

Information Handout

Professional Version | US English

Your Stone Age Brain (CYP)



Description

The freeze-flight-fight response is a set of evolutionary adaptations that increase the chances of survival in threatening situations. Consciously or unconsciously appraising an event as dangerous triggers an automatic defense cascade of physiological and cognitive responses that prepare the individual to freeze, flee, or fight (Bracha et al, 2004; Kozłowska et al, 2015). These responses are present in many other species (Canon, 1929), and the 'hardware' underlying them in modern humans is thought to be unchanged in the last 200,000 years (Nitecki & Nitecki, 1994). Psychologists often use the 'Caveman metaphor' to illustrate how ingrained these responses are.

Freeze-flight-fight responses are associated with activity in the autonomic nervous system (ANS). Fight and flight are supported by increased activity in the sympathetic branch of the ANS, which increases heart rate, blood pressure, respiration, and muscle tone, and inhibits digestive function. Freezing is associated with activity in both the sympathetic and parasympathetic branches of the ANS (Roelofs, 2017).

An overly sensitive freeze-flight-fight response can be a key part of multiple anxiety disorders, resulting in overly frequent or intense experiences of anxiety (Andrews et al, 2003). The clearest example is panic: the cognitive model of panic suggests that misinterpreting benign body symptoms as a threat leads to activation of the freeze-flight-fight system, and often exacerbates the body sensations about which the individual is concerned (Clark, 1996).

Important elements of psychoeducation for anxious clients include helping them to understand:

- Why people have a threat-detection system which is 'programmed' to respond with freeze-flight-fight.
- What kinds of threats that this system is designed to detect (e.g. physiological threats such as cold & hunger, physical threats such as attack, social threats such as exclusion or changes in social status).
- That freeze-flight-fight reactions, although sometimes uncomfortable, are not dangerous.
- That these reactions and feelings are often automatic, not the person's fault, and nothing to be ashamed of.

Your Stone Age Brain is an information handout which describes some of the evolutionary pressures exerted on early modern humans. It explains why a well-developed freeze-flight-fight system helped our ancestors to survive, and the consequences of living in the present day in a body that has the same 'programming'. This handout was designed to stimulate discussion with anxious children & adolescents, but is suitable for use with all age groups.

Instructions

Suggested Question



Did you know that what we feel anxious about, and the way we feel anxious in our bodies and minds, has to do with our Stone Age ancestors? Would you be willing to explore this with me?

Review the types of situations that our ancestors found threatening. These include physiological threats (e.g. cold, hunger, thirst), physical threats (e.g. attack, capture), and social threats (e.g. threat to social rank, exclusion from the group). After reviewing them, consider asking:

- What would have happened to Stone Age people that didn't notice these kinds of dangers?
- Are you ever bothered by any of the same threats?
- What kinds of body / physical / social threats bother you?
- Do you ever worry about any of these things?
- What do you feel in your body when you encounter threats?
- Can you tell me about a time when you thought you were in danger? What did you notice? What was going through your mind? What did you feel in your body?

Review the automatic ways in which our 'programming' helps us to behave when we feel threatened. These include freezing or hiding, fleeing or escaping, and fighting or acting aggressively. After reviewing these types of situations, consider asking:

- If a person or animal was in danger, why might it be helpful for them to react by freezing / escaping / fighting?
- If you encountered a dangerous animal, why might it be a good idea to back off or run away?
- Have you ever reacted to a danger by freezing, escaping, or becoming aggressive? Tell me about it.
- Could you tell me about any of your reactions that are similar?
- When you react in these ways, what are you feeling in your body and mind?

References

- Andrews, G., Creamer, M., Crino, R., Page, A., Hunt, C., & Lampe, L. (2003). *The treatment of anxiety disorders: Clinician guides and patient manuals*. Cambridge University Press.
- Bracha, S., Williams, A. E., & Bracha, A. S. (2004). Does "fight or flight" need updating?. *Psychosomatics*, 45(5), 448-449.
- Cannon, W.B. (1929). *Bodily Changes in Pain, Hunger, Fear and Rage: An Account of Recent Research Into the Function of Emotional Excitement*. New York: Appleton-Century-Crofts.
- Clark, D. M. (1986). A cognitive approach to panic. *Behaviour Research and Therapy*, 24(4), 461-470.
- Kozłowska, K., Walker, P., McLean, L., & Carrive, P. (2015). Fear and the Defense Cascade. *Harvard Review of Psychiatry*, 23(4), 263–287.
- Nitecki, M. H., Nitecki, D. V. (1994). *Origins of anatomically modern humans*. New York: Plenum Press.
- Roelofs, K. (2017). Freeze for action: neurobiological mechanisms in animal and human freezing. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 372(1718), 20160206.

Your Stone Age Brain

Modern humans came from Africa roughly 200,000 years ago.

Life could be hard in the Stone Age, and many people died young. You would have lived in a small group and would know most of the people in your tribe. Being part of a group helped you to survive.



Dangers or threats in those times included:



Cold



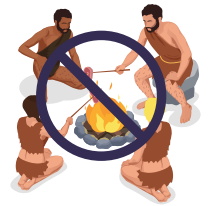
Hunger



Other people

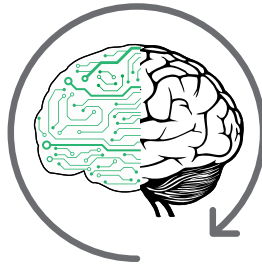


Dangerous animals



Being excluded from your group

Our brains haven't changed much since the Stone Age.



We still have a lot of the same **programming** that helped people to survive in those times.

This programming makes it easy for people to respond to danger by:



Freezing, hiding, or 'playing dead'



Running away



Fighting or acting aggressively

Psychologists call this the **freeze-flight-fight response**. It helped your ancestors in the Stone Age to survive danger by making them act **quickly** and **automatically** when danger was near. It helps you too, although it can make you feel anxious when it happens at unhelpful times, or is switched on by your own thoughts & worries.

Psychology Tools develops and publishes evidence-based psychotherapy resources. We support mental health professionals to deliver effective therapy, whatever their theoretical orientation or level of experience.

Our digital library encompasses information handouts, worksheets, workbooks, exercises, guides, and audio skills-development resources.

Our tools are flexible enough to be used both in-session and between-session, and during all stages of assessment, formulation, and intervention. Written by highly qualified clinicians and academics, materials are available in digital and printable formats across a wide range of languages.



Resource details

Title: Your Stone Age Brain (CYP)
 Type: Information Handout
 Language: English (US)
 Translated title: Your Stone Age Brain (CYP)

URL: <https://www.psychologytools.com/resource/your-stone-age-brain-cyp/>
 Resource format: Professional
 Version: 20230808
 Last updated by: EB

Terms & conditions

This resource may be used by licensed members of Psychology Tools and their clients. Resources must be used in accordance with our terms and conditions which can be found at: <https://www.psychologytools.com/terms-and-conditions/>

Disclaimer

Your use of this resource is not intended to be, and should not be relied on, as a substitute for professional medical advice, diagnosis, or treatment. If you are suffering from any mental health issues we recommend that you seek formal medical advice before using these resources. We make no warranties that this information is correct, complete, reliable or suitable for any purpose. As a professional user, you should work within the bounds of your own competencies, using your own skill and knowledge, and therefore the resources should be used to support good practice, not to replace it.

Copyright

Unless otherwise stated, this resource is Copyright © 2023 Psychology Tools Limited. All rights reserved.