

What is stress?

So what is stress? It is one of those terms that mean so many things to different people. For the purposes of this book, it may be a good idea if we have a common understanding. In this chapter we shall provide you with a definition of stress, highlight the difference between pressure and stress, and explain the biology of stress.

Simple definition

There are many definitions of stress. The one we have found useful is:

Stress occurs when pressure exceeds your perceived ability to cope.

So it is not just external pressure, such as reaching deadlines, that leads to stress, but whether you believe that you can cope with a situation that you perceive as important or threatening. Obviously, the more experienced or skilled you are at a particular activity, such as giving presentations or completing projects on time, the less likely you are to become stressed.

But in many jobs there is constantly high pressure to perform, and no breathing space at all. Under pressure employees start working longer hours, taking work home, and

in extreme cases work in their holidays to achieve work targets and deadlines. A time may come when, literally, the person passively accepts one project too many and then realises he or she just can't cope any more. We often hear the phrase, 'the straw that breaks the camel's back', but this is very relevant to the field of stress, as we will highlight shortly.

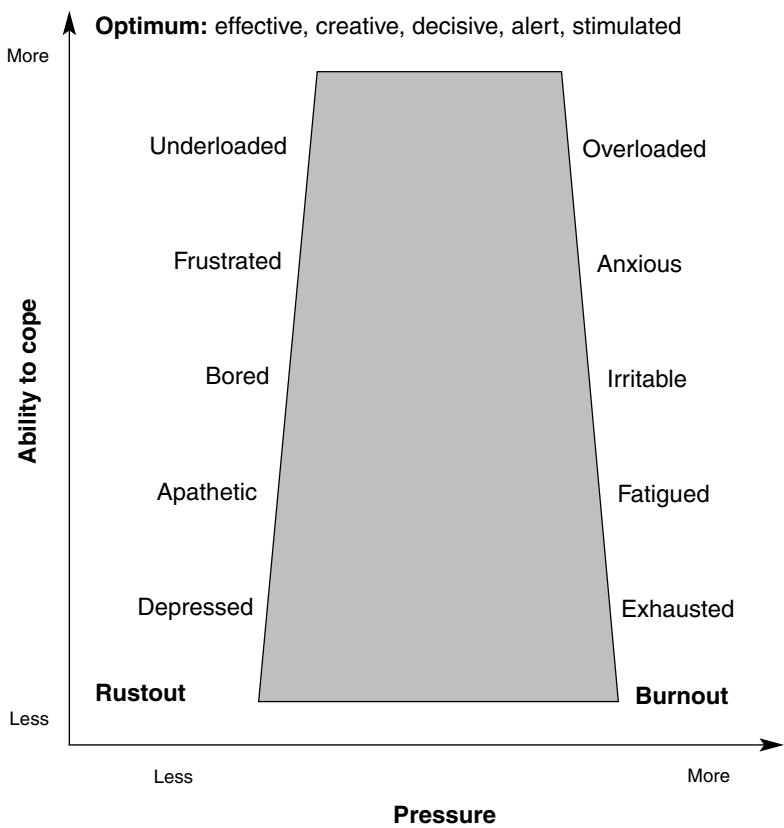
Of course, if you do not perceive that the problem is important or threatening, then even if you do not successfully deal with it, you are unlikely to become stressed.

Pressure and stress

To state the obvious, each person is uniquely different, for example in our genetic predispositions to suffer from various medical disorders, our hair colour, height, weight, level of fitness, personality, humour, interests and so on. This also applies to the amount of pressure each of us can take.

Research has shown that there is a real physiological difference between pressure and stress. People experiencing stress have higher levels of the various stress hormones in their bloodstream than people who feel merely challenged. At the right amount of pressure we work at our optimum. We will be effective, creative, decisive, alert and stimulated. We will start the day and look forward to our work, studies or other personal interests or hobbies. The important point to note is that this varies from person to person. One person's pressure is another person's stress. Too much pressure can lead to anxiety and burnout. Too little pressure, and we become bored, apathetic and finally may even reach rustout! The link between rustout, our optimum level and burnout is illustrated in Figure 1.1.

In fact, when people are feeling appropriately challenged they often feel excited about accomplishing a task, whereas when they are stressed they usually experience a range of negative thoughts, feelings and physical sensations.



Source: adapted from Palmer and Strickland (1996).

Figure 1.1 *The relationship of pressure to the ability to cope*

Activity 2

Reflect upon how you've felt in the past week and then think about the questions below:

- Have you been stressed, relaxed, bored or fatigued?
- Do you regularly work at your optimum?
- On your average day, where are you on the pressure diagram?
- Does your position on the diagram vary throughout the day or on particular days?
- Finally, if you are regularly feeling too much or too little pressure, can you change this situation, assuming you want to?

Costs of stress

The costs of stress are immense. Surprisingly, stress has overtaken the common cold as a major reason for absence from work, and the Confederation of British Industry (CBI) has estimated that absenteeism costs British industry more than £10 billion a year. This is typical of many studies in the Western world. The effects of stress upon the individual are not encouraging, and studies have found it may be responsible for a variety of ailments, including:

- heart attack/strokes;
- hypertension/high blood pressure;
- ulcers;
- diabetes;
- angina;
- cancer;
- rheumatoid arthritis;
- psychological disorders such as anxiety and depression, including breakdowns.

To illustrate the effects of stress and why it is so important to tackle it as it arises, let's just examine a case study of a civil servant who kindly shares his experience with us (HSE, 2006a).

Case study: Rehabilitation after an acute episode of work-related stress

I was brought up in an environment where the Protestant work ethic was very much to the fore. Success was largely measured by completing tasks – whether schoolwork, or household chores – that were given to me. This work ethic translated itself in adult life as a desire to work consistently hard and to a high standard, both in my Civil Service career, and in the voluntary work and academic studies I undertook in my spare time.

For 10 years I managed, through sheer willpower and hard work, to juggle the conflicting demands of a career in the civil service working on high-profile policy areas, and a variety of activities outside work. Occasionally the cracks would show, but I would paper over them, often by using holidays to complete work tasks.

Eventually, however, I could cope no more. The straw that broke the camel's back came one Sunday in February 1996 when a combination of factors, including a new, demanding job that I had taken on promotion and a difficult relationship in my personal life, resulted in my having a sudden and complete nervous breakdown. One day I was coping with a full and varied work and social life; the next I was incapable of undertaking even the simplest tasks. I retreated into myself and was only prepared to communicate with a handful of trusted friends and family.

Three painful and challenging months followed, with spells in my local mental hospital. This period was made particularly difficult by the uncertainty about if and when I would ever recover, and by having to learn to engage with a bewildering number of different layers of bureaucracy. Linked to that was the question mark over whether I would ever resume my Civil Service career, and if not, how I would support myself financially.

Thankfully as spring gave way to summer I began to feel better. This was in no small part the result of the loving care and concern of my friends and family. By July 1996 I was in a position to consider a partial return to my Civil Service career. The thought of returning to work was daunting, not least the uncertainty over how my work colleagues would react following my extended absence due to mental ill-health. Fortunately the staff counselling service had enabled me to maintain indirect contact with my manager and my work colleagues. I preferred this indirect approach, as I was a little anxious about dealing with my colleagues directly at first.

Through home visits from the staff counsellor, I agreed with my manager a staggered return to work. Initially I worked two days per week. In my early days back in the office my manager had weekly meetings with me to check that I was coping with my workload in terms of both quality and quantity. In addition, other colleagues were incredibly supportive and understanding. This helped me to rebuild my fragile confidence in my ability to undertake my job.

After my first month back at work my manager subsequently reviewed my progress with me on a monthly basis. These monthly reviews resulted in my work pattern changing initially to three days per week, then four. Finally, by October I was ready to return to a five-day working week, although in contrast to before being ill I now had a much more realistic expectation of the amount of work I could undertake in a given period. I was also much more realistic about how much responsibility I should accept in my spare time.

Through this acute episode of work-related stress, I have learnt the hard way the importance of maintaining a healthy work-life balance. I know I have a tendency to work too hard, and can now spot the early warning signs of overwork and do something about it. Since 1996 I have also had the privilege to pass on what I have learnt to other people suffering mental ill-health as a result of work-related stress.

My staggered return to work demonstrates the value of active case management in ensuring successful rehabilitation. I was fortunate to have a competent and sensitive staff counsellor who was able to help maintain good communication between me and my workplace, and a manager prepared to be flexible in restructuring and reviewing my job to meet my changing needs. Things might

have turned out very differently if I had not had a staff counsellor to use as a trusted intermediary in the rehabilitation process, and the local support network to encourage me to rebuild my life.

This case study demonstrates how our beliefs and attitudes that we take into the workplace can help to drive us on relentlessly. There are often alternative options. For example, we can be assertive and inform our manager that we have been given too much work, too many deadlines and not enough time to complete the projects. Let's review the case study and see how our beliefs contribute to stress:

The Protestant work ethic was very much to the fore. Success was largely measured by completing tasks – whether schoolwork, or household chores – that were given to me.

However, once we become adults, if we reflect upon our beliefs we could challenge and modify them. But most of us don't realise this, so we carry on with these beliefs and take them into college, university and the workplace:

This work ethic translated itself in adult life as a desire to work consistently hard and to a high standard, both in my Civil Service career, and in the voluntary work and academic studies I undertook in my spare time.

High standards applied inflexibly can increase the demands we place upon ourselves. This may work for a while, but for many of us it has repercussions. Pressured jobs and long hours can impact upon relationships at work and at home, and we can become emotionally and physically drained:

I could cope no more. The straw that broke the camel's back came one Sunday in February 1996 when a combination of factors, including a new, demanding job that I had taken on promotion and a difficult relationship in my personal life, resulted in my having a sudden and complete nervous breakdown.

This person accepted a new demanding job, plus he had relationship difficulties external to work. This all became overwhelming and he could no longer cope. Fortunately, in our case study, he received support from his family and friends, and with the help of his counsellor he had a gradual reintroduction back into work. But he also learnt from the process and changed his previously unrealistic expectations:

Finally, by October I was ready to return to a five-day working week, although in contrast to before being ill I now had a much more realistic expectation of the amount of work I could undertake in a given period. I was also much more realistic about how much responsibility I should accept in my spare time.

This was an important breakthrough. Sadly it took a nervous breakdown and subsequent help and support for this person to re-evaluate his previously strongly held beliefs, but this prepared him for his return to work.

To be realistic, our model of stress needs to take into account some of the factors raised by this case study. We return to it in the next section, where we introduce a model that helps to explain the link between our beliefs and stress. However, do note that in Chapter 7 we shall introduce a model that includes all the organisational factors of stress too, and which gives managers an insight into how the organisation can help employees.

How do you cope with stress?

Over time we all learn a number of strategies to help us deal with or avoid stress. Some of these strategies are adaptive and helpful, while others are less so. The next activity will help you to assess the effectiveness of your general approach to dealing with stress.

Activity 3: Life Stress Questionnaire

Think of a personal stress-triggering problem. It could be a difficult issue to do with your partner, children, friends or family. Now consider to what extent you do the following below and circle your response to each question on the scale of 1 to 5.

Table 1.1

Part 1 – Temporary adaptation	Never	Rarely	Periodically	Regularly	Very often
Get on with work, keep busy	1	2	3	4	5
Throw yourself into work	1	2	3	4	5
Do some housework	1	2	3	4	5
Try to do something where you don't use your mind	1	2	3	4	5
Cry on your own	1	2	3	4	5
Bottle it up for a time, then break down	1	2	3	4	5
Explosive, mostly temper, not tears	1	2	3	4	5
Treat yourself to something like clothes or a meal out	1	2	3	4	5

Part 2 – Helpful behaviour	Never	Rarely	Periodically	Regularly	Very often
Sit and think	1	2	3	4	5
Ability to cry with friends	1	2	3	4	5
Get angry with people or things that are causing the problem	1	2	3	4	5
Let feelings out, talk to close friends	1	2	3	4	5
Talk things over with lots of friends	1	2	3	4	5
Go over the problem again and again in your mind to try to understand it	1	2	3	4	5
Feel you learn something from every distress	1	2	3	4	5
Talk to someone who could do something about the problem	1	2	3	4	5
Try to get sympathy and understanding from someone	1	2	3	4	5
Part 3 – Unhelpful behaviour					
Try not to think about it	5	4	3	2	1
Go quiet	5	4	3	2	1
Go on as if nothing had happened	5	4	3	2	1
Keep feelings to yourself	5	4	3	2	1

	Never	Rarely	Periodically	Regularly	Very often
Avoid being with people	5	4	3	2	1
Show a 'brave face'	5	4	3	2	1
Worry constantly	5	4	3	2	1
Lose sleep	5	4	3	2	1
Don't eat	5	4	3	2	1
Control tears (hide feelings)	5	4	3	2	1
Eat more	5	4	3	2	1
Wish you could change what happened	5	4	3	2	1
Have fantasies or wishes about how things might have turned out	5	4	3	2	1

Unhelpful

29

87

Helpful

145

To calculate your score, add up all the circled numbers and plot the total on the scale above. If you have a score less than **58**, many of your behaviours to deal with stress are not always very helpful, while a score of **116** or over would indicate that many of your behaviours are more helpful when dealing with stressful situations. On those items for which you have low scores, especially in Parts 2 and 3, consider how you might improve them. Do note that the other chapters in this book may help you to modify some of your behaviours and thoughts.

Source: adapted from Cooper *et al* (1988).

Are you in control?

If you perceive yourself to be in control of a situation or life in general, you will suffer from less stress, anxiety and depression compared with others who do not see themselves in control. Therefore control is seen by researchers as an important aspect of the stress construct (Rotter, 1966; Ruiz-Bueno, 2000). The next activity will help you to assess how much control you believe you have over life in general.

Activity 4: Locus of Control Questionnaire

Circle the number that best reflects your attitudes

Table 1.2

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
Our society is run by a few people with enormous power and there is not much the ordinary person can do about it.	1	2	3	4	5
Success is determined by being in the right place at the right time.	1	2	3	4	5
There will always be industrial relations disputes no matter how hard people try to prevent them, or the extent to which they try to take an active role in union activities.	1	2	3	4	5

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
Politicians are inherently self-interested and inflexible. It is impossible to change the course of politics.	1	2	3	4	5
What happens in life is predestined.	1	2	3	4	5
People are inherently lazy, so there is no point in spending too much time in changing them.	1	2	3	4	5
I do not see a direct connection between the way and how hard I work and the assessments of my performance that others arrive at.	1	2	3	4	5
Leadership qualities are primarily inherited.	1	2	3	4	5
I am fairly certain that luck and chance play a crucial role in life.	1	2	3	4	5
Even though some people try to control events by taking part in political and social affairs, in reality most of us are subject to forces we can neither comprehend nor control.	1	2	3	4	5
Plot your total score below Internal 10 30 External 50					

A score of about 30 is average. A lower score is better, as you perceive you have more control over a range of different issues. You have an internal locus of control. A very low score may be unrealistic, so you may be surprised when unexpected life events occur. A score of over 30 means that you may have an external locus of control, and on a day-to-day basis may suffer from more stress.

If you have a high score of 40 or above, consider whether there are more areas of your life you could influence.

Source: Cooper *et al* (1988).

Health locus of control

In addition to a general locus of control there is also a health locus of control. This focuses on our knowledge about health-related issues, and whether we perceive we can take action to influence our health. Instead of just asking the doctor, ‘What can you do for me?’, a person with an internal health locus of control is likely to ask, ‘What can I do for myself?’ For example, you could choose to take a proactive approach to dealing with your obesity if you suffer from high blood pressure or raised levels of cholesterol, such as maintaining a healthy diet and taking more exercise. This could have a better long-term outcome than just taking medication that your doctor has prescribed for reduction of high blood pressure and raised cholesterol levels.

A caveat: do note that we are not advocating giving up prescribed medication. We are just suggesting that people with an internal health locus of control could ask the doctor, or find out elsewhere, what they would do to help themselves, in addition to taking the medication. Of course, we realise that their goal agreed by their doctor might be to reduce or stop taking their medication eventually.

The biology of stress

As psychologists we occasionally meet managers who think that stress is 'all in the mind', whereas our stressed clients often tell us, 'I think I'm going mad.' Of course, how we perceive situations may trigger or exacerbate stress. However, once you are stressed a range of biological processes start in the brain and body which are very real. If you are fascinated by what happens, we have included a brief summary of the biology of stress in this section. Skip this section if you are keen just to learn how to fight stress.

Let's examine the stress response step by step (Palmer and Dryden, 1995):

- When a person perceives he or she is in a threatening situation which he or she is unable to cope with, messages are carried along neurones from the cerebral cortex (where the thought processes occur in the brain) and the limbic system to the hypothalamus (located in the brain). The hypothalamus has a number of discrete parts.
- The anterior hypothalamus produces sympathetic arousal of the autonomic nervous system (ANS). The ANS is an automatic system that controls the heart, lungs, blood vessels, stomach and glands. Because of its action we do not need to make any conscious effort to regulate our breathing or heartbeat. It just happens without your thinking about it.
- The ANS consists of two different systems, the sympathetic nervous system and the parasympathetic nervous system (PNS).
- The PNS conserves energy levels and aids relaxation. Assuming you are relaxed as you read this book, your PNS is functioning at this precise moment.
- The PNS increases bodily secretions such as saliva, tears, mucus and gastric acids, which help to defend the body and aid digestion. Therefore when you are feeling relaxed your immune system is working.

- The PNS sends its messages by a chemical known as a neurotransmitter, called acetylcholine. This chemical is stored at nerve endings.
- The sympathetic nervous system (SNS) prepares the body for action. This forms part of the 'fight or flight' response.
- In a stressful situation, it quickly does the following:
 - Increases the strength of skeletal muscles.
 - Increases the heart rate.
 - Increases mental activity and concentration.
 - Increases sugar and fat levels.
 - Reduces intestinal movement.
 - Inhibits tears and digestive secretions.
 - Relaxes the bladder.
 - Dilates pupils.
 - Increases perspiration.
 - Inhibits erections or vaginal lubrication.
 - Decreases blood-clotting time.
 - Constricts most blood vessels but dilates those in the heart/arm/leg muscles.
- The main sympathetic neurotransmitter is called noradrenaline, which is released at the nerve endings.
- The stress response also includes the activity of the adrenal, pituitary and thyroid glands.
- The two adrenal glands are located one on top of each kidney. The middle part of the adrenal gland is called the adrenal medulla, and is connected to the SNS by nerves. Once the latter system is in action it instructs the adrenal medulla to produce adrenaline and noradrenaline (catecholamines), which are released into the blood supply.
- The adrenaline prepares the body for flight and the noradrenaline prepares the body for fight. They increase both the heart rate and the pressure at which the blood leaves the heart; they dilate bronchial passages and dilate coronary arteries; skin blood vessels constrict and there is an increase in metabolic rate. Also gastrointestinal system activity reduces, which leads to a sensation of 'butterflies in the stomach'.

- Lying close to the hypothalamus in the brain is an endocrine gland called the pituitary. In a stressful situation, the anterior hypothalamus activates the pituitary.
- The pituitary releases adrenocorticotrophic hormone (ACTH) into the blood, which then activates the outer part of the adrenal gland, the adrenal cortex.
- The adrenal cortex then synthesises cortisol, which increases arterial blood pressure, mobilises glucose and fats from the adipose (fat) tissues, reduces allergic reactions, reduces inflammation and can decrease lymphocytes (white blood cells) that are involved in dealing with invading particles or bacteria.
- Consequently, increased cortisol levels over a prolonged period of time lower the efficiency of the immune system. That's when we start to suffer from more colds and coughs than usual.
- The adrenal cortex releases aldosterone, which increases blood volume and subsequently blood pressure. Unfortunately, prolonged stress arousal over a period of time because of stress can lead to high blood pressure and a medical condition called essential hypertension.
- The pituitary also releases oxytocin and vasopressin, which contract smooth muscles such as the blood vessels.
- Oxytocin causes contraction of the uterus.
- Vasopressin increases the permeability of the vessels to water, therefore increasing blood pressure. It is important to maintain high blood pressure in a real fight or flight situation. It can lead to contraction of the intestinal musculature.
- The pituitary also releases a thyroid-stimulating hormone which stimulates the thyroid gland, which is located in the neck, to secrete thyroxin.
- Thyroxin increases the metabolic rate, raises blood sugar levels, increases the respiration, heart rate, blood pressure and intestinal motility. Increased intestinal motility can lead to diarrhoea. (Do note that an over-active thyroid gland under normal circumstances can be a major

contributory factor in panic attacks. Too much thyroxin would normally require medication.)

- If the person perceives that the threatening situation has passed, then the PNS helps to restore the person to a state of equilibrium.

So you can see that the fight or flight stress response is real, and a number of complex physiological activities are occurring almost at once or in a sequence. Once the stressful event is over, we calm down with the help of the PNS. However, we evolved over many thousands of years to deal with real stressful scenarios where our life was on the line. Yet in modern society, often the stress response is triggered when our life is not threatened but when our ego is on the line, such as when we are giving a wedding speech or chairing a meeting.

Activity 5: Recall a stressful event

Think back to the last time you became stressed about a specific event or situation. How quickly did you calm down?

- Immediately?
- In 5 minutes?
- In 10 minutes?
- In 30 minutes?
- In 1 hour?
- In 1 day?
- Still stressed now?

We hope you are not still stressed by a recent event. However, many people do perceive every day of their life as stressful, and they keep the stress response or some parts of it active. The prolonged effect of the stress response is that the body's immune system is lowered and blood pressure is raised, which

may lead to essential hypertension, headaches and more general infections such as colds. The adrenal gland may malfunction, which can result in tiredness, digestive difficulties with a craving for sweet, starchy food, sleep disturbances and dizziness.

Summary

We have now covered what is stress.

- Stress is real; it affects both the mind and body.
- Stress and pressure are different.
- Stress is not good for us.
- We work at our optimum when under the right amount of pressure.
- Often the beliefs and attitudes we have developed over many years contribute or trigger stress at work, at home or in other situations.
- Short-term stress is a natural response to dealing with threatening situations.
- Long-term stress can lead to a range of different physical and mental health conditions, and needs to be addressed and not ignored, as our case study illustrated.
- Often the stress response is triggered when our ego is put on the line.
- An internal locus of control is desirable.

At the end of each chapter we recommend that you make a note of the issues you wish to deal with and any useful stress-busting strategies that will help you to conquer or deal stress. This will help you to develop your own stress-busting Stress Action Plan.

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