

Stress in modern Britain



Making Sense of Stress
Our 2017 theme

Survey

Stress in modern Britain

In the 21st century, stress is all-pervasive. Everyone experiences stressful situations, though people react to them in different ways. Even desirable events which have positive outcomes can still contribute to the stress experienced as people adjust to them. For many a little stress is helpful, giving them motivation. However, it has long been recognised that an overabundance of stress in someone's life can lead to negative consequences for their mood and productivity, and eventually their mental and physical health.

Physiologists have researched the effects of stress on the body, which come in parallel with those on the mind, for a long time. These can be felt in stressful situations, such as the release of adrenaline to marshal all your resources on the problem. If adrenaline levels remain raised, this strains the body and leads over time to pain and fatigue as well as mental effects. This effect is replicated in other processes such as raised blood pressure, muscle tension, and hormonal imbalance causing immune weakness and sexual dysfunction.

The Physiological Society has conducted a national survey in the vein of the seminal work of Holmes and Rahe in 1967¹ to ascertain how different stressful events, both positive and negative, affect people. Their study has been cited thousands of times in the 50 years since its release, and much work has built on its conclusions about the correlation of high stress and ill health.

Now, in partnership with polling firm YouGov, we surveyed over 2000 British adults and asked them to rate how stressful they find (or imagine they would find) 18 different life events. The results suggest some enlightening conclusions.

These events were chosen to cover a wide range of major and minor occurrences in people's lives, some of which will be welcome and some less so. Holmes and Rahe's survey chose 43 events, but many were quite similar. Additionally, some were not entirely appropriate for our modern age (we did not ask participants to rate the stress of "Wife beginning or ceasing work outside the home"!). Conversely, life in 2017 brings with it some stresses that would not have been imagined 50 years ago such as the pervasiveness of social media and smartphones meaning we are connected 24/7.

The overall ordering of the stressor events is given here, along with an average score (out of 10 points) assigned to each one. Holmes and Rahe set the stress of "Marriage" at an arbitrary benchmark of 500, and asked participants to report events relative to this score. We decided to define a scale (0–10 where 0 is "Not at all stressful" and 10 is "Very stressful") and allow respondents to choose their answers without a benchmark. It is still possible to compare the ordering of events and the relative magnitude of stress, so this methodology is appropriate.





PHYSIOLOGY OF STRESS

CASE STUDY

Acute Stress

A short, sharp shock

The phone call came out of the blue, and the news wasn't good. Your stress levels have gone from zero to one hundred in a blink as you assimilate what you've been told. It's not just your mind which is working quickly, though. There are unconscious changes in your body as it prepares to deal with the situation.

The muscles tense, getting ready to act. Your breathing rate rises to provide more oxygen to the muscles, but in particularly severe stress this effect can run away with itself, causing hyperventilation as may be experienced in a panic attack. The heart pumps harder and faster in order to distribute this greater oxygen intake, along with a dilation of major blood vessels, again to increase blood flow to key regions. Systems which aren't important in a fight-or-flight moment are shut down to conserve energy. This includes the digestion, which means you can feel nauseous or even vomit – similarly the urge to go to the toilet may occur.



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Figure 1: Order and score (/10) of stressful events

Rank	Event	Stress/10
1	Death of spouse/relative/friend	9.43
2	Imprisonment	9.15
3	Flood/fire damaging your home	8.89
4	Being seriously ill	8.52
5	Being fired	8.47
6	Separation/divorce	8.47
7	Identity theft	8.16
8	Unexpected money problems	7.39
9	Starting a new job	6.54
10	Planning a wedding	6.51
11	Arrival of first child	6.06
12	Commute delays	5.94
13	Terrorist threats	5.84
14	Losing smartphone	5.79
15	Moving to bigger house	5.77
16	Brexit	4.23
17	Going on holiday	3.99
18	Promotion/success at work	3.78

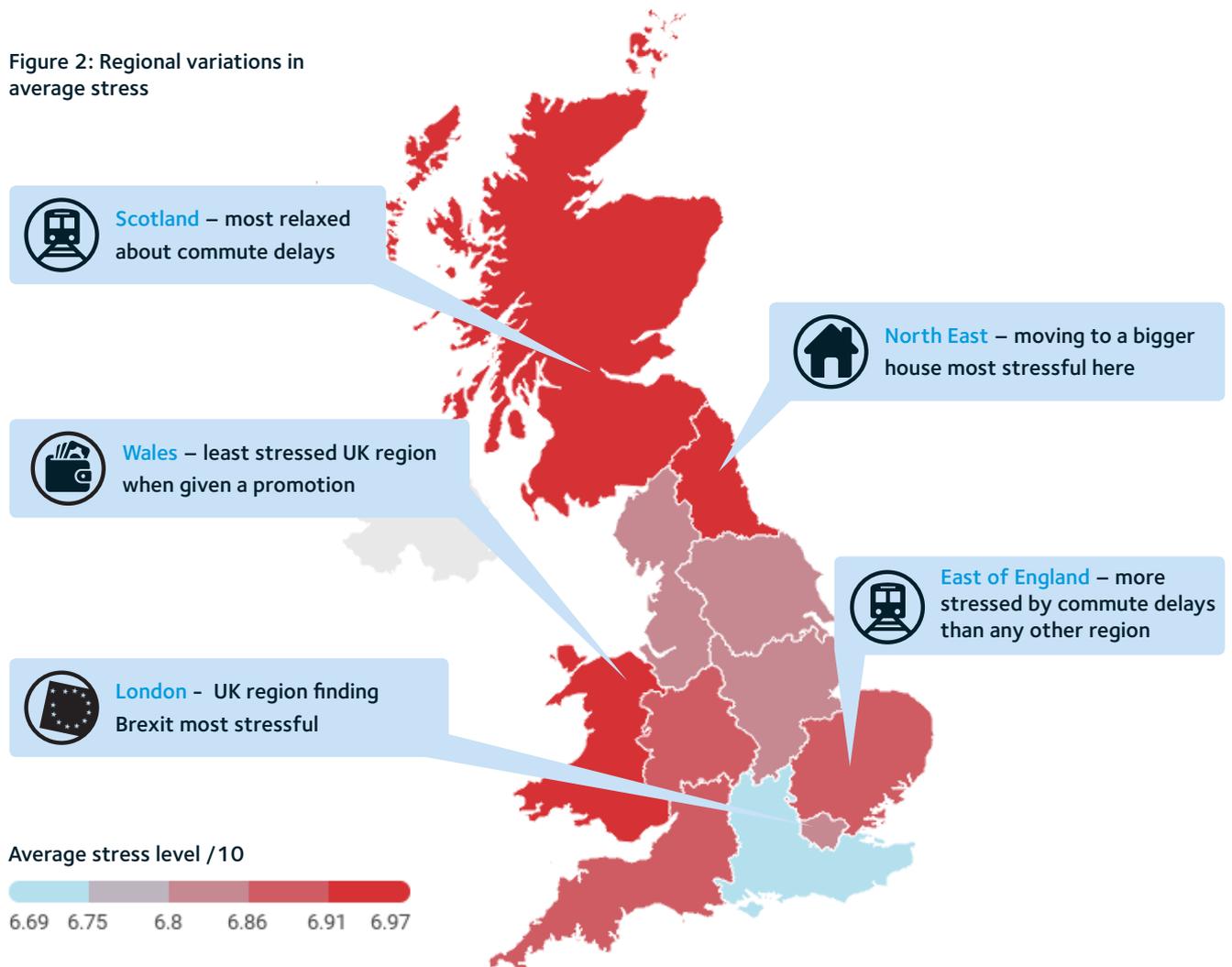
Perhaps most interestingly, for every single event, the reported stress experienced by men was lower than that by women. The average difference was 0.56 points. The biggest difference was in the stress caused by the threat of terrorism, which was 1.25 points higher for women. The smallest difference was for the arrival of a first child – a life-changing event for either sex! Of course,

we cannot tell from these figures if the women responding do experience greater stress, or are simply more willing to report it; an age-old problem of this type of research.

In comparing the order to the 1967 study, some interesting differences emerge. In both cases the death of a spouse was rated the most stressful event. However, in the earlier study the second-worst event was divorce, and third was marital separation. Now, divorce/separation has fallen to sixth place, with imprisonment rising up the table of stress. This may reflect the more permissive attitude to divorce in the modern world; it will undoubtedly be stressful but is far less likely to make you a pariah. Being fired is ranked high in both studies, but the relative stress has changed. In 1967 it was rated 47% as stressful as the worst event. In 2017 the stress has increased to 90% of the highest value. Similarly, going on holiday has increased from 13% as stressful as the highest value to 42% over the 50 years between studies.

Overall regional differences were small, with the average stress level of all events varying by only 0.28 points across Great Britain. The most stressed area was Scotland, while the least stressed was the South East of England. The East of England was notably upset by delays in their commutes, while Londoners were most sanguine about going on holiday. The North East experienced the most stress from starting a new job and when moving to a bigger house. The East Midlands was revealed to be the most stressful region to go through a divorce/separation.

Figure 2: Regional variations in average stress





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CASE STUDY

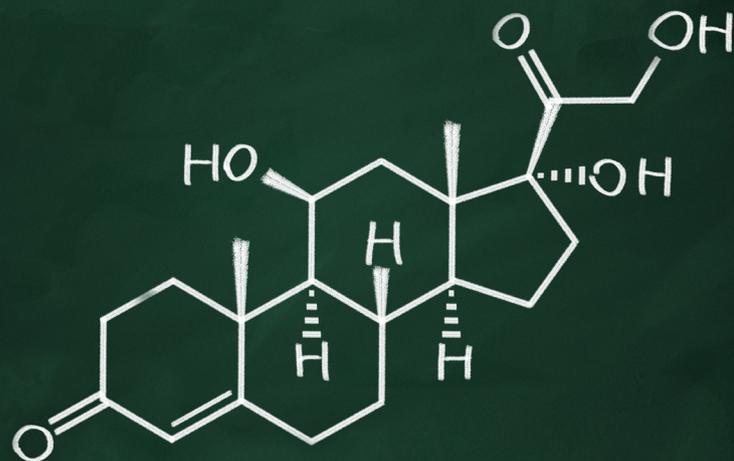
Positive Stress

Time to face the music

It's zero-hour, time to perform. The final exam, the big race, the important recital, the [insert generally challenging situation] has arrived, and you feel stressed. You may think you'd rather be completely relaxed, that the stress is just adding to your problems, but in fact it brings some positive effects to your body that may help you.

The cortisol released around your body primes your brain to be extra alert to your surroundings, meaning you can respond to stimuli quicker – effectively enhancing your reflexes. Adrenaline is also boosted, giving enhanced blood flow for greater endurance and a pain-killing effect. There can even be boosts to your memory, allowing recall of facts to help you out in your situation.

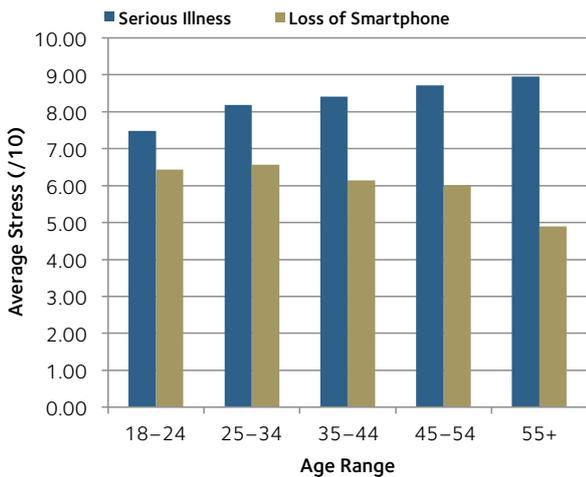
Cortisol
 $C_{21}H_{30}O_5$



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The results for some events point towards stress levels increasing with age, most strongly for long-term problems such as illness or imprisonment. Exceptions to this trend were the loss of a smartphone, which fits with the added difficulties this would cause to highly-connected younger generations, and the arrival of a first child. Having a child was rated highest by those 25-34, who are likely to be the group experiencing this most recently.

Figure 3: Age affects some stressors differently



Like smartphone loss, identity theft is also a relatively modern stressor, but in this case was much more stressful for older people (55+), perhaps suggesting they are less sure what to do about it.

One interesting stressor was Brexit (with the given definition of “the process of leaving the European Union”). Though ranking low among all the stressors, Brexit had the greatest variety of responses given, shown by the highest standard deviation. Respondents aged 18-24 scored Brexit stress a point higher on average than those 55+. Those living in London and Scotland also

scored Brexit a point higher on average than those in Wales and much of the rest of England. Most markedly, those respondents educated to higher degree level reported stress two points higher than people with only GCSEs or A-Levels, while undergraduate degree-holders were also more stressed, though more than a point lower than those with higher degrees. These trends correlate with the constituencies of the electorate most likely to vote Remain in the referendum, suggesting they are finding the Brexit process stressful while leavers are happier to let things play out.

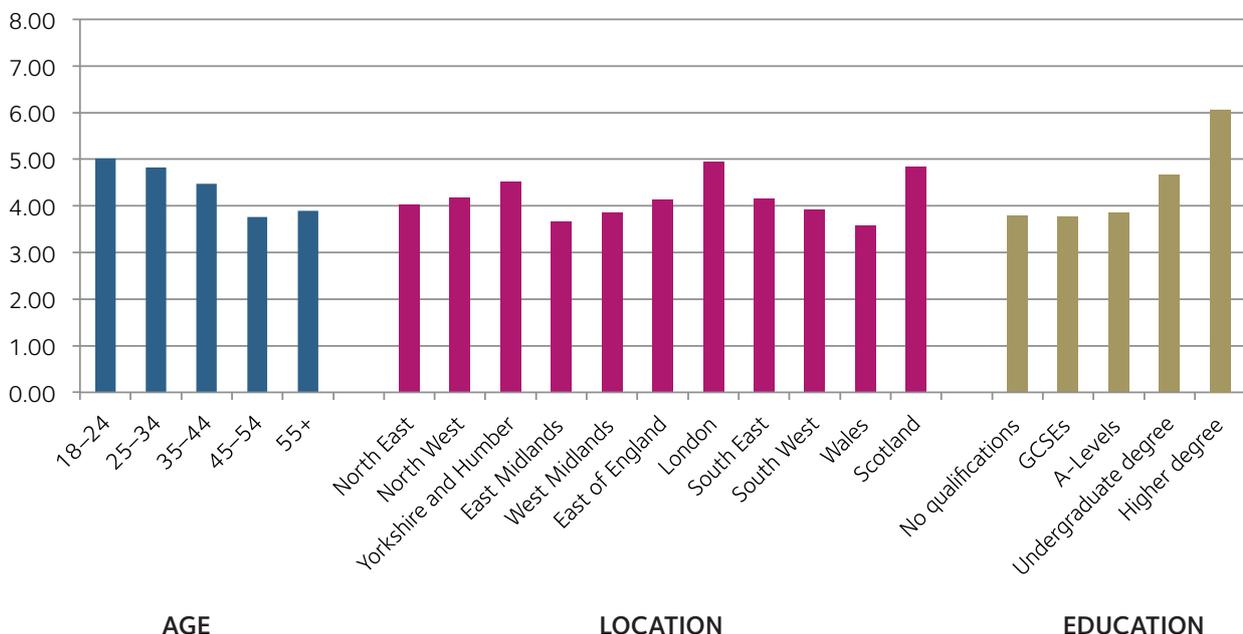
Participants were also asked to fill in any other particularly stressful events which they felt the survey had missed out. The most common responses concerned driving: car breakdowns, suffering traffic, busy motorways, road rage, or being the passenger of a careless driver all featured. One person was quite emphatic, writing “Being driven by my wife. This is a serious comment.” Second to this came work-related stresses, including job applications and interviews. Another set of common responses described caring responsibilities for aged, ill, or disabled people. Illness and loss of pets also featured commonly, showing that those close to us need not be human to cause emotional effects.

Some stressful events seemingly never change, with participants singling out “family arguments at Christmas” and a number of comments around dating and approaching prospective partners. Others are relatively modern, such as “the scrutiny of social media”.

Stress can propagate through groups as people are affected by those around them. One respondent described suffering stress when “In any of the previous situations, dealing with my wife’s anxiety and stress.”

Finally, to the person who responded: “Trying to enter an amateur radio contest when the ionospheric conditions are poor due to a coronal mass ejection, coupled with a neighbour’s plasma TV causing major interference on the 1.8 to 7 MHz bands.” All we can say is, we feel your pain.

Figure 4: Brexit – Average reported stress (/10) by demographic





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CASE STUDY

Chronic Stress

Must it always be like this?

Nothing has been going right for you lately. You keep arguing with your partner, so home doesn't feel exactly relaxing any more. Your train has been late every day for weeks, so you sit and stew, getting annoyed. It feels like you've been bathing in stress these days. What's going on in your body?

The repeated stress situations mean your body has been preparing for "fight-or-flight" too many times, even though there is no physical threat. Muscles have been automatically tensing up very often. This constant tension can cause reactions around the body, including headaches and worsening of old injuries. Your heart has also been pumping hard, potentially leading to high blood pressure and an increased risk of heart attack. Elevated levels of hormones can affect normal bodily processes leading to insomnia, depression, and problems with sexual function. The digestive system can develop problems such as constipation or irritable bowel syndrome.



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All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 2078 adults. Fieldwork was undertaken between 22nd and 28th December 2016. The survey was carried out online. The figures have been weighted and are representative of all GB adults (aged 18+).

For more information on this study or our other policy work, please contact policy@physoc.org



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