1. Which of the following are true?
   1. Recursive models have unidirectional paths and independent residuals
   2. Non-recursive models have bidirectional paths and correlated error
   3. Recursive models can be fitted with standard multiple regression but non‐recursive models require structural equation software
   4. All of the above
2. The following is a proposed theoretical model:

Physical Health

Esteem

Age

Stress

Why is it not possible to estimate this model using typical multiple regression?

1. Typical multiple regression would assume an error term for age, stress and esteem
2. Typical multiple regression would assume that age, stress and esteem were correlated
3. Typical multiple regression would assume that physical health is correlated with age, stress and esteem
4. Typical multiple regression would assume multivariate normality
5. Which of the following is true?
   1. The larger the chi square value the greater the discrepancy between the model variance covariance matrix and the data's
   2. SRMR ranges between 0 and 1, and smaller values are better
   3. RMSEA is a parsimony-adjusted index that ‘rewards’ models analysed with larger samples, and with greater degrees of freedom
   4. All of the above
6. Which of the following are true?
   1. Standard multiple regression procedures implicitly models correlations among predictors
   2. Structural equation models require that there be correlations among predictors variables
   3. Structural equation models must be recursive in order to fit well
   4. All of the above
7. Which of the following are true?
   1. The Bollen-Stine test is a bootstrap method to test overall fit
   2. The ML (‘naïve’) bootstrap is used to estimate confidence intervals for model parameters
   3. Bootstrap methods are helpful when distributional assumptions are not met
   4. All of the above
8. An important statistic for the normality assumption in SEM is
   1. Multivariate mode
   2. Multivariate kurtosis
   3. Univariate mean
   4. Univariate Mahalanobis distance
9. Which of the following is not a weakness of fit statistics
   1. They test only the average / overall fit of the model
   2. Well fitting models do not necessarily have high explanatory power
   3. Fit statistics all reward large sample studies by showing good fit
   4. Fit statistics ignore person-level fit
10. Overfitting
    1. Occurs when the model is overly complex
    2. Occurs when the model is too simple
    3. Occurs when the data is too complex
    4. Occurs when the data is too simple
11. Which of the following can occur in SEM when assumptions are not met
    1. Model parameters can be inverted and standard errors estimated as negative values
    2. Models can be incorrectly rejected as not fitting and standard errors can be assumed to be smaller or larger than they are really are
    3. Variance covariance matrices can be over-specified, leading to overfitting models
    4. Models can under-fit the data, and variance covariance matrices imprecisely characterise the associations among variables
12. Bollen-Stein bootstrap *p* values tell us:
    1. How often our dataset fit the model better than datasets sampled from the null hypothesis (i.e., datasets where the specified model is precisely true) according to chi square values
    2. How often our dataset fit the model worse than datasets sampled from the null hypothesis (i.e., datasets where the specified model is precisely true) according to chi square values
    3. How often our dataset fit the model better than datasets sampled from the null hypothesis (i.e., datasets where the specified model is precisely true) according to RMSEA values
    4. How often our dataset fit the model better than datasets sampled from the null hypothesis (i.e., datasets where the specified model is precisely true) according to RMSEA values