INTERIM EXAM EMPIRICAL RESEARCH METHODS IN4304

17 June 2009, from 14:00 to 17:00

EWI, Mekelweg 4, Lecture room F

Instructions

You should attempt all 10 questions. No books or calculator are allowed. The maximum score for each question is 10 points. For each answer, clearly indicate the question number and provide a full argumentation for your answers.

Question 1
What are the central ideas or assumptions of positivism (or the standard view of science)?

Question 2
Explain the difference between fixed design research and flexible design research.
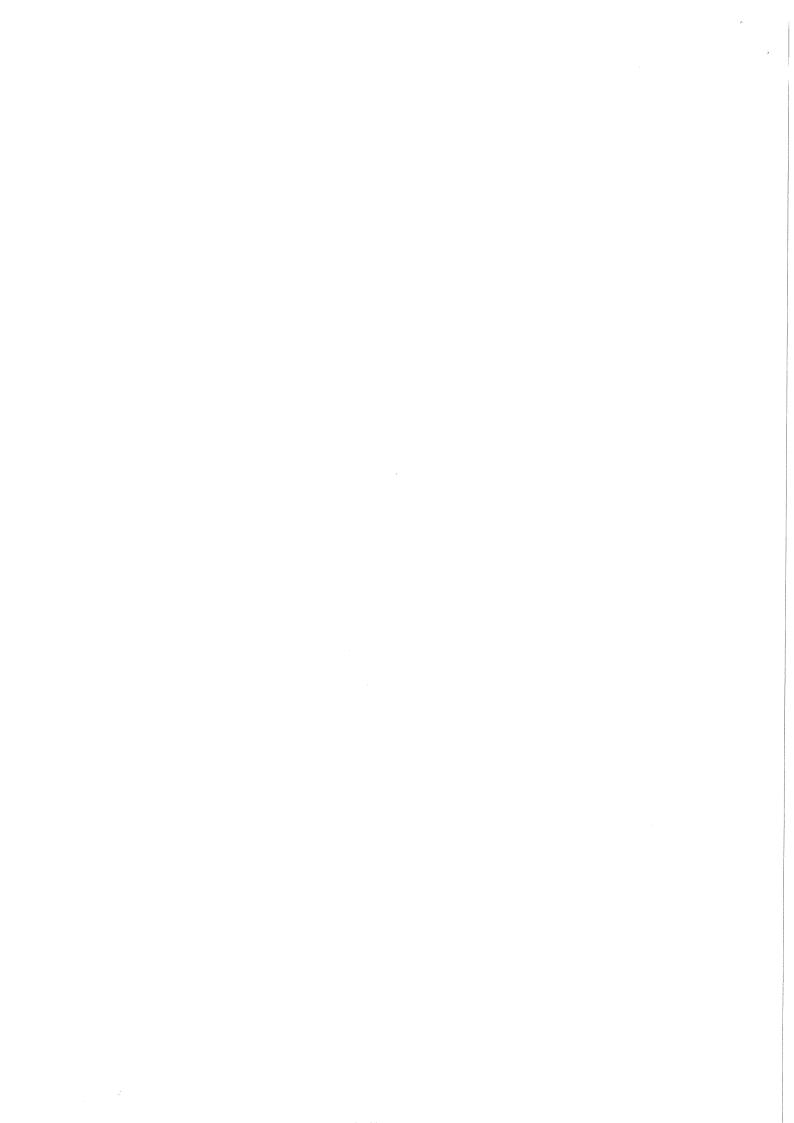
Question 3
Explain the difference between a within-subject design and a between-subjects experimental design, and discuss the advantages and disadvantages of these two designs.

Question 4
Explain the concept of operationalisation of constructs, and give an example of it.

Question 5
Explain the difference between the following strategies for coding sequences of behaviour: event coding, state coding, and interval sampling.

Question 6
As part of the data cleaning process, cases are sometimes removed. Explain the reasons for removing cases from a data set.

Question 7
A student has conducted an experiment in which she wanted to evaluate the usability of two versions of a communication tool. In the experiment 50 participants were randomly grouped in pairs, and the members of a pair were placed in separate rooms. Each pair had to use the communication tool to complete a collaborative task together. Once they completed this task each member of the pair rated the usability of the tool on a scale from 1 to 100, whereby 1 indicated very low usability and 100 indicated very high usability. Once they completed this, they were asked to complete another collaborative task with the other version of the communication tool, after which they were again asked to rate usability in a similar manner as before. To control for potential bias both the order in which pairs were assigned to the communication tool version and the task were counterbalanced.
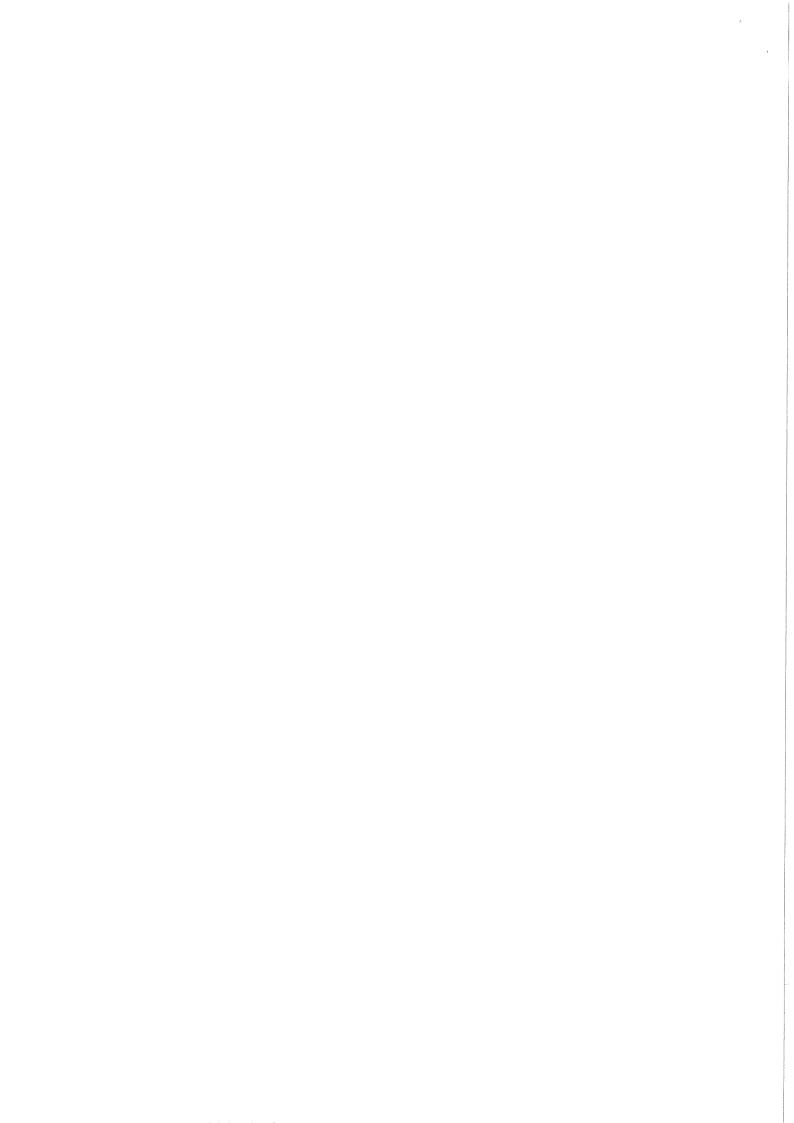
Describe an appropriate statistical approach to analyse a potential significant difference between the usability of the two versions of the communication tool. In this description also include argumentation for the suggested approach and potential issues that need to be considered.

Question 8
Explain the method of Constant Stimuli to establish the Just Noticeable Difference.

Question 9
In her book Colin Robson lists 6 common features of qualitative data analysis, what are they?

Question 10

A multiple linear regression analysis was conducted on the following data:

- Social_acceptability (rating from 1 to 7, with 1 very low and 7 very high social acceptability of using a negotiation support tool in negotiation session)
- Negotiation_skill (rating from 1 to 7, with 1 very limited and 7 very developed negotiation skill)
- Gender (gender of the person, coded as male=0 and female=1)
- Age_in_years (age of the person)
- Years_of_formal_education (number of years a person followed formal education)

Below is part of the output of the SPSS analysis conducted with the STEPWISE method for model selection. Give an interpretation of the results.
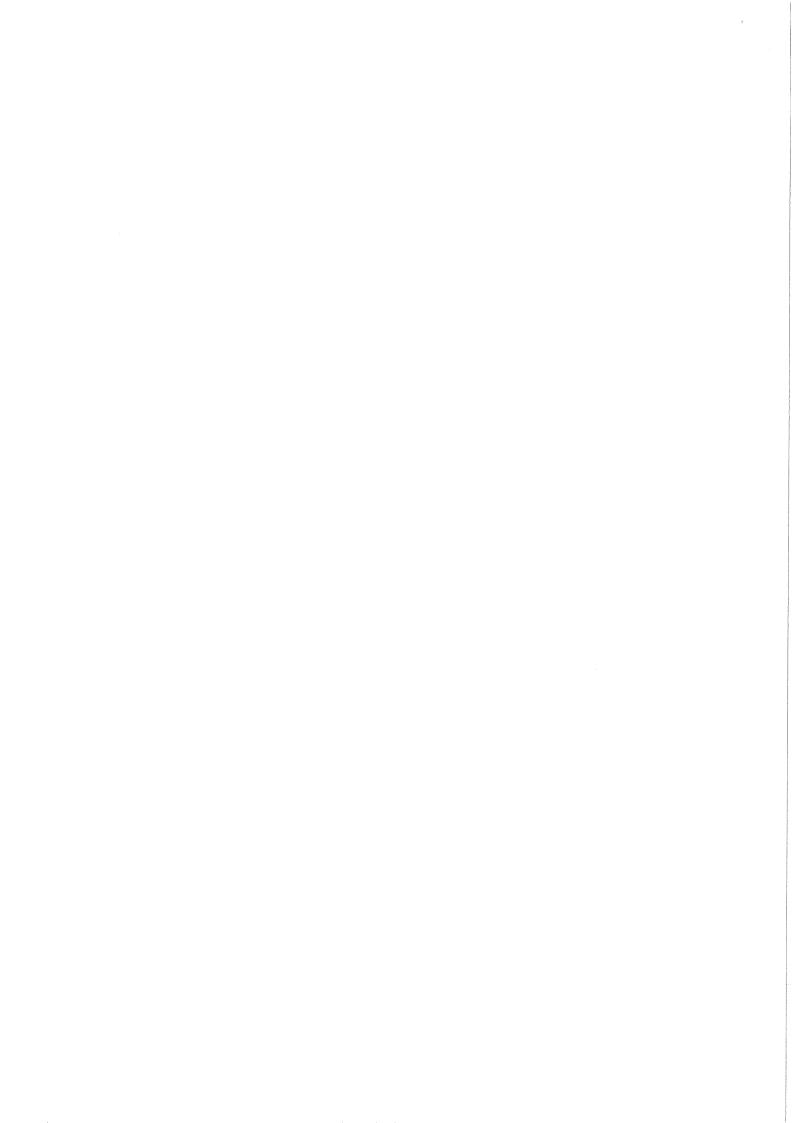
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.655(a)	.429	.426	.703
2	.912(b)	.831	.830	.383
3	.942(c)	.887	.885	.314

a Predictors: (Constant), Negotiation_skill
b Predictors: (Constant), Negotiation_skill, Years_of_formal_education
c Predictors: (Constant), Negotiation_skill, Years_of_formal_education, Age_in_years

ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.696	1	71.696	145.199	.000(a)
	Residual	95.299	193	.494		
	Total	166.995	194			
2	Regression	138.855	2	69.427	473.704	.000(b)
	Residual	28.140	192	.147		
	Total	166.995	194			
3	Regression	148.142	3	49.381	500.278	.000(c)
	Residual	18.853	191	.099		
	Total	166.995	194			

a Predictors: (Constant), Negotiation_skill
b Predictors: (Constant), Negotiation_skill, Years_of_formal_education
c Predictors: (Constant), Negotiation_skill, Years_of_formal_education, Age_in_years
d Dependent Variable: Social_acceptability

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.532	.137		47.638	.000
	Negotiation_skill	-.376	.031	-.655	-12.050	.000
2	(Constant)	5.379	.092		58.425	.000
	Negotiation_skill	-.384	.017	-.670	-22.623	.000
	Years_of_formal_education	.187	.009	.634	21.406	.000
3	(Constant)	4.791	.097		49.459	.000
	Negotiation_skill	-.384	.014	-.670	-27.548	.000
	Years_of_formal_education	.160	.008	.544	20.863	.000
	Age_in_years	.019	.002	.253	9.700	.000

a Dependent Variable: Social_acceptability

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