources* (that is, social support, job control) refer to those physical, psychological, social, or organizational aspects of the job that: (1) are functional in achieving work goals; (2) reduce job demands and the associated physiological and psychological costs; and (3) stimulate personal growth, learning, and development. Hence, resources are not only necessary to deal with job demands, but are also important in their own right.

The JDR Model focuses mainly on negative results, such as employee burnout. Later, as noted above, Schaufeli and Bakker (2004) extended this model with the Dual Process Model by not only including negative outcomes of stress, but also positive ones, such as work engagement. The model assumes two different underlying psychological processes that play a role in the development of psychological well-being outcomes: the energy-draining process (which leads to exhaustion and long-term burnout) and the motivational process (which leads to high work engagement and then to excellent performance) (for a review, see Schaufeli and Bakker, 2004).

However, this model does not pay attention to the special and somewhat "crucial" resources which, from our point of view, make the model completely meaningful, that is, personal resources. These personal resources affect not only the stress process to know how a person appraises the situation, but also both the actual coping process and the recovery from the job stress process. Thus, individuals with more personal resources handle stress more effectively and may recover faster from experienced stress (Salanova, Bakker and Llorens, 2006; Salanova, Peiró and Schaufeli, 2002). In that sense, we may consider self-efficacy a personal resource that plays a key role in coping with stress (Salanova et al., 2001; Salanova, Peiró and Schaufeli, 2002), grounded on the SCT (Bandura, 2002), which we briefly explained in the previous section of this chapter. Following the RED Model, the findings shown in this chapter mainly include personal resources because we followed the RED Model, and we took into account not only job demands and resources, but also personal resources, to face those demands, as well as the experiences (positive and negative) that this (un)balance may produce. Besides, it is important to note that efficacy beliefs (self-efficacy at the individual level, collective efficacy at the group level) play a key and differential role in this RED Model. In this sense, the RED Model considers that efficacy beliefs act as antecedents of demands and resources, as explained earlier (Salanova et al., 2010).

As we show in the Introduction of this chapter, it is important to study not only the things that are going badly in the construction industry, such as injuries, job stress, and psychosocial risks, but also those things that are going well, such as performance, psychosocial positive factors, and work engagement, in order to obtain a more holistic perspective of the reality. In this sense, for example, the study of healthy organizations among construction companies is a challenge in the area of Occupational Health Psychology. From this point of view, we defined healthy organizations as those that "develop systematic, planned, and proactive efforts in improving the employee and the financial health, through good practices related to the enhancement of the tasks (for example, job design and redesign), the social environment (for example, opened communication channels) and the organization (for example, strategies for reconciling work/private life" (Salanova, 2009; Salanova and Schaufeli, 2009). In our positive model

of Healthy and Resilient Organization, that is, the HERO Model (see Figure 13.1), we consider its components, these being balance and continuous interaction, among (1) healthy practices at the level of: tasks (that is, autonomy, feedback, variety), social aspects (that is, social relationships, social support, healthy leadership), and the organization (that is, learning training, safety culture programs, work/life balance); (2) healthy employees, such as the potential of the positive psychological capital (that is, self-efficacy, optimism, hope, resilience, engagement); and (3) healthy organizational outcomes, such as high organizational performance, good relationships with extra-organizational environment, and corporate social responsibility.

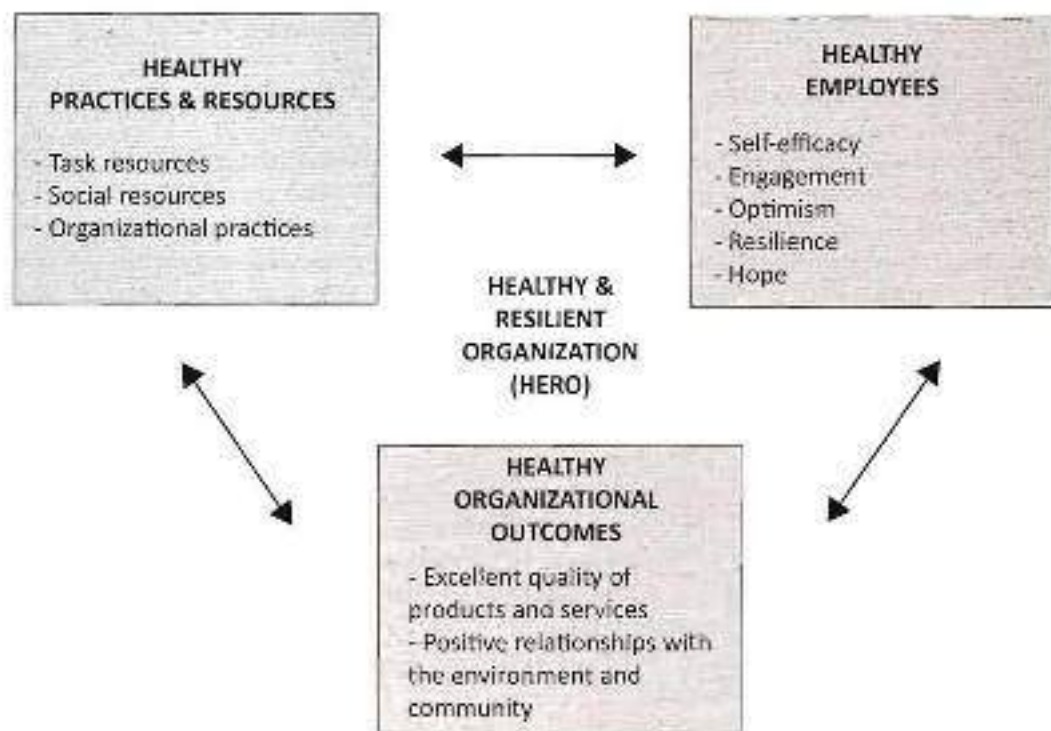


Figure 13.1 The Healthy and Resilient Organization (HERO) Model (Salanova, 2009)

Some empirical research relates to the positive emotions of construction workers. For example, Salanova, Gracia and Lorente (2007) found that construction workers indicate job (that is, autonomy and positive interpersonal relationships) and personal resources (that is, mental and emotional competences) that buffer the negative consequences of job demands on well-being. As a result of those resources, workers report high levels of vigor (a dimension of work engagement) and good performance.

Furthermore, a recent study focused on some of the components of the previously described healthy organization in terms of transformational leadership and positive psychological capital (that is, positive affect and work engagement) among 122 construction workers (Llorens, Salanova and Losilla, 2009). This work shows that construction workers experience high levels of positive psychological capital, especially vigor, dedication, and pleasure. Moreover, transformational leadership influences work engagement not only directly but also indirectly via positive affects such as comfort, enthusiasm, pleasure, optimism, resilience, and satisfaction. So what this group resource demonstrates is that it enhances workers positive experiences, such as work engagement.

STUDY 1: A FIELD STUDY ON PSYCHOSOCIAL FACTORS ASSESSMENT

Description of the field study

The first aim of this study is to know the main psychosocial risk among construction workers and to adapt the general theoretical RED Model to the specific characteristics of the construction industry. To achieve this aim, we collected information from three sources: (1) previous research; (2) a pilot study; and (3) a *focus group* with experts in this field. In order to carry out the pilot study, the research team formulated a questionnaire, and according to the construction workers' special characteristics (low qualifications and a large number of foreigners, which complicate the verbal comprehension of items), we shortened the original battery by reducing the number of items. To do so, we performed reliability and validity analyses in order to obtain, whenever possible, single-item scales (that which loaded the most in the original scale and that which more highly inter-correlated with the scale). The scales covering the principal risks were common to most occupations. However, we reworded them by taking into account the construction industry's characteristics in order to adapt the questionnaire to this occupational sector (that is, talking about buildings when organizational settings was more appropriate, using "head of work" when referring to leaders, and so on). Besides, we also developed some specific scales (that is, security climate and attitudes, overconfidence). We named this questionnaire: RED-CONS (Resources, Experiences and Demands among CONSTRUCTION Industry), which 37 construction workers completed as part of the pilot study (100 percent men) which were working in different buildings in the Spanish Mediterranean area. The mean age was 31 years old, and 82 percent were Spanish (the rest were Moroccan, Colombian, and Rumanian); 63 percent were bricklayers and the rest were electricians, and aluminum and air-conditioning assemblers. Because these workers had few qualifications, we conducted a semi-structured interview during coffee breaks to complete the questionnaire.

We showed the results of this pilot study to the construction industry experts who participated in the focus group (Salanova, Gracia and Lorente, 2007). The aim was to know more about the situation of the construction industry, mainly in terms of psychosocial risks, work accidents, and safety attitudes, and to discuss the results of the pilot study with 15 experts from the sector: five employers, five experts in Occupational Health Psychology, two trade union representatives, one occupational risk prevention officer, one technician in preventing labor risks, and one representative of a medical insurance company. The information obtained through the focus group helped the research team to both close the final questionnaire (interpreting the results of the pilot study,

advising about items which are difficult to understand, suggesting new factors not contemplated in the original study), and to implement the final field study.

When finalizing this step, the theoretical model remained as follows (see Figure 13.2), which we explain in detail above. However, we also included some specific factors of the construction sector, that is, physical demands such as job demands, safety climate, and attitudes toward safety such as specific construction resources, overconfidence as a psychosocial distress aspect, and specific measures of job performance (for example, accidents, incidents),.

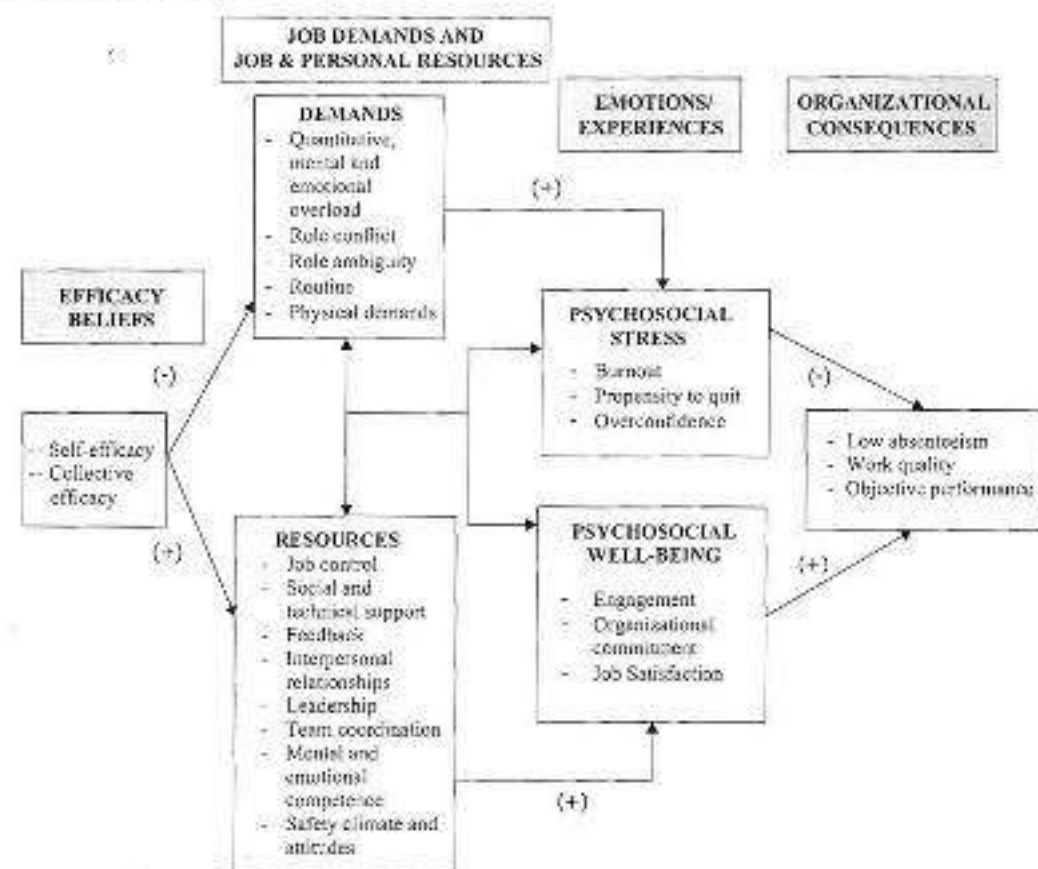


Figure 13.2 The RED Model, adapted to the construction industry

Field study results

Finally, ten of the 16 contacted companies (63 percent) participated in the study. Usually, the Human Resources Manager of each company allowed us to contact the head of each work area whose workers would participate in the study. We handed the questionnaire to each worker during the individual or group face-to-face interview. Finally, 228 employees (100 percent men) from ten different Spanish small- and medium-sized enterprises (SME) in the construction industry participated. Employees' ages ranged from 16 to 64 years (mean = 39.62, s.d. = 11.89), 38 percent of them had a temporary contract, and 18 percent were foreigners. We had to use semi-structured interviews given the study sample's

characteristics (that is, low level of education where 34 percent had not completed primary education, and immigrants who might have had problems understanding the specific meaning of the items). We guaranteed confidentiality and anonymity. Workers answered the interview during their breaks either at the beginning or the end of their work shift, and usually in the workplace.

Table 13.1 displays the descriptive analyses and internal consistencies (Cronbach's α) of the scales used in the RED-CONS using SPSS, v. 17.0. The α -values met the criterion of .70 (Nunnally and Bernstein, 1994) with three exceptions: social support, technical support, and feedback. The pattern of correlations shows that variables significantly relate, as expected. Due to the length of the chapter, we have not included the correlations table. However, readers may request it from the first author.

We did Multiple Analyses of Variance (MANOVA) and Analyses of Variance (ANOVA) by comparing the construction industry participants' scores with a heterogeneous general sample of 2,940 Spanish workers. To do so, we took into account the main boxes that compose the *RED Model* whenever possible. Figure 13.3 presents the results. The *F* values and degree of freedom (df) are available from the first author upon request.

The results show significant differences among all the psychosocial factors assessed, except for one job demand (routine) and one burnout dimension (exhaustion). These analyses reveal that construction workers show lower levels of job demands and higher levels of job and personal resources (except for job control) than the broader heterogeneous sample. Their level of self-efficacy is also lower, which could lead to the higher level of inefficacy (a burnout dimension) shown. Conversely, they show a lower level of cynicism (another burnout dimension) and, remarkably, higher levels for all the indicators of psychosocial well-being analyzed (job satisfaction and the three dimensions of work engagement, that is, vigor, dedication, and absorption).

To complete the field study at approximately one year after the first data collection through questionnaires (Time 1), we returned to the companies to assess objective organizational performance (Time 2). We conducted semi-structured interviews with the Health Prevention Manager or the Human Resources Manager of seven of the ten companies (70 percent) that had participated at Time 1. We assessed objective performance by quality and global performance indicators (that is, Return Of Assets (ROA) as an indicator of how profitable a company is in relation to its total assets; and absenteeism rates). We are currently analyzing this new data.

STUDY 2: A CASE STUDY ON HEALTHY ORGANIZATIONS

We now go on to present the findings of a case study on a construction company. Based on the *HERO Model* described above, we conducted the present study to test the positive psychosocial factors (that is, healthy practices, healthy employees, and healthy organizational outcomes) in the construction industry. Firstly, we present a description of the case study on a construction company and, secondly, we show the main results.

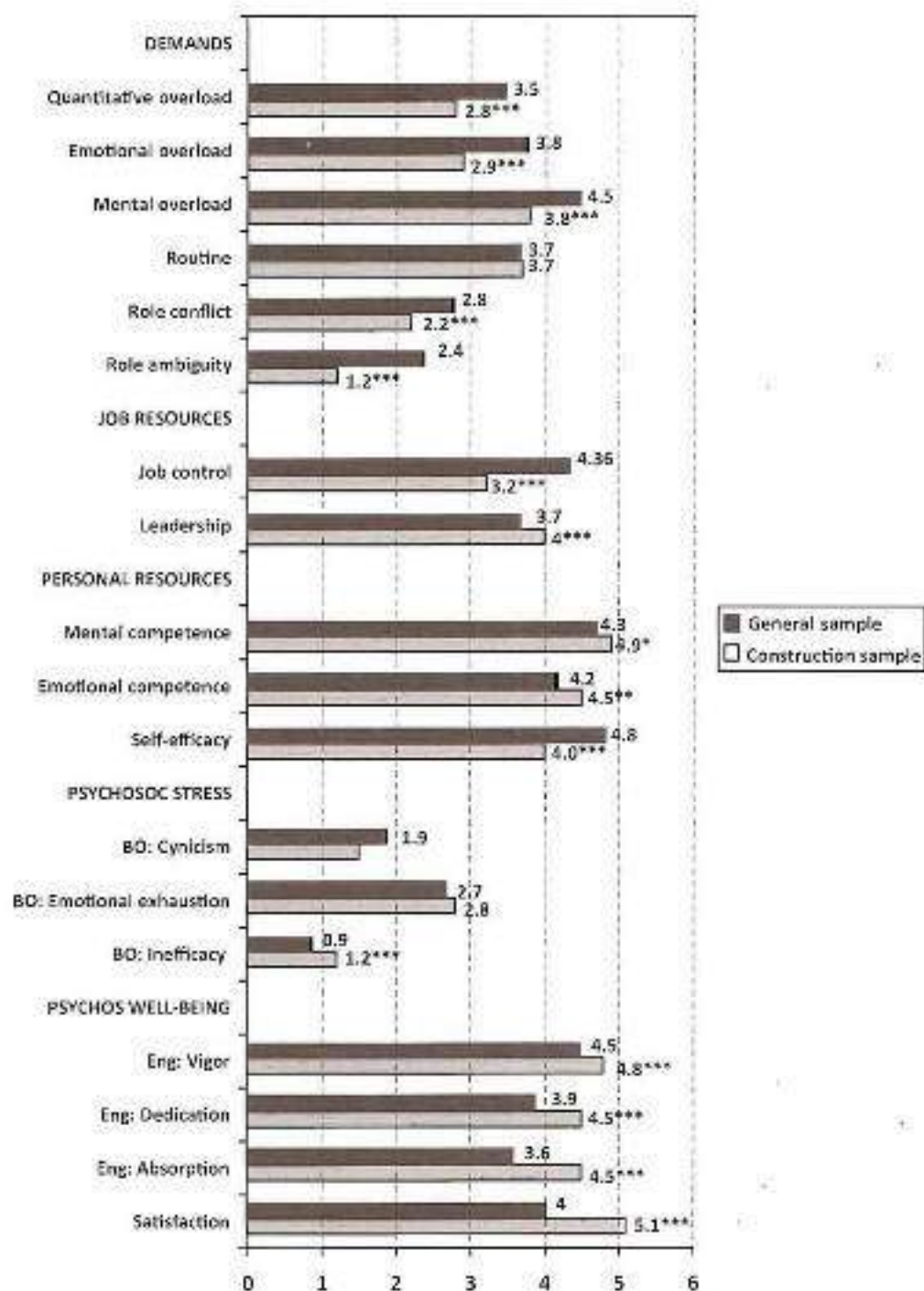
Description of the case study

Following the criterion recommended by George and Bennett (2005) and Gilgun (1994) with a view to conducting a case study in scientific research, we did an empirical case

Table 13.1 Mean (M), standard deviations (SD), and internal consistency (Cronbach's alpha) (n = 228) of the RED Model variables (field study)

	M	SD	α
Job demands			
1. Quantitative overload	2.83	1.89	-
2. Role ambiguity	1.24	1.66	-
3. Role conflict	2.21	2.10	-
4. Routine	3.71	2.05	-
5. Mental overload	3.80	2.06	-
6. Emotional overload	2.95	2.34	-
Job/Personal resources			
7. Autonomy	3.22	2.19	-
8. Social support	2.20	1.58	.40
9. Technical support	3.01	1.71	.36
10. Feedback	3.37	1.54	.39
11. Team coordination	4.60	.97	.77
12. Interpersonal relationships	4.40	1.53	.71
13. Leadership	4.03	1.63	$r=.41^{***}$
14. Mental competence	4.91	1.29	-
15. Emotional competence	4.49	1.72	-
16. Self-efficacy	4.05	1.67	.82
17. Collective efficacy	4.17	1.30	.90
Psychosocial stress			
18. Burnout: Cynicism	1.51	1.47	.70
19. Burnout: Exhaustion	2.77	1.52	.70
20. Burnout: Inefficacy	1.21	1.47	.82
21. Propensity to quit	1.46	2.05	-
Psychosocial health			
22. Engagement: Vigor	4.79	.95	.73
23. Engagement: Dedication	4.49	1.13	.72
24. Engagement: Absorption	4.47	1.15	.67
25. Satisfaction	5.08	4.89	-
26. Organizational commitment	4.00	1.73	-
Organizational consequences			
27. Work quality	4.23	1.68	-

Note. *** $p < .001$; r = Pearson's correlation; () scale composed of 1 item.



Note: *** $p < .001$; ** $p < .01$; * $p < .05$; BO= Burnout; Eng = Engagement.

Figure 13.3 Descriptive analysis with F differences between the general sample (n=2940) and the construction sample (n=228)

study in December 2008 on a construction company in Spain. The objective of this case study was to test the psychosocial positive factors involved in the evaluation of healthy organizations. We employed a compacted methodology by combining qualitative and quantitative methodology, as well as positive and (traditional) negative (that is, job demands) psychosocial constructs. We also used a new perspective since we were testing not personal but sharing perceptions about the organization. We also elaborated a protocol and a glossary with the main topics.

The *qualitative methodology* consisted in conducting a semi-structured interview with the Human Resources Development (HRD) managers. After the first contact (by telephone), an e-mail was sent to the company which contained the interview guide. The interview lasted two hours and included seven parts: (1) company and interviewed data; (2) company's history; (3) organizational structure; (4) "healthy organization" concept; (5) healthy organizational practices; (6) documental information; and (7) an action plan for the quantitative methodology administration.

We developed two specific instruments for the *quantitative methodology*: *RED-SME* with two different versions: for workers and for clients, using a seven-point Likert scale of responses (0 "totally disagree/never" to 6 "totally agree/always"). The workers version of the *RED-SME* comprised 133 items which we divided into five parts: (1) sociodemographical data (seven items); (2) job and social demands (24 items); (3) job and social resources (42 items); (4) organizational healthy practices (18 items); and (5) psychosocial health and organizational consequences (42 items). After explaining the objectives of this research, we handed out the questionnaires in the groups which the researchers collected during the work timetable. It is important to note that all the variables, except the sociodemographical ones, referred to the group/company, and that the level of analyses was always collective and not individual.

The sample included 122 employees: 84 percent men; 57 percent had permanent contracts and 55 percent worked part time. Regarding the job, 39 percent worked on buildings, 18 percent in civil work, 16 percent in restoration, 10 percent in production, 8 percent in clerical jobs, 5 percent in the Human Resources Department, and 4 percent did technical office work. Since the company has 145 workers, the sample used in this particular case study (122) goes beyond the minimum of 107 workers required for a representative sample with an error of 0.015 and 90 percent reliability. It is important to note that at the time of the study, and given the economical crisis, the company announced an employment regulation process with the subsequent loss of 22 jobs.

Secondly with the clients' version of the *RED-SME*, we used a seven-point Likert scale of responses (0 "totally disagree" to 6 "totally agree"). Clients should answer by considering the product offered by the company. This questionnaire included 17 items referred to as client's data (five items), service quality (seven items), product satisfaction (one item), loyalty (three items), and complaints about the product (one item). This was actually a telephone survey conducted by two team researchers after receiving the company's prior consent. A representative sample composed of 33 clients (with an error of 0.015 and 90 percent reliability) participated in the study: 100 percent were habitual clients, 40 percent had chosen this company through personal choice, 40 percent had previously obtained a product from this company more than six times, 58 percent of them had made no suggestion for improvement, while 42 percent had established some form of contact with employees while acquiring the product more than four times.

Case study results

The results of the case study on healthy organizations shown are based on the two types of methodology: qualitative (that is, interviews) and quantitative (that is, questionnaires); and on multiple key informants: HRD managers, workers, and clients.

Case study qualitative results The interviews conducted with the HRD managers reveal the following main findings. The results in terms of the company's history show that the company's main successes related to the development of an efficacious and committed human team given the following accomplished goals: (1) the cultural change due to adaptation to society; (2) job and personal sensitivities; (3) constant interest in improving quality, environmental management, and customer satisfaction. The main organizational changes related to two factors: (1) changes in the structural and technical processes; and (2) a new management team oriented to a more structured company and to society. There were remarks about one difficult time when the company had already completed a work (90 percent made) for one promoter which was in a temporary receivership. Consequently the promoter did not pay the company. In order to survive, the company extended its capital, and a collective consciousness spontaneously came about to save the company.

In terms of organizational structure, the company provided the interviewers with the flow schedule to facilitate the distribution of workers in groups and to establish the action plan to hand out questionnaires. In accordance with the healthy organization concept, the interviewees indicated their perception of how healthy the company was according to a degree of six on a scale from "0" (not a healthy organization) to "10" (a very healthy organization). At the same time, the interviewers asked for ways to increase this perception. To do this, the interviewees suggested improving both the communication channels and the job analyses performed in the company. In relation to healthy organizational practices, the company undertook different practices related to Corporate Social Responsibility (CSR), such as annual training and internal promotion planning, work-private life balance programs, work adaptation for handicapped workers, agreements with universities by giving grants to students, agreements with City Councils to subsidize concerts and other activities taking place in the city, investing in sport activities to help improve the careers of young athletes, and the publication of a company magazine to improve internal communication. As an outcome of these healthy organizational practices, the company obtained three different awards: the Quality Management System (ISO 9001), the Environmental Management System (UNE-EN ISO 14001:2004), and more recently, the Occupational Health and Safety Management System (OHSAS 18001: 2007). The company also contributed with documental information such as flow schedules, absenteeism rates, and performance objective data, customer satisfaction survey data, and the CSR objective indicators (for example, number of training hours, number of women who had enjoyed maternity benefits beyond those set out by law, and so on).

Finally, we established the action planning to plan how to hand the questionnaire to workers and clients out. Consequently, we identified 13 "natural" groups of workers. A natural group refers to employees who, irrespectively of their specific job, work in the same department/area, develop social relationships between each other, and share the same leader. Meanwhile, the managers facilitated a list of potential clients.

Case study quantitative results Tables 13.2 and 13.3 display the descriptive analyses and internal consistencies (Cronbach's α) for the scales of both versions of the RED-SME questionnaires using the SPSS software, v.17.0. All the α -values (93 percent for workers and 100 percent for clients) met the criterion of .70 (Nunnally and Bernstein, 1994), with only two exceptions: mental competence and horizontal trust. As expected, the pattern of correlations shows that scales relate significantly (72 percent and 100 percent in workers and in clients, respectively). Because of the length of the chapter, we have not provided the correlations table. However, it is available from the first author upon request.

Compared to the range of the scale, the descriptive analyses show that workers perceive high levels of healthy organizational outcomes (intra-role job performance and organizational commitment), psychosocial health in employees (vigor, dedication, pleasure, and relax), and healthy practices at social (team work and coordination, collective efficacy, mental competences) and organizational levels (vertical trust), but they perceive low levels of job demands (role ambiguity). Moreover the within-group agreements, tested by r_{wg} using the Agree program (Arthur, Bell and Edwards, 2007), show a referent-shift consensus for 87 percent of the variables. Average r_{wg} values range from .47 to .82. This suggests a sharing of employees' perceptions of healthy working conditions in the company with the exception of quantitative overload, routine, emotional overload, emotional dissonance, and support climate (see Table 13.2).

Table 13.3 displays the descriptive analyses for clients. It offers information about the healthy organization outcomes from the clients' point of view. Compared to the range of the scale, clients perceive high levels in all the variables studied. More specifically, the results stress the high levels of service quality, loyalty and, above all, product satisfaction. Furthermore, 97 percent of clients indicate that they had made no complaints about the product. Similarly to workers, the r_{wg} analyses show the referent-shift consensus on 100 percent of the variables. Average r_{wg} values range from .75 to .87. Once more, this suggests the sharing of clients' perceptions about company products and service.

Conclusions

This chapter shows that construction work is an inherently dangerous occupation due to the higher rate of accidents and disabilities in the sector. Furthermore, it also indicates that exposure to additional psychosocial risks is likely to exacerbate the level of danger, thus increasing the workers' risk to injury. However, research into this topic is not abundant. For this reason, this chapter has focused on the specific relationships among constructions workers' different psychosocial factors and health consequences, well-being, and safety performance. The results show that the psychosocial risks at workplaces (that is, task routine, quantitative and qualitative (mental) overload, fast pace of work, unpredictable periods of unemployment, and so on) are threats for construction workers. Finally, but not less importantly, it is also interesting to note that research has systematically revealed how psychosocial factors play a significant role in the construction industry, but how they also relate to physical factors.

However, despite past research showing that high physical and psychosocial demands characterize construction work, which relate to injuries and job strain, the workers in this sector also enjoy job and personal resources that also contribute to positive experiences such as job satisfaction and high work engagement (that is, vigor, dedication, and absorption).

Table 13.2 Mean (M), standard deviations (SD), and internal consistency (Cronbach's alpha) for workers (n = 122) of the HEalthy and Resilient Organization (HERO) Model variables (case study)

Variable	Workers (n = 122)		
	M	SD	α
Healthy practices			
Job/Social demands			
1. Quantitative overload	2.52	1.59	.85
2. Role ambiguity	0.99	1.15	.77
3. Role conflict	1.62	1.27	.74
4. Routine	3.35	1.67	.88
5. Mental overload	4.78	1.15	.70
6. Emotional overload	3.15	1.44	.71
7. Mobbing	.86	1.20	.80
8. Emotional dissonance	1.91	1.49	.85
Job/Social resources			
9. Autonomy	4.73	1.33	.76
10. Feedback	4.34	1.28	.67
11. Social support	3.16	1.53	.77
12. Team work	5.16	.91	.77
13. Team coordination	4.93	.89	.66
14. Mental competence	4.93	.90	.56
15. Emotional competence	3.99	1.32	.70
16. Empathy	4.24	1.22	.80
17. Vision	4.43	1.17	$r = .42^{***}$
18. Inspirational communication	4.22	1.13	.86
19. Intellectual stimulation	3.80	1.21	.78
20. Support	4.08	1.24	.93
21. Recognition	4.22	1.28	.94
22. Collective efficacy	4.96	1.24	.86
Organizational healthy practices			
23. Vertical trust	4.33	1.18	.89
24. Horizontal trust	4.30	.87	.63

Table 13.2 Mean (M), standard deviations (SD), and internal consistency (Cronbach's alpha) for workers (n = 122) of the HEalthy and Resilient Organization (HERO) Model variables (case study) concluded

Variable	Workers (n = 122)		
	M	SD	α
Healthy practices			
Healthy employees/Psychosocial health			
25. Relax	3.80	1.45	-
26. Enthusiasm	4.13	1.33	-
27. Pleasure	4.74	1.26	-
28. Optimism	4.35	1.39	-
29. Resilience	4.59	1.29	-
30. Satisfaction	4.52	1.27	-
31. Vigor	4.67	.78	.77
32. Dedication	5.26	.85	.85
33. Absorption	4.40	.90	.80
Healthy organizational outcomes			
34. Extra-role performance	4.79	1.08	.72
35. Intra-role performance	4.96	.80	.79
36. Organizational commitment	4.93	.98	.82
37. Service Quality	4.51	.96	.91
38. Healthy results	4.74	1.04	$r = .54^{***}$

Note. *** $p < .001$; r = Pearson's correlation; (-) scale composed of 1 item.

Table 13.3 Mean (M), standard deviations (SD), and internal consistency (Cronbach's alpha) for clients (n = 33)

Variables			
	M	SD	α
Service quality	4.05	.87	.88
Product satisfaction	4.70	.68	-
Loyalty	3.39	.52	.95

Note. (-) scale composed of 1 item.

role clarity, and few intentions to quit (Salanova, Graña and Lorente, 2007). Indeed, research even shows that transformational leadership influences positive states of mind, such as the positive psychological capital like work engagement and construction workers' positive emotions (Llorens, Salanova and Losilla, 2009). However, most research conducted in the construction industry has focused on psychosocial risks, so no positive job characteristics (such as job and organizational resources) and positive outcomes (that is, engagement, positive emotions, job satisfaction) remain unassessed, so little empirical evidence is available. In this sense, it is important to adopt a holistic perspective to study the psychosocial factors (risk and positive factors) related to the work environment and psychological experiences among construction workers in order to take a more integrated viewpoint of the reality by focusing on the new concept of healthy organizations.

Some of the main topics discussed in the chapter include safety attitudes, climate, and culture, and their relationship with safety performance. Employees' attitudes influence their safe or unsafe behavior. In this sense, we note the role played by managers/leaders as they have the key to improve employees' attitudes toward safety at work, which is so important in the construction sector, to not only improve security but to also avoid accidents and work injuries. In many cases, attitudes are based on climate and safety culture. In this sense, safety climate and culture relate to safety performance. There is now a growing body of evidence to suggest that safety climate influences safety practices, unsafe behavior, and accidents, and that it is a useful predictive indicator of safety performance. While it seems appropriate to conclude that positive safety climate facilitates safe work behavior, the chapter also presents results about a relationship between safety climate and accidents and injuries. Besides, sociodemographic variables (for example, age) relate to safety performance, although the results are not always conclusive. These results indicate the need for further research into the effect that many variables have on safety performance to be done in specific contexts and at different levels of analysis. Practitioners not only need a general description of the perceived state of safety, they also need precise suggestions for preventive actions based on a separate and clear identification of each major safety issue at each main organizational level. In this sense, it is important to know how to generate and change attitudes, which would be an indicator for training and changing attitudes toward safety behavior.

In relation to safety performance, this chapter also describes its relationship with self-efficacy and its negative consequences when overconfidence develops. According to the SCT of Albert Bandura, efficacy beliefs are the basis of personal and collective agency, and influence one's motivation to engage in specific positive behaviors related to performance. However, this chapter reveals that efficacy beliefs do not always relate to specific positive outcomes such as motivation, health, or high performance, but depend on the type of activity being performed. So, it is possible to talk about overconfidence in certain environments (that is, the construction industry). In this sense, we consider it very important to establish the optimum level of self-efficacy in accordance with the setting in which the activity takes place with a view to avoiding the negative consequences of overconfidence, particularly in risky settings.

Finally, this chapter offers empirical data which illustrate: (1) the main psychosocial risks and positive factors assessed in the Spanish construction industry by means of a field study which includes several construction companies; and (2) an in-depth case study in a construction company which also focuses on the evaluation of a healthy organization. Some of the results of the field study agree with those noted in previous studies, for

instance, job control. In this sense, and as previously explained, the *European Agency for Safety and Health at Work* (2008) indicates that the pace of work set by colleagues affects over 60 percent of workers. This factor also appears in our study where the level of job control in the construction industry seems significantly lower than in the broader heterogeneous sample. However, this does not happen with other demands, such as routine which, according to the *Fourth European Survey on Life and Working Conditions* (2007), is an overload factor that affects the construction industry. However, our study shows no significant differences for this job demand with the broader heterogeneous sample (that is, they show the same level of routine at work).

At this point, we wish to make a general qualitative interpretation of our results from our theoretical starting point, the *RED Model*. In general, we state that (compared with the heterogeneous sample) construction industry workers show a lower level of job demands, but a higher level of personal and job resources, which results in a medium level of burnout (the same level as exhaustion, a higher level for inefficacy, a lower level for cynicism). Remarkably, however, we note a higher level of job-related well-being (the three dimensions of engagement: vigor, dedication, and absorption; and job satisfaction) than in the general sample. It is important to stress again at this stage the importance of assessing not only negative, but also positive psychosocial factors, that is, a more holistic assessment.

On the other hand, self-efficacy shows significantly lower levels than the heterogeneous sample. According to the *RED Model*, this comparative low level of self-efficacy could affect the low level of job control perceived and, in turn, the inefficacy (burnout) that these construction workers perceive. This is the point at which theory and practice again come together in agreement with Kurt Lewin when he wrote: "*There is nothing more practical than a good theory*" (1952, p. 169).

So our theoretical model uncovers the psychosocial risks of our construction industry study sample: low self-efficacy and low job control. Then, if we intervene in this sample, the practical proposals would emphasize techniques to improve workers' self-efficacy (that is, going to sources of self-efficacy but, at the same time, trying to avoid very high levels of efficacy or overconfidence), and to increase perceived job control. The specific techniques (according to our *AR* approach) would come from the workers themselves through the *feedback-survey* technique. The final aim of this intervention would be to lower the levels of burnout (inefficacy, and even exhaustion) and to maintain the good levels of psychosocial well-being achieved to date over time.

Finally, we took a new step forward while undertaking the case study when we tested the goodness and reliability of the *HERO Model*, specifically in a small- and/or medium-sized construction enterprise (SME). The novelties found are the following: (1) a combined qualitative and quantitative questionnaire battery (*RED-SME*); (2) the traditional and new perspective of Positive Psychology by testing the new concept of healthy organization; (3) three different key informants participate: managers, workers, and clients; (4) the shared perceptions of the working conditions and quality for workers and clients, respectively. The findings of the case study reveal that the methodology is accurate and reliable for testing working conditions in SMEs. Specifically, the analyses of the interview and the questionnaires for workers and for clients stress that we may classify the company under study as a "healthy organization," even in the present situation of a world economical crisis. We expect these findings to possibly contribute to healthy organizations' theoretical knowledge which focuses on improving job resources and healthy practices toward an

investment in not only positive psychological capital, but also in healthy and excellent results for society.

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