



THE IMPORTANCE OF RECOVERY FROM WORK: A REVIEW OF WHERE, HOW AND WHY

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The aim of this paper is to review the scientific literature highlighting the recovery from work from a psychological perspective, and its importance for the psychosocial well-being of people. Recovery from work refers to the process by which a person reduces their stress levels and renews their resources and energies lost during the work situation. In this review we argue that an adequate daily recovery from work stress is crucial for the maintenance of well-being. We start by establishing the definition of recovery and theories that help us to understand the process of recovery. Subsequently, we discuss the perspectives from which recovery can be assessed: the scenarios, processes and outcomes. Finally, we reflect on the theoretical and practical implications of recovery from work in order to promote, as psychologists, the development of future research and interventions based on the psychological perspective.

Key words: Recovery from work, Recovery settings, Recovery experiences, Recovery outcomes.

El objetivo del presente trabajo es realizar una revisión de la literatura científica de la recuperación del trabajo destacando, desde una perspectiva psicológica, su importancia para el bienestar psicosocial de las personas. La recuperación del trabajo es el proceso por el cual la persona disminuye sus niveles de estrés y renueva sus recursos y energías perdidas en la situación laboral. En esta revisión argumentamos que una adecuada recuperación diaria del estrés laboral es crucial para el mantenimiento del bienestar psicosocial de las personas. Iniciaremos, presentando la definición y las teorías psicológicas que pueden ayudar a explicar el proceso de recuperación. Seguidamente, expondremos las perspectivas desde las cuales se ha estudiado este constructo: escenarios, procesos y resultados. Por último, reflexionaremos sobre las implicaciones teóricas y prácticas de la recuperación del trabajo que nos animen, como psicólogos, al desarrollo de futuros estudios e intervenciones al respecto.

Palabras clave: Recuperación de trabajo, Escenarios de la recuperación, Procesos de recuperación, Resultados de la recuperación.

"Moments of free time are the best
of all acquisitions."

Socrates (469-399 B.C.), Greek philosopher.

The new working practices aimed at improving productivity and quality, imposed by progressively globalized economic markets, increase the chances that new risks will arise with regards to health and safety, or that some of the existing hazards will become bigger. The incorporation of Information and Communication Technology (ICT) in organizations, may be a clear example of these new practices that allow people to work "anytime, anywhere", so that many of them are what is known as 24/7 workers (available for work 24 hours 7 days a week). According to a study in the first quarter of 2012 by the human resources consultant Randstad, while 39% of professionals said that

their company expects absolute availability of them with regard to their jobs, 56% of employees admit to working in their personal time. In the case of Spain, 64% of Spaniards recognized that they perform professional tasks in their free time, eight percent above the average. The use of technology that offers the possibility of being accessible and connected 24 hours a day threatens to erase the boundaries between work and private life completely.

When workers perceive that they have few or no resources to manage demanding situations, such as 24/7 availability, a state of tension occurs within them. The gap between these demands and the resources perceived by the worker contribute to the physical and mental feeling of being tired, stressed or even "burnt out" from work. According to the latest data released by the National Institute of Statistics (INE, 2011), in Spain work stress affects more than 40% of salaried people and around 50% of business owners, generating a loss of more than 10% of the gross domestic product (GDP). Furthermore, according to

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the latest European survey on new and emerging risks in companies, the European Agency for Safety and Health at Work (EU-OSHA, 2011), although between 50% and 60% of work absences that are produced each year are caused by stress, only 26% of European companies have taken steps to reduce workplace stress. In this context, the psychosocial risks occupy a prominent place, and are considered one of the major challenges for health and safety that organizations face in the area of the European Union (EU-OSHA, 2007).

Extensive research in the field of psychology has studied the negative effects of work stress, which has proven to be a strong predictor of impaired wellbeing, sickness absenteeism, workplace accidents, poor performance, high employee turnover and interpersonal conflicts (de Croon, Sluiter, Blonk, Broersen, & Frings-Dresen, 2004; Geurts, Kompier, Roxburgh, & Houtman, 2003; Meijman & Mulder, 1998; Maslach, Schaufeli, & Leiter, 2001; Peiró & Rodríguez, 2008). For all of these reasons, the study of positive psychological processes, such as recovery from work, that reduce these negative consequences of stress are of scientific and social interest. Recovery from work is a psycho-physiological process that allows workers to maintain and restore their energy and resources (Sonnentag & Geurts, 2009). Feeling recovered, and having energy, increases the chances of successfully meeting the demands both within and outside of work. Thus, the objective of this article is to review the scientific literature on the recovery from work from a psychological perspective, highlighting its importance for people's psychosocial well-being. To this end, we begin with the presentation of the definition and basic theories of recovery. Then we present the perspectives from which this construct has been studied: the scenarios, processes and outcomes. Finally, we reflect on the theoretical and practical implications of recovery from work which encourage us, as psychologists, to develop future studies and interventions regarding this issue.

RECOVERY FROM WORK. DEFINITION AND THEORIES

Recovery from work has been defined in several ways (see Demerouti, Bakker, Geurts & Taris, 2009). These diverse definitions agree that recovery occurs when work demands or stressors are not present. Through recovery, the functional system of people who have been exposed to a stressful experience returns to the pre-stress levels they were at prior to the stress (Meijman & Mulder, 1998). Therefore, recovery from work can be understood

as the opposite of the psychophysiological activation process that occurs under stressful conditions (Sonntag & Natter, 2004). From a physiological perspective, recovery reduces and prevents the accumulation of fatigue and stress that leads to the deterioration of health (Sonntag & Geurts, 2009). From a psychological perspective, it allows the individual to prepare for the current or new demands of their work.

Studies on recovery from work have referred to two theoretical models to explain this process: the effort-recovery model and the conservation of resources theory.

The effort-recovery model (ER)

Meijman and Mulder (1998) understand that work situations that require effort activate the sympathetic-adrenal-medullary axis (SAM) which regulates cardiovascular activity. The hypothalamic-pituitary-adrenal axis (HPA) is also activated, which prepares the body to deal with stressful situations. Under highly demanding working conditions (e.g., working under pressure or working long hours), physiological activation tends to be sustained and workers need to mobilize compensatory efforts to fulfill their job responsibilities. When this effort is expended repeatedly or sustained, it results in increased levels of fatigue, neuro-endocrinological activation, and decreased cardiovascular recovery which leads to chronic health problems. When the stressors are not present, recovery can occur and the stress levels of the worker decrease and return to the base line prior to the stressful situation.

The conservation of resources theory

The conservation of resources theory (COR, Hobfoll, 1998) assumes that people have a basic motivation to conserve, enhance and protect their resources. When faced with a demanding work situation, the employee observes how these resources (e.g., strength, energy) are lost or threatened generating stress. This theory suggests that recovery occurs when resources are recovered through the development of new resources, or through restoring the threatened or lost resources (e.g., self-efficacy).

APPROACHES TO THE STUDY OF RECOVERY FROM WORK

Recovery from work as a phenomenon can be approached from different perspectives: recovery frameworks or scenarios, recovery as a process and as a result of this process (Sonntag & Geurts, 2009).



Recovery scenario: Where can I recover?

Geurts and Sonnentag (2006) considered that recovery can occur within the work context, which they term “internal recovery”, or outside of work, known as “external recovery”.

Internal recovery is achieved through formal and informal breaks during the workday. Studies examining the frequency, timeliness and duration of rest periods, suggest that such periods may be effective strategies against fatigue that can increase productivity (Boucsein & Thum, 1997; Dababneh, Swanson, & Shell, 2001; Lisper & Eriksson, 1980). However, as far as we know, only one study has addressed recovery activities during working hours (Troughakos, Beal, Green, & Weiss, 2008). This study found that employees in the service sector who participated in more rest activities in their daily work, experienced higher levels of positive emotions and lower levels of negative emotions during these breaks. They also displayed higher positive affect after breaks. Although these results suggest that enjoying rest activities during work provides greater recovery, there is a need for more studies on this issue.

External recovery is that which may take place after work, on weekends, or for longer periods such as holidays. Performing recovery activities, such as social and physical activities during the evenings after work or on weekends, has a positive effect on wellbeing, contrary to performing work activities which increase fatigue and deterioration of wellbeing (Sonnentag, 2001; Sonnentag & Natter, 2004; Sonnentag & Zijlstra, 2006). Fritz and Sonnentag (2006) found that health complaints and burnout decreased significantly during the holidays, and that after the holidays the workers performed their daily work responsibilities with less effort. However, according to other studies the health effects of the holidays quickly disappear (De Bloom, et al., 2008). It is for this reason that recovery that occurs every day or on weekends may be more important in maintaining and protecting wellbeing (Sonnentag, 2001).

Recovery as a process: How do I recover?

According to Sonnentag and Geurts (2009), studying recovery as a process refers to the study of the mechanisms underlying the occurrence of recovery. The mechanisms the authors refer to are the activities performed by a person during their free time, as well as the psychological processes associated with these activities. Thus, as Sonnentag and Fritz (2007) argue, it may not be a specific activity itself which helps recovery,

but the processes and psychological mechanisms behind it (e.g., relaxation). The authors call these processes “recovery experiences”.

Activities outside of work

Not all time away from work may be comparable to “free time” or leisure time, as this time may not be entirely dedicated to recovering resources and energy. To begin with, people dedicate a substantial portion of their free time to sleeping, eating or personal hygiene. Furthermore, activities such as housework, child care and work-related activities, expend resources similar to the activities already undertaken during the workday (Craig & Cooper, 1992) inhibiting the possibilities for recovery. Previous studies have confirmed, for example, that performing work-related activities during free time, is positively related to high levels of fatigue, with the need for recovery (Sonnentag & Zijlstra, 2006) and low levels of well-being before going to sleep (Sonnentag, 2001).

While domestic and child care activities require effort and can be particularly exhausting (Bekker, de Jonge, Zijlstra, & van Landeghem, 2000; Frone, Russell & Cooper, 1997), studies by Sonnentag and Zijlstra (2006) found no associations between these activities and the need for recovery. The authors deduce that when performing these activities, workers can unwind from the demands of work and recover, thus they also have a positive side.

There are more typical leisure time activities that are potentially more conducive to recovery. *Low-effort activities*, such as watching TV, reading a magazine or just relaxing on a sofa, are passive activities, requiring little or no effort, that enable the physiological system to return to its pre-stress level and to recover (Sonnentag, 2001).

Social activities, such as going to a party, going out to dinner with others, or calling others on the telephone, promote recovery by two types of mechanisms (Sonnentag, 2001). Firstly, because they offer the opportunity for social support, which is an important external resource that helps restore lost or threatened resources or generate new ones, such as positive mood (Bakker, Demerouti & Euwema, 2005; Hobfoll, 1998; Sonnentag 2001). Secondly, during social activities, the resources that are required are dissimilar to those expended during work. Even for employees with a high requirement for social interaction at work (e.g., customer service), social activity during leisure time may be beneficial since it is assumed that in private social activity,



the individual tends to regulate their emotions less than during social interactions at work (Sonnentag & Bayer, 2005).

Although *physical activities*, including sports, exercise, fitness, etc., require effort, they use different resources than those required in most jobs. Physical activities stimulate the physiological and psychological processes (e.g., positive mood) that improve not only the physical health of the individual, but also their mental health (Brown, 1990; McAuley, Kramer & Colcombe, 2004). From a physiological perspective, endorphin levels rise during exercise (Grossman, Bouloux, Price, Drury, Lam, Turner & Sutton, 1984) and can improve one's state of mind. These activities also increase the secretion of serotonin, noradrenaline, and dopamine, which have antidepressant effects (Cox, 2002). From a psychological perspective, many physical activities enable mental distraction from the demands of work (Yeung, 1996). Furthermore, carrying out an activity such as an extreme sport produces a sense of mastery and increases levels of self-efficacy, which may facilitate recovery (Demerouti et al, 2009; Sonnentag & Jelden, 2009). Sonnentag (2001) indicated that the time spent on physical activity has a positive impact on well-being before bedtime. Sonnentag and Natter (2004), in a study on flight attendants, found that although the average time spent on physical activity was very low, particularly in comparison to the average time spent on low-effort activities, this small portion of time spent doing physical activity proved to be effective enough to improve the wellbeing of the workers.

Finally, researchers from the WoNt Team of the Universitat Jaume I of Castelló studied recovery activities undertaken by workers with information and communication technologies (ICTs), finding a new category of activities: *cognitive challenge activities*. They refer to activities that use cognitive resources linked to the search for challenges and learning opportunities (Colombo, Cifre & Salanova, 2011). These activities can contribute to the creation of new personal resources such as skills, competencies and self-efficacy (Bandura, 1997; Hobfoll, 1998), to improving positive mood (Parkinson & Totterdell, 1999) and may be accompanied by feelings of competence and capability (Fritz & Sonnentag, 2005, Ruderman, Ohlott, Panzar & King, 2002). Examples of these activities include developing computer programs (games or software), playing video and/or computer games and attending training (learning a new language and/or ability). These results provide evidence to the results found by Reinecke (2009) in his study on the use

of video and computer games to recover from stress. Among other interesting results, Reinecke found that the participants' level of fatigue due to work was negatively related to the use of video games for recovery.

Psychological processes: the experiences of recovery

Although these activities outside of work can have their influence on recovery, the underlying psychological mechanisms can play an important role (Sonnentag & Fritz, 2007). Individuals may differ in the specific activities they carry out in order to recover, but the psychological processes behind these activities may be similar. Sonnentag and Fritz (2007) call these underlying processes *recovery experiences*, and they consist of psychological detachment from work, relaxation, seeking challenges and leisure time control.

The first two experiences have their roots in the ER model (Meijman & Mulder 1998) and the last two in COR theory (Hobfoll, 1998). According to the ER model, *psychological detachment* and *relaxation* mean that the functional systems used during work (e.g., the neuroendocrine and cardiovascular systems) and the personal resources expended (e.g., self-regulation), are not exposed to the demands of work. According to the COR theory, *the search for challenges* and *control of free time*, help to restore threatened resources and generate resources (e.g., feelings of control) and energy.

Distancing oneself psychologically from work involves not only being physically absent from the workplace and refraining from work-related tasks, but also abstaining from thinking about or ruminating on work matters. If a person does not disconnect from work during their leisure time, these thoughts continue to consume resources, thus hampering recovery. However, if a person manages to disconnect from work, the stressors are no longer present in the psychophysiological system and they are able to recover (Sonnentag & Fritz, 2007). There is scientific evidence to suggest that psychological detachment is beneficial for recovery from work. Sonnentag and Fritz (2007) demonstrated that this experience was negatively related to health problems, emotional exhaustion, depressive symptoms, the need for recovery, and sleep problems. Furthermore, many diary studies have shown that people who experienced psychological detachment from work during leisure time reported better mood and less fatigue during the night and the next morning (Sonnentag & Bayer, 2005; Sonnentag, Binnewies & Mojza, 2008). Similarly, it has been shown that psychological detachment during the weekend is positively



related to the state of feeling recovered (the feeling of being refreshed and rested) at the beginning of the working week (Binnewies, Sonnentag & Mojza, 2010).

Some people may think that those who do not distance themselves psychologically from their work may suffer from workaholism. However, these are two distinct concepts. Workaholism refers to working excessively hard and the existence of a strong and irresistible impulse to do so (McMillan, O'Driscoll & Burke, 2003), while the absence of psychological distancing means remaining cognitively engaged with stressful events experienced at work without necessarily being at work (Etzion, Eden & Lapidot, 1998). In this situation, the person must make extra efforts to recover.

Relaxation does not require any effort from the person; on the contrary it reduces sympathetic activation (e.g., decreased heart rate and muscle tension) and increases positive affect, which facilitates recovery (see Fritz & Sonnentag, 2007). Relaxation may be the result of activities that are considered relaxing, such as meditation (Sonnentag & Geurts, 2009), a gentle walk in a beautiful natural environment, reading a novel or listening to music (Hartig, Evans, Jamner, Davis, & Gärling, 2003; Pelletier, 2004). Sonnentag and Fritz (2007) showed that relaxation was negatively related to the need for recovery, health problems, emotional exhaustion, and sleep problems. Furthermore, Sonnentag et al. (2008) showed that relaxation in the evening was positively related to calmness in the morning. Another study found that relaxation over the weekend was positively related to a state of feeling recovered on Monday morning (Binnewies et al., 2010).

The *pursuit of challenges* refers to the feelings of competence and capability that result from learning new things, broadening one's horizons, taking part in activities such as a new sport or hobby or getting involved in volunteer work (Sonnentag & Fritz, 2007; Sonnentag & Geurts, 2009). Such experiences challenge the person without exhausting their resources, and they experience the perception of being able to perform the activity, which brings a feeling of satisfaction. The experience of seeking challenges facilitates recovery because it helps to create new personal resources such as skills, competencies, self-efficacy and positive mood (Sonnentag & Fritz, 2007). The scientific evidence available to date suggests that the search for challenges is negatively related to the need for recovery, emotional exhaustion, and depressive symptoms (Sonnentag & Fritz, 2007) and positively related to positive activation the following morning

(Sonnentag et al., 2008). In addition, Fritz and Sonnentag (2006) found that people with high levels of challenge-seeking during the holidays had lower levels of exhaustion upon their return to work.

Finally, *control over free time* refers to the degree of choice that an individual has in choosing to do an activity in their spare time and deciding when and how to do it. Since the experience of control can increase self-efficacy and feelings of competence by satisfying the individual's general desire to control events in their lives (Sonnentag & Fritz, 2007), it can be an external resource that promotes recovery. Sonnentag and Fritz (2007) found that control is negatively related to the need for recovery, health problems, emotional exhaustion, depressive symptoms, and sleep problems, and it is positively related with life satisfaction.

As discussed above, the results of numerous studies support the functionality of the recovery experiences in the recovery process. However, it is likely that there are other useful experiences for recovery, such as the experience of pleasure (Sonnentag & Geurts, 2009), humor, and the associated laughter (Demerouti et al., 2009), and feeling happy (Oerlemans, Bakker & Demerouti, 2011, see also Oerlemans, Bakker & Veenhoven, 2011). We have presented here the four recovery experiences proposed by Sonnentag and Fritz (2007), which have been the focus of numerous investigations.

Recovery as a result: How do I feel?

In addition to studying recovery in terms of scenarios and processes, it can be studied as the result of a satisfactory or defective recovery process. Sonnentag and Geurts (2009) distinguish three types of outcomes that are possible to measure: *psychological* (e.g., fatigue), *physiological* (e.g., cortisol levels or cardiovascular activity) and *behavioral* (e.g., performance). As we presented in the previous section, there is scientific evidence regarding the results of the recovery process. Most of the studies in this construct have been diary studies with measures on an individual level, the results of which are expressed in terms of feeling recovered, fatigue levels, affective states (Sonnentag & Bayer, 2005, Sonnentag, et al, 2008, Sonnentag & Fritz, 2007), sleep quality (Sonnentag & Geurts, 2009; Tucker, Dahlgren, Akerstedt, & Waterhouse, 2008), levels of engagement (Sonnentag, 2003; Sonnentag & Natter, 2004; Sonnentag, Mojza, Binnewies, & Scholl, 2008) and performance levels (Binnewies, et al 2010; Fritz & Sonnentag, 2005), among other variables.



For example Fritz, Sonnentag, Spector, and McInroe (2010) found, in their diary study which 229 preschool teachers completed before, during and after the weekend, that recovery experiences were associated with positive and negative affective states at the end of the weekend and during the following working week. The results of a diary study, completed twice a day for one working week by 111 employees from different business sectors, suggest that recovery is positively related to work engagement, which in turn prevents the loss of recovery levels throughout the day, especially when situational stressors are low. These situational stressors seem to disrupt the reciprocal processes between recovery and engagement (Sonnentag, Mojza, Demerouti & Bakker, in press).

In the aforementioned studies, the researchers combined the different perspectives (the scenarios, processes and outcomes) in different studies. In real life, these perspectives are closely linked, so it is important to differentiate between each of them well and not to confuse scenarios with processes or processes with results.

AND WHAT CAN WE, AS PSYCHOLOGISTS, DO? CONCLUSIONS AND PRACTICAL IMPLICATIONS

The objective of this article was to conduct a review of the scientific literature on recovery from work highlighting, from a psychological perspective, its importance for the psychosocial wellbeing of people and in combating work stress. Opportunities to recover, where the stressors are not present, allow a person to reduce the symptoms of stress and regain their energy and resources. The processes of recovery are those that can act as mediators or moderators between the psychosocial characteristics of work and wellbeing at work and in general, restoring lost resources and generating new ones.

The study of this positive construct from the different perspectives is of social and scientific interest due to its theoretical and practical implications. From a theoretical perspective, we can extend the current occupational health models to incorporate recovery as an antecedent, mediator and/or outcome variable, which may play a key role in creating wellness spirals.

From a practical perspective, as psychologists we have a critical role incorporating the variable of recovery in the prevention of psychosocial risks. In this sense, on an individual and clinical level we can identify not only the risk factors that accompany a person's poor recovery, but also their opportunities for recovery, during and after working hours, and we can also identify their personal

preferences regarding the activities that constitute recovery experiences for them.

At the organizational level, as health promoters we can use the scientific evidence to raise awareness in managers and directors about the importance of resting time both inside and outside of work in order to maintain the occupational wellbeing of their employees. We can also develop strategies aimed at (re) designing the time and place in which breaks take place, proposals for recovery activities within organizations, policies and guidelines for work, possible overtime and availability (via phone or e-mail) after hours.

With all this, we hope that reading this article encourages, not only in the field of Social Psychology and Work and Organizational Psychology, but also in different contexts and specialties, the continued study of and research into the recovery processes that help people to reach that much coveted state of complete mental, physical and social wellbeing (definition of "health" by the WHO, 1968).

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