

'News overload': How a constant stream of violent images affects your brain

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In May 1097, during the siege of Nicaea, crusaders catapulted the severed heads of prisoners over the walls surrounding the city, with the aim of terrorizing their enemy. The strategy worked. On June 19 of the

year the crusaders captured the city.

However, only those who lived near the [city walls](#) would have felt the utter horror of seeing human heads flung through the air: the inhabitants of nearby cities would not have received the news of these awful events until weeks or even months later. Even then, they would only have heard accounts of the events, without images or videos to reproduce exactly what happened. Eleventh century technology meant that weaponized mass terror had its limitations.

Throughout [human history](#), nations—as well as political, religious and military groups—have used terror to gain tactical or strategic advantages. Inhabitants of the 21st century are more sophisticated but ultimately no better than their historical counterparts.

In today's world, omnipresent communication technology means the spread of horrific images is all but impossible to escape. We experience this now, for example, with images from Israel and Gaza, and other wars and attacks in recent years.

Images that release cortisol

Recently, research has been conducted into the psychological consequences of the phenomena known as ["news information overload"](#) and ["generalized trauma event witnessing."](#)

Even when viewed through a phone screen, [experiencing an extremely violent situation](#) activates the sympathetic branch of our nervous systems, which governs our "fight or flight" response. Our bodies react to these images by secreting hormones into the bloodstream including adrenaline, noradrenaline and cortisol, commonly known as the stress hormone. These hormones quickly cross the [blood-brain barrier](#) and penetrate our central nervous systems.

With these chemicals in our veins, our bodies change: [heart rate](#) and blood pressure increase to help us fight or flee the threatening stimulus and avoid injury or death. These are adaptive, short-term changes. If they become chronic, [they can cause serious health problems in the long run](#), as has been common knowledge for decades.

So what does this constant exposure to threatening stimulus do to our brains? Is there a risk that it might affect our reasoning?

Poor memory and a loss of control

We have known for only a few years that, in both humans and animals, continued stress produces [systemic changes in our brains](#). In acutely stressful situations the hippocampus' role in memory becomes inhibited, and the prefrontal cortex ceases to exercise control. At the same time, our nervous systems prioritize habits and routines through a region called the [dorsal striatum](#), which is regulated by the amygdala, also known as the brain's fear center.

These changes are, in principle, intended to help us cope with specific stressful situations in the short term. When we face a threat the priority is to react quickly, not taking time to remember similar events and analyze contextual factors. But if this goes on for a long time, it can have serious consequences for our cognition in the medium and long term.

This is essentially because [chronic stress causes problems for our learning and memory](#), affecting three areas which are worth exploring in more detail: precision, flexibility and reconsolidation.

1. Precision. The information that we process in stressful situations is more abstract and poorly contextualised. Attention is narrowed to focus only on the essential details of the stressful event.

2. Flexibility Stress practically eliminates our ability to integrate new information into existing frameworks. It also limits the way we can use these frameworks to appropriately process the stimuli that we are sensing. This makes it hard to transfer and apply previously acquired information to the immediate context. We might say that pressure and stress prevent us from making full use of experience.

3. Reconsolidation Our memories are usually not rigid, but rather they help us adapt to new conditions and learn about them. The process of updating and reestablishing our memories is known as "reconsolidation." Stress makes this process harder, and this in turn inhibits the reconstruction of memories that can help us to incorporate new information.

When these systemic changes to our psychological processes occur among a large part of society [it can affect our ability to make rational political and social decisions, both among the population at large and among our leaders.](#)

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