

and well-being (i.e. cause strain). **Job control** reflects the decision latitude or degree of autonomy an employee has at work such as control over the work schedule or how to complete work tasks. Social support represents the level of support employees receive at work for example from their supervisor or their co-workers (e.g. Gonzalez-Mulé, Kim, Ryu, 2021; Van der Doef and Maes, 1999).

The JDR model broadens the scope of the JDCS model by proposing a wider set of **job resources** than simply job control and social support. These include physical, psychological, social or organisational resources (or aspects of one's job) that support the achievement of work goals, reduce the physiological and psychological costs associated with job demands, and stimulate personal growth, learning and development (Demerouti and Bakker, 2011). The model proposes two distinct psychological processes. First, the health impairment process suggests that job demands negatively affect organisational outcomes as they impair employees' psychological health and drain energy. Second, the motivational process highlights the motivational potential of job resources which may promote employees' work engagement and thus are beneficial for organisations. It is also noteworthy that the JDR model has a broader take (than the JDCS model) on the interplay of demands and resources as it proposes that different types of demands and resources can interact to predict stress reactions (Demerouti and Bakker, 2011).

**Job control** reflects the decision latitude or degree of autonomy an employee has at work such as control over the work schedule or how to complete work tasks.

**Job resources** refer to those physical, psychological, social or organisational aspects of the job that are either/or:  
1. functional in achieving work goals  
2. reduce job demands and the associated physiological and psychological costs  
3. stimulate personal growth, learning, and development (Demerouti et al., 2001).

## THE IPO MODEL OF STRESS

The input–process–output model of stress (Figure 7.1) is itself an extension of the JDR model – disentangling the psychological processes that link job stressors to stress reactions. Like the JDCS and JDR models, it also proposes that job resources can both directly reduce stress reactions but also alleviate the harmful effects of job stressors by influencing the proposed psychological mechanisms.

**The input factor** of the model is job stressors (referred to as job demands in the JDCS and JDR models), which entail all work conditions that can cause stress reactions such as impaired mental health and well-being and employee effectiveness at work. Job stressors may reflect different aspects of the work such as:

- **Job requirements:** stressors that are associated with working in a specific job or profession. For example, call centre workers experience emotional demands as they must exert effort to effectively deal with angry or dissatisfied customers.
- **Organisational conditions:** stressors that are associated with working in a specific organisation. For example, employees working in an organisation that goes through a major restructuring with layoffs may experience a higher workload that requires additional effort.
- **Situational factors:** stressors that are associated with specific situations at work. For example, getting into a conflict with a colleague requires effort to resolve the conflict.

Psychological mechanisms reflect the process factor of the model. In essence, these refer to the cognitive, motivational and emotional reactions triggered by job stressors. This differentiation between job stressors and psychological processes is a crucial part of the IPO model of stress as it allows us to understand why individuals may react differently to the same job stressor. To illustrate, when working under high time pressure

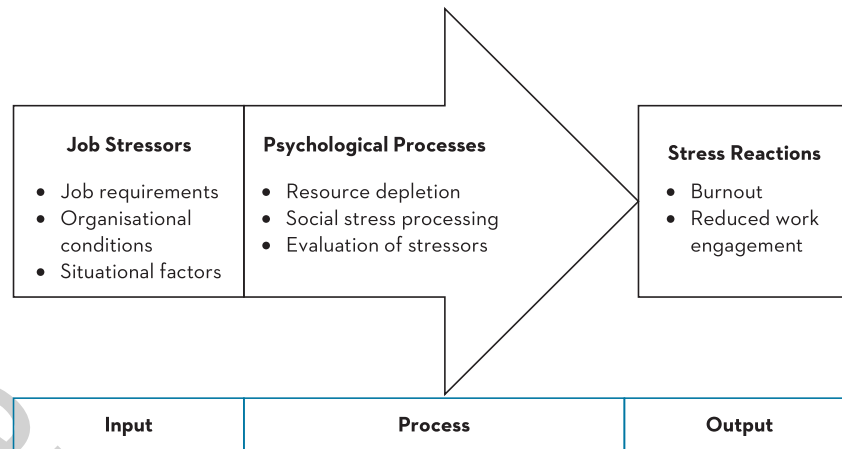


FIGURE 7.1 The IPO model of stress

**Psychological processes** refer to the cognitive, motivational and emotional processes triggered by job stressors.

(i.e. a job stressor) John may experience that it drains his psychological energy (i.e. a **psychological process**) whereas Meghan may enjoy the work and even feel energised by it. Broadly we distinguish between two classes of psychological processes based on two dominant theoretical streams:

- **Appraisal theories:** the harmful effects of job stressors depend on their appraisal, which refers to the process of evaluating or categorising the personal significance of events. In particular negative appraisal is associated with the harmful consequences of job stressors.
- **Resource theories:** job stressors deplete individual resources, which leads to experiences of reduced vitality, vigour or enthusiasm. During states of depleted psychological resources, employees find it difficult to engage in any form of active behaviour and rather remain passive.

The output factor of the model is stress reactions (also referred to as strain), which manifest as impaired mental health and well-being and employee functioning. To illustrate, a worker who has to deliver a presentation to their organisation's board of directors (a job stressor) may experience tension (a psychological process), which results in impairments of their sleep quality – a stress reaction.

Finally, the IPO model of stress introduces job resources as contingency factors that can change the relationship between specific stressors and associated psychological processes. Job resources refer to aspects of the work that can, on the one hand, directly reduce stress reactions and, on the other hand, help employees to cope with job stressors in a way that alleviates stress reactions. To illustrate having a supportive colleague may not only directly reduce stress reactions through experiencing positive emotions when working together but also may help an employee to cope with a high workload (i.e. job demand) as the supportive colleague may take over a part of the workload. In a nutshell, increasing job resources is crucial to improve resilience.

## THE DOUBLE- AND TRIPLE-MATCH PRINCIPLE

While the aforementioned models (i.e. JDCS, JDR and IPO model of stress) provide helpful frameworks to explain the role of work for employee well-being, they have one major drawback – they assume that any stressor can influence any stress reaction, and any job resource can protect employees from the harmful effects of any job stressor. However, imagine that you encounter a high workload as a job stressor, what would be more helpful: (1) a supportive colleague who can take over some of your tasks; or (2) a high level of control to decide when and where you can perform those tasks?

The **triple-match principle** (De Jonge and Dormann, 2006) addresses this issue, suggesting that a resource is more likely to buffer the relationship between a job stressor and a stress reaction if there is a match between the stressor, the stress reaction and the resource (Cohen and McKay, 1984). To illustrate, emotional demands – a dominant stressor in services sector occupations – is more likely to increase to emotional exhaustion (an emotional stress reaction) than to cause back pain. Accordingly, training employees to use effective strategies to regulate their emotions such as deep acting (i.e. reminding oneself of a corresponding emotion when expressing emotions that are not genuinely felt) should be more effective in coping with emotional demands than training time-management skills, which do not match the stressor and stress reaction (e.g. De Jonge and Dormann, 2006). When considering relevant combinations of job stressors, psychological processes, stress reactions and job resources it is important to use the triple-match principle as a guideline.

**Triple match** The strength of a job resource buffering the harmful effects of stressors on stress reactions is determined by the match of the job stressor, resource and stress reaction.

## THE INPUT – JOB STRESSORS

Job stressors constitute the input factor of the IPO model of stress. Different occupations are characterised by a variety of job stressors. Throughout history job stressors have considerably changed and will continue changing depending on societal and cultural norms, regulations and technological changes. More specifically, throughout the industrial revolution, workers were predominantly exposed to physical stressors that are associated with hard manual labour, for example in factories. In these occupations, workers were also exposed to harsh environmental stressors such as working in very hot or cold conditions or with harmful chemicals (i.e. in garment factories). The impact of these job stressors alongside poor or non-existing health and safety regulations was devastating resulting in poor physical well-being of workers, high levels of accidents and increased mortality rates. These conditions have triggered the introduction of occupational health and safety regulations to protect workers (see Chapter 1). Employees in developed countries nowadays predominantly face psychological stressors, which are among the main causes of stress reactions. This is because professions in developed countries have shifted from manual labour towards knowledge work such as providing administration and service. It is on these psychological stressors that we focus our chapter (see Figure 7.2).

### Traditional Job Stressors

These stressors emerged as employees shifted towards knowledge work and are experienced by most knowledge workers daily and include task demands, role stressors, social stressors, work-schedule-related stressors, and career-related stressors.

Overview of Job Stressors	
<i>Traditional Job Stressors</i>	Task demands Role stressors Social stressors Work-schedule-related stressors Career-related stressors
<i>Contemporary Job Stressors</i>	Self-control-related stressors ICT-related stressors Teleworking-related stressors

FIGURE 7.2 Overview of job stressors

**Task demands** result from completing work tasks.

**Task demands** are associated with the completion of work tasks, are among the most prominent and well-studied psychological job stressors. These include quantitative and qualitative demands, with the former reflecting a high workload or time pressure and the latter the complexity of the work at hand (Zapf, Semmer and Johnson, 2014). Further task stressors include the monotony of work and the demands caused by disruptions to the work process.

**Role stressors** result from the clarity and consistency of one's work role.

**Role stressors** are also to do with the clarity and consistency of one's job role and include issues of role conflict and role ambiguity (Jex, 1998). *Role conflict* reflects whether one's job involves conflicting requirements. For example, a nurse may consider that their work role mainly serves to support patients in getting healthy, but they must do so cost effectively and within the financial constraints of the hospital. *Role ambiguity* reflects the lack of clarity of one's job role and not knowing what constitutes and what does not constitute part of their responsibilities.

**Social stressors** result from the interaction with customers, colleagues and supervisors at work.

**Social stressors** result from interactions – and interpersonal conflicts – with other individuals at work such as customers, colleagues, or supervisors (Aneshensel, 1992). In more extreme cases social stressors may involve (sexual) harassment, mobbing or bullying.

**Work-schedule-related stressors** are associated with when work needs to be performed.

**Work-schedule-related stressors** refer to the timing at which employees are required to work (Sparks et al., 1997). Long hours, overtime and working night shifts and accommodating to changes in shift work have been demonstrated as particularly detrimental for employees.

**Career-related stressors** are associated with career opportunities in one's work.

**Career-related stressors** reflect the opportunities that individuals have in terms of career progression at work (Sonnentag and Frese, 2013), and include job insecurity for employees working in precarious jobs as well as a lack of career progression.

### Contemporary Job Stressors

Contemporary job stressors have resulted from further changes in the way we work, and here we explore three that are prominent in the literature – self-control-related stressors, ICT-related stressors and teleworking-related stressors.

### Self-control-related stressors

Many contemporary occupations are characterized by the requirement to control one's impulses, emotions, and temper. To cope with such requirements employees must engage in self-control (colloquially referred to as willpower), which refers to our ability to change our impulses, emotions, and temper (Muraven and Baumeister, 2000). **Self-control-related stressors**, therefore, refer to one major category of contemporary job stressors, which involves controlling impulses and spontaneous reactions, resisting distractions and overcoming inner resistances (Schmidt and Neubach, 2007). Another self-control-related stressor is emotional labour, which involves the job requirement to display specific emotions that are expected at work referred to as emotional display rules (Grandey, 2000). Conforming to emotional display rules is not very difficult if an employee genuinely experiences an emotion that they are expected to show. For example, a waiter who is in a positive mood may not find it difficult to smile at customers. However, emotional labour becomes a stressor when the individual does not genuinely experience the required emotion for example if they are sad. The mismatch between felt and expressed emotions is coined emotional dissonance. To cope with emotional dissonance individuals must exert self-control to, on the one hand, downregulate genuinely felt emotions (i.e. sadness) and, on the other hand, upregulate required emotions (i.e. happiness; Konze, Rivkin and Schmidt, 2019).

**Self-control-related stressors** encompass stressors that require individuals to exert self-control or willpower at work

### ICT-related stressors

The increased prominence of using information and communications technology (ICT) in organisations has led to the emergence of **ICT-related stressors** or technostress (Ayyagari et al., 2011). Smartphones, which have become our prevalent companions, are also frequently used for work-related purposes, for example to communicate with colleagues or one's supervisors through phone calls, emails and messages. Accordingly, the prevalence of work-related smartphone use during leisure time has been identified as a work-related stressor (Gombert, Rivkin and Kleinsorge, 2018). Another aspect of work-related ICT use is that it can be highly distracting. Constantly receiving messages, news or social media posts can make it very difficult to focus on one's work. Accordingly, distractions associated with ICT use reflect another stressor.

**ICT-related stressors** encompass stressors associated with the work-related use of ICT

### Teleworking-related stressors

A major impact of the Covid-19 pandemic is the wide introduction to remote or hybrid work arrangements across a variety of professions. While this shift came with several beneficial side effects for employees such as increased flexibility and reduced commuting times it also came along with a variety of **teleworking-related stressors** (Kniffin et al., 2021). For example, virtual meetings can be a major stressor at work, which can result in 'Zoom fatigue'. This can be further compounded if employees do not have the right working conditions at home including a quiet space away from other family members or pets, an appropriate desk and chair, and suitable technology.

**Teleworking-related stressors** encompass stressors associated with remote or hybrid work.

## HRM IN PRACTICE 7.1

### Self-Control Demands and Emotional Labour in the Healthcare Professions

Self-control demands and emotional labour represent two dominant stressors that are highly prevalent in contemporary occupations, particularly in service professions. Occupations that have been well studied in relation to self-control demands and emotional labour are nurses and care workers (i.e. eldercare, childcare). In these jobs, employees experience particularly high self-control demands because they must provide care to individuals who cannot fully care for themselves. Several studies demonstrate that these employees report particularly high self-control demands and emotional labour (Schmidt, 2010). This becomes evident as in these professions employees must remain calm and composed even when caring for patients with life-threatening or terminal illnesses. Moreover, they must also overcome inner resistances to work with patients who may have infectious diseases. Last but not least, employees who care for children must deal with a variety of emotions such as suppressing their anger when children misbehave.

Several studies have not only supported the high prevalence of self-control demands and emotional labour among these employees but have also shown that these stressors considerably impact on employees' mental health and well-being resulting in increased feelings of fatigue and drained energy, a higher need for recovery, lower levels of work engagement and ultimately in burnout, depression and anxiety. One particular study even demonstrated that these impairments in mental health and well-being also contributed to higher levels of absenteeism (Diestel and Schmidt, 2011).

## THE PROCESSES – PSYCHOLOGICAL MECHANISMS

Psychological mechanisms are the lynchpin that links job stressors to stress reactions. They help us understand why facing a certain stressor causes harm to one's well-being. Psychological mechanisms can be divided into appraisal and resource theories.

The main difference between these two theories lies in their core assumption about how stressors cause stress reactions. Whereas appraisal theories assume that there is no uniform reaction to a stressor and that every individual may react differently when encountering a specific stressor resource theories suggest that certain stressors universally drain employees' resources and thereby cause stress reactions that manifest as impaired health and well-being. While a number of appraisal and resource theories exist in the literature, due to space limitations, our focus here will be on the seminal Transactional Model of Stress (Lazarus, 1966) (Appraisal Theory) and dominant Conservation of Resources

## DEVELOPING KEY SKILLS

### Assessing Your Stressors

Learn how to assess your current stressors and reflect on how you can reduce those stressors. This exercise can either refer to the stressors of your current job or studies.

**Task:** Use the excel spreadsheet available on the website as an appendix to this chapter to assess your current stressors. After that engage in the following exercise:

- 1 Identify the top three stressors that you are currently facing. Reflect on how these stressors impact your stress reactions.
- 2 Reflect on ways how you can reduce your most prevalent stressors.