

Behavioural neuroscience

with Professor Ashley Acheson

Talking points

Comprehension

1. How do individuals with a family history of alcohol or other substance use disorders respond differently to stressful situations compared to those without such a family history?
2. How is Ashley studying the brains and behaviours of young adults?

Application

3. If you ever have concerns about alcohol or other substance use disorders, which trusted adult(s) could you talk to?

Analysis

4. Why might a family history of alcohol or other substance use disorders increase someone's risk of developing their own addiction? What chain of events has Ashley discovered that links exposure to early life adversity to increased risk for addiction?
5. Why do you think people who were exposed to early life adversity might be more likely to choose a smaller reward now instead of a larger reward later?
6. How do you think doctors and scientists could use the idea of a 'pre-addiction' stage to help people before they develop an alcohol or drug problem?

Evaluation

7. What do you think are the potential benefits and risks of using brain scans and immune tests to predict who might be more vulnerable to addiction?
8. To what extent do you think physiological factors (such as inherited vulnerabilities and brain changes) and psychological factors (such as early life adversity) each explain why some people with a family history of alcohol or other substance use disorders are at greater risk of addiction? To what extent do you think future research should investigate these factors separately to determine their individual contributions, or together to understand how they interact, and why?

Activities

Addiction support

Design a leaflet that could be given to young adults who may be at risk of developing an alcohol or other substance use disorder.

Remember, although having a family history of alcohol or other substance use disorders increases the risk of developing addiction, many people with such a family history do not develop their own addiction, and many people who do not have such a family history do. How will you sensitively communicate this important message in your leaflet?

Your leaflet should:

- Use clear language to explain the definition of an alcohol or other substance use disorder. For example, it is important to note the difference between drinking alcohol and having an alcohol addiction.
- Use clear language to explain some of the science behind an increased risk of addiction.
- Provide information about where people can find help and support. What national or local charities or organisations help those who have or are at risk of developing addiction? What support do they provide?

Physiology vs psychology

Consider your answer to Talking Point 8. Design a study that Ashley could conduct to investigate the relative contribution that physiological and psychological influences of a family history of alcohol or other substance use disorders have on the risk of developing addiction.

- Will your study investigate physiological and psychological factors separately or together? Why?
- What participants will Ashley need in the study?
- What data will Ashley need to collect from the participants?
- What ethical considerations will Ashley need to take into account?

More resources

- Find out more about the HEALthy Brain and Child Development Study: hbcstudy.org