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GRADE
100%

Quiz 3

LATEST SUBMISSION GRADE

100%

1. Which of the following statements describe functional connectivity? **1 / 1 point**

- [ ] The directed influence of one brain region on the physiological activity recorded in other brain regions.
- [x] Makes statements about the structure of relationships among brain regions.

Correct

- [x] Usually makes no assumptions about the underlying biology.

Correct

2. Which of the following statements describe effective connectivity? **1 / 1 point**

- [x] Usually makes anatomically motivated assumptions and restricts inference to networks comprising of a number of pre-selected regions of interest.

Correct

- [ ] The undirected association between two or more fMRI time series.
- [x] Claims to make statements about causal effects among tasks and regions.

Correct

3. Which approach attempts to find spatial modes in the data that account for most of the variance-covariance structure? **1 / 1 point**

- (•) Principal components analysis
- ( ) Seed analysis
- ( ) Independent components analysis
- ( ) Dynamic causal models

Correct

4. Which approach first fits a GLM to obtain separate parameter estimates for each individual trial, and thereafter computes the correlation between these estimates across voxels? **1 / 1 point**

- ( ) Seed analysis
- (•) Beta-series approach
- ( ) Partial correlation
- ( ) Dynamic causal models

Correct

5. Which of the following are assumptions of ICA? **1 / 1 point**

- [x] The components are statistically independent.

Correct

- [x] Linear mixing of sources.

✓ Correct

- [ ] All the components are Gaussian.

6. Which method attempts to model latent neuronal interactions using hemodynamic time series. **1 / 1 point**

- ○ Principal Components Analysis
- ◉ Dynamic causal models
- ○ Independent Components Analysis
- ○ Structural equation models

✓ Correct

7. Which approach involves extracting data from a certain region of interest, and thereafter computing its correlation with all voxels in the brain? **1 / 1 point**

- ◉ Seed analysis
- ○ Independent components analysis
- ○ Dynamic causal models
- ○ Structural equation models

✓ Correct

8. This method decomposes the data set into a set of spatially independent component maps with a set of corresponding time-courses. **1 / 1 point**

- ○ Seed analysis
- ○ Dynamic causal models
- ○ Principal components analysis
- ◉ Independent components analysis

✓ Correct

9. This approach seeks to minimize the difference between the observed covariance matrix and the one implied by the structure of the model. **1 / 1 point**

- ○ Seed analysis
- ○ Dynamic causal models
- ○ Independent components analysis
- ◉ Structural equation models

✓ Correct

10. Mediation is a test of whether the relationship between an initial variable and an outcome variable: **1 / 1 point**

- ○ Is unrelated to confounding variables
- ◉ Is explained by a third variable
- ○ Is caused by the initial variable
- ○ Depends on the level of a third variable

✓ Correct

11. Moderation is a test of whether the relationship between an initial variable and an outcome variable: **1 / 1 point**

- ○ Is unrelated to confounding variables
- ○ Is explained by a third variable
- ◉ Depends on the level of a third variable
- ○ Is caused by the initial variable

✓ Correct

12. Mediation is often tested with a _____ test because the distribution of the a*b product of path coefficients _____ normally distributed. This _____ statistical power. 1 / 1 point

- Bootstrap, is, reduces
- Bootstrap, is not, increases
- Permutation, is, reduces
- Permutation, is not, reduces

✓ **Correct**