



Brain Scans Could Personalize Depression Treatment

Description

Brain Scans Reveal Six Different Categories of Depression and Anxiety: Science Alert

In the near future, seeking help for depression could become as simple as undergoing a quick brain scan to **determine** the most effective treatment for each individual. A recent study conducted by a team of researchers from the US and Australia has identified six distinct patterns of brain activity among individuals with depression and anxiety, shedding light on symptoms and responses to treatment.

By analyzing brain activity during rest and specific tasks using **functional MRI** scans, researchers were able to **categorize participants** into six different types based on their unique brain pathways. This breakthrough research aims to **revolutionize psychiatry** by moving towards a more personalized approach to treatment.

For instance, the study found that the **antidepressant venlafaxine** was most effective for individuals with overactive **cognitive** brain regions, while **talk therapy** was beneficial for those with specific brain activity linked to depression and problem-solving. This groundbreaking research opens up possibilities for more precise and effective treatment options for patients struggling with mental health issues.

The **ultimate** goal of this research is to transform the current "one-size-fits-all" approach to psychiatric care, providing individuals with tailored treatment plans based on their brain functioning. This study, published in **Nature Medicine**, represents a significant step towards achieving this goal and offering hope to those battling with depression.

Vocabulary List

1. **Determine** /dɪ'tɜːmɪn/ (verb): Find out or establish.
2. **Functional MRI**: A type of brain scan that measures brain activity by detecting changes in blood flow.
3. **Categorize participants** /'kætə'raɪz pɑːtɪ'sɪpənts/ (verb): Classify people taking part in a study.
4. **Revolutionize psychiatry** /rɪ'vɒluʃənəz saɪkə'tri/ (verb): Change the field of psychiatry in a major way.
5. **Antidepressant venlafaxine** /'æntɪ'dɪprɪ'sənt vɛn'læfə'siːn/ (noun): A medication used to treat depression.
6. **Cognitive** /'kɒɡnɪtɪv/ (adjective): Related to mental processes like thinking.
7. **Ultimate** /'ʌltɪmət/ (adjective): The most important or final goal.

Vocabulary List:



1. **Determine** /dɪ'tɜːrɪn/ (verb): Find out or establish.
2. **Revolutionize** /ˌrɛvə'lʊːʃən,aɪz/ (verb): Change something in a major way.
3. **Categorize** /'kætəgə,raɪz/ (verb): Classify or arrange in categories.
4. **Antidepressant** /,æntɪ'dɪprɛsənt/ (noun): A medication used to treat depression.
5. **Cognitive** /'kɒgnɪtɪv/ (adjective): Related to mental processes such as thinking.
6. **Ultimate** /'ʌltɪmɪt/ (adjective): The most important or final goal.

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. Which disease is transmitted through the saliva of infected animals?
Option: Rabies
Option: Avian influenza
Option: Lyme disease
Option: Muscle mass
2. What is a preventive measure taken to boost immunity against specific diseases?
Option: Vaccinations
Option: Transmission
Option: Unincorporated
Option: Contaminated
3. Which term refers to the frequency of deaths within a specific population?
Option: Precautionary
Option: Mortality rate
Option: Cognitive
Option: Impact
4. How is an infectious disease passed from one individual to another?
Option: Determine
Option: Rabies
Option: Transmission
Option: Antidepressant
5. What term describes the ability to move or be moved freely and easily?
Option: Mobility
Option: Infection
Option: Surgeon General
Option: Accountability



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6. Who is the leading spokesperson on matters of public health in the United States?
- Option: Proactive measures
 - Option: Mobility
 - Option: Surgeon General
 - Option: Rabies
7. What type of measures are taken in advance to prevent possible harm?
- Option: Antidepressant
 - Option: Precautionary
 - Option: Infectious
 - Option: Lyme disease
8. What term describes something that has been infected with harmful substances?
- Option: Avian influenza
 - Option: Contaminated
 - Option: Bureau
 - Option: Ultimate
9. What is the invasion and multiplication of microorganisms in body tissues?
- Option: Infection
 - Option: Categorize
 - Option: Vigilance
 - Option: Exposure
10. What term describes the sudden increase in the occurrences of a disease in a specific time and place?
- Option: Outbreak
 - Option: Surgical masks
 - Option: Equine
 - Option: Vigilance

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. _____ to a contaminated environment can lead to the spread of infectious diseases.
12. Patients with depression may be prescribed _____ medications to manage their symptoms.
13. Medical advancements have helped to _____ the treatment of many illnesses.
14. Healthcare professionals have a responsibility to uphold high standards of _____.
15. Ticks carrying the bacteria that causes _____ can transmit the disease to humans



through bites.

16. Proper nutrition is essential for maintaining good _____ function.

17. Public health officials emphasize the importance of maintaining _____ during disease outbreaks.

18. Regular exercise can help increase _____ and overall strength.

19. The _____ goal of vaccination campaigns is to achieve herd immunity.

20. Maintaining joint flexibility is important for overall _____.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. Farm animals such as cattle and poultry raised for food or other agricultural purposes.
22. An administrative unit or office typically in government or large organizations.
23. A type of influenza virus that primarily infects birds but can also affect humans and other animals.
24. To ascertain or establish exactly by research or calculation.
25. Alert attention watchfulness or caution especially in detecting and preventing danger.
26. Steps taken to prevent or control a situation before it happens.
27. To ascertain or establish exactly by research or calculation.
28. To change something radically or significantly in a positive way.
29. To arrange or classify things according to determined criteria.
30. The effect or influence of one person thing or action on another.

Answer

Multiple Choice: 1. Rabies 2. Vaccinations 3. Mortality rate 4. Transmission 5. Mobility 6. Surgeon General 7. Precautionary 8. Contaminated 9. Infection 10. Outbreak

Gap-Fill: 11. Exposure 12. Antidepressant 13. Revolutionize 14. Accountability 15. Lyme disease 16. Cognitive



17. Vigilance 18. Muscle mass 19. Ultimate 20. Mobility

Matching sentence: 1. Livestock 2. Bureau 3. Avian influenza 4. Determine 5. Vigilance 6. Proactive measures
7. Determine 8. Revolutionize 9. Categorize 10. Impact

CATEGORY

1. Health - LEVEL4

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