**ST MARY’S UNIVERSITY**

**TWICKENHAM, LONDON**

BA/BSc Degree Examination students registered for

Level **FOUR**

Title**: Research Methods and Statistics II**

Code: **PSY4012**

Semester: **TWO**

Date: **May 2019**

Time:

TIME ALLOWED: **ONE** HOUR

This is an open book exam. Students are allowed to bring in notes, textbooks and calculators. Attempt all questions. Start each section on a new page.

**Section A: Relationships**

Researchers were interested in cognitive traits that may facilitate extreme social **group judgements**. They argued that people with high **Need for Cognition (NFC)** would be more accurate in their group judgements because they would prefer to analyse people more in depth (Cacioppo & Petty, 1982). They also thought that people with high **Personal Need for Structure (NFS)** would tend to form extreme, simplified group impressions because they would want to maintain a simplified, well-structured world view (Newberg & Newsom, 1993).

Participants were asked to rate on a 3-item scale how much they **liked members of a group** generally portrayed positively in the media (from -6 = strongly dislike to +6 = strongly like). They were also asked to complete the 18-item **NFC scale** (Cacioppo & Petty, 1982) and the 12-item **NFS scale** (Neuberg & Newsom, 1993). Items in both scales were rated from 1 = strongly disagree to 9 = strongly agree.

Researchers expected both NFS and NFC to predict high group ratings. They conducted a **hierarchical regression** analysis expecting NFS as the main predictor. Thus, they compared a model containing only NFS as predictor with a model containing both NFS and NFC as predictors.

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| **Table A1 Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N | |
| Group rating | 3.5212 | 1.93871 | 100 | |
| Need for Structure | 4.8798 | 1.31414 | 100 | |
| Need for Cognition | 5.4037 | 1.41904 | 100 | |

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| **Table A2 Correlations** | | | | |
|  | | Group rating | Need for Structure | Need for Cognition | |
| Pearson Correlation | Group rating | 1.000 | .456 | .389 | |
| Need for Structure | .456 | 1.000 | .413 | |
| Need for Cognition | .389 | .413 | 1.000 | |
| Sig. (1-tailed) | Group rating | . | .000 | .000 | |
| Need for Structure | .000 | . | .000 | |
| Need for Cognition | .000 | .000 | . | |
| N | Group rating | 100 | 100 | 100 | |
| Need for Structure | 100 | 100 | 100 | |
| Need for Cognition | 100 | 100 | 100 | |

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| **Table A3 Variables Entered/ Removeda** | | | |
| Model | Variables Entered | Variables Removed | Method | |
| 1 | Need for Structureb | . | Enter | |
| 2 | Need for Cognitionb | . | Enter | |
| a. Dependent Variable: Group rating | | | |
| b. All requested variables entered. | | | |

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| **Table A4 Model Summary** | | | | | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | |
| R Square Change | F Change | df1 | df2 | Sig. F Change | | |
| 1 | .456a | .208 | .199 | 1.73460 | .208 | 25.669 | 1 | 98 | .000 | | |
| 2 | .506b | .256 | .241 | 1.68909 | .049 | 6.353 | 1 | 97 | .013 | | |
| a. Predictors: (Constant), Need for Structure | | | | | | | | | |
| b. Predictors: (Constant), Need for Structure, Need for Cognition | | | | | | | | | |

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| **Table A5 ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. | |
| 1 | Regression | 77.234 | 1 | 77.234 | 25.669 | .000b | |
| Residual | 294.867 | 98 | 3.009 |  |  | |
| Total | 372.101 | 99 |  |  |  | |
| 2 | Regression | 95.359 | 2 | 47.679 | 16.712 | .000c | |
| Residual | 276.742 | 97 | 2.853 |  |  | |
| Total | 372.101 | 99 |  |  |  | |
| a. Dependent Variable: Group rating | | | | | | |
| b. Predictors: (Constant), Need for Structure | | | | | | |
| c. Predictors: (Constant), Need for Structure, Need for Cognition | | | | | | |

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| **Table A6 Coefficientsa** | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | | |
| B | Std. Error | Beta | Tolerance | VIF | | |
| 1 | (Constant) | .241 | .670 |  | .360 | .719 |  |  | | |
| Need for Structure | .672 | .133 | .456 | 5.066 | .000 | 1.000 | 1.000 | | |
| 2 | (Constant) | -.827 | .778 |  | -1.063 | .290 |  |  | | |
| Need for Structure | .524 | .142 | .356 | 3.697 | .000 | .829 | 1.206 | | |
| Need for Cognition | .331 | .131 | .242 | 2.520 | .013 | .829 | 1.206 | | |
| a. Dependent Variable: Group rating | | | | | | | | |

**QA1** Could you also have used a Spearman's correlation with these data? Why? (2 marks)

**QA2.** Is people's Need for Structure (NFS) related to their Need for Cognition (NFC)? Explain how you can tell. (2 marks)

**QA3.** How do you describe the correlation between Group rating and Need for Structure (NFS)? (3 marks)

**QA4.** Does people's Need for Structure (NFS) cause them to rate the group more positively? Give one reason for your answer. (2 marks)

**QA5.** In table A4, what do R square for Model 1 and Model 2 indicate? What does their difference tell you about the variables? (3 marks)

**QA6.** Which variables predict participants’ group ratings? (2 marks)

**QA7.** If both NFC and NFS were 0, what would the Group rating be? (2 marks)

**QA8.** Write out the regression equation for the relationship between all three variables included in model 2. (3 marks)

**QA9.** If a participant scored 6.5 for NFC and 2.9 for NFS, what would her group rating be? Show your working. (3 marks)

**QA10.** Explain whether the Hierarchical method used is appropriate to test the research question, suggest another appropriate method, and discuss its advantages (or disadvantages) over the one used. (3 marks)

**Section B: Interviews**

You have been asked to design an interview-based study to answer the research question, “What do people gain from travelling on a gap year?”

**QB1.** Give three closed questions that you could use to look at this research question. (3 marks)

**QB2.** Give three open questions you could use. For each question, give one follow up prompt that will help the participant to answer the question. (7 marks)

**QB3.** Roughly how many participants are you likely to recruit and when will you know you have interviewed enough? (5 marks)

**QB4.** What are five advantages of semi-structured interviews compared to structured interviews? (5 marks)

**QB5.** What are five differences between qualitative and quantitative research methods? (5 marks)

**END OF EXAMINATION**