

ECPS4011: Research Methods I

Exam answers

Section A: Quantitative Research Methods

Study 1: The effect of attractiveness on hiring decision making

Researchers wanted to investigate how long it took interviewers to decide to hire an employee through a job interview based upon the pre-rated attractiveness of the interviewee. The researchers wanted to determine whether interviewers would be faster to decide to hire an employee if they were rated as more attractive.

They recruited 10 hiring managers who were undertaking unstructured job interviews at a university careers fair. Participants were informed that they were going to be asked to estimate how long it took them to make a hiring decision for the next ten people they interviewed. However, two females acting as confederate 'candidates', who had previously been pre-rated on levels of attractiveness, were sent over to take part in the interviews. These two confederates had been classified as either 'above average attractiveness' or 'below average attractiveness' based on previous research findings. Researchers recorded how long, in seconds, the recruiters took to make a decision for each of the two confederate candidates only. They found that the difference between the time taken to make a hiring decision for the 'above average attractiveness' confederate was significantly quicker than the time taken to make a decision regarding the confederate pre-rated as 'below average attractiveness'.

1. The independent variable in this study was: (1)

- a. The amount of time taken to make a hiring decision
- b. The number of candidates interviewed
- c. The attractiveness of the confederate candidates: 'above' or 'below' average attractiveness**
- d. The number of hiring managers recruited

2. The design of the study was: (1)

- a. Within-subjects**
- b. Between-subjects
- c. Experimental
- d. Control groups

3. An appropriate one-tailed hypothesis for this study could have been: (2)

- a. There will be no difference in time taken to make a decision between the two confederates
- b. Recruiters will be quicker to decide to hire the candidate rated as 'above average attractiveness'**
- c. There will be a difference in the time taken to make a hiring decision between the two confederates
- d. None of the above

4. Based on your response to Question 3 above, was the one-tailed hypothesis supported? (2)

- a. Yes**
- b. No

5. The appropriate statistical test to analyse data from this study would be: (2)

- a. Pearson's Product Moment Correlation
- b. Chi-square for independence
- c. Wilcoxon Signed Ranks Test
- d. None of the above**

Study 2: The impact of music preference on alcohol consumption in adolescents

Researchers wanted to explore whether adolescents' preference of music had an impact on their level of alcohol consumption. A self-report questionnaire was administered among 3,452 adolescents aged between 12 and 16 years from a variety of schools in the South Wales area. The questionnaire assessed music preference as well as reported tobacco and alcohol use. Research assistants administered the questionnaires during the adolescents' regular classes and teachers were asked to either leave the room or stand at the back of the room. Once complete, questionnaires were collected and placed in an envelope that was sealed in front of the students.

Music preference was assessed using two overarching genres: mainstream music and non-mainstream music. Participants were asked to rate two types of music on a 5-point scale to indicate their preference for each genre, where 1 = dislike strongly and 5 = like very much. Mainstream music included a question on pop and classical music, whereas non-mainstream music assessed preference of rap and techno music. Once totalled, participants were categorised in accordance with their music preference (the type they scored higher on). Prevalence of alcohol consumption was assessed by asking how many times participants had drunk alcohol in the past month (0 = never, 1 = 1 time, 2 = 2 times, etc). Results showed that adolescents who displayed a preference for non-mainstream music engaged in significantly more alcohol consumption than those who indicated a preference for mainstream music.

1. What design has this study utilised? Explain your answer by indicating what the IV is and how this has been manipulated. (4)

2 marks = the design of the study is between-subjects.

1 mark = the IV is music preference (can accept music type, but 0 marks for the IV was music)

1 mark = students were categorised into either mainstream or non-mainstream based on their reported preference (highest score)

2. Outline one potential confounding variable for this study and explain how the researchers could have dealt with this during the design phase of the study (2)

1 mark is given for outlining a confound, the other is given for explaining how it could have been dealt with. If the second part is not done, the max that can be achieved for this question is 1.

Potential confound 1: peer influence / social influence

Adolescents may select music preferences that are similar to their friends (peer groups), and peer groups also strongly influence adolescent drinking behaviour.

Control 1: match participants in both groups based on perceived peer pressure to drink. Or only include adolescents who report low or similar levels of peer drinking.

Potential confound 2: risk-taking personality types

Traits like sensation seeking may be linked to music preference, with adolescents high in SS being more likely to prefer intense or rebellious genres of music such as techno. SS is also strongly linked to greater experimentation with alcohol use.

Control 2: use a short SS questionnaire and exclude extreme high or low scorers (reduces personality driven differences between groups). Or match participants in each music group based on SS scores.

Potential confound 3: Socio-economic status (SES)

Preference of music can vary by SES due to cultural exposure, access to different forms of media, etc. SES also related to alcohol consumption – norms, access to alcohol.

Control 3: recruit participants from schools in similar SE catchment areas.

Potential confound 4: Age of participants in the sample (12-16)

Possible that older adolescents are more likely to prefer non-mainstream or more adult-oriented genres. Alcohol use also likely to increase with age during adolescence due to greater independence and access.

Control 4: restrict recruitment to a less varied age range. Or ensure that there are (roughly) equal numbers of each age in both music groups.

3. Outline one thing that the research assistants did to adhere to BPS ethical standards of confidentiality in this study. (2)

Confidentiality was adhered to by placing completed questionnaires into sealed envelopes, preventing others from accessing individual responses – 2 marks

Confidentiality was supported by asking teachers to leave the room or stand at the back, reducing the risk that students' responses could be linked to them by authority figures – 2 marks

Confidentiality was maintained by ensuring that teachers were not involved in administering or viewing the questionnaires – 2 marks

Using self-report questionnaires helped maintain confidentiality by reducing direct disclosure of sensitive information – 2 marks

No marks to be given for:

Followed ethical guidelines – there is no information to say HOW confidentiality was adhered to

Participants were told it was confidential – this is informed consent, it is not an action

Data was anonymous – this is not accurate – it doesn't explicitly state this in the scenario.

4. There are additional ethical issues that need to be addressed within this study. Outline one thing that the researchers should consider to adhere to BPS ethical standards. (2)

Participants are minors – must obtain parental or guardian consent – 2 marks

Participants right to withdraw given the disclosure of illegal behaviour without any fear of consequence – 2 marks

Protection from harm or distress – questions about alcohol could induce anxiety or guilt so researchers need to ensure appropriate safeguards are in place – 2 marks

Avoidance of coercion or pressure to take part – questionnaires were given out during school time so students may have felt like participation was compulsory – 2 marks

5. Explain which statistical test would be most appropriate to analyse the data collected in this study.

An independent samples t-test would be most appropriate due to the between-subjects design and the IV having two levels.

Independent samples t-test = 2 marks

T-test = 1 mark

Paired samples t-test = 0 marks

Correlation = 0 marks

Section B: Qualitative Research Methods

Study 1: Exploring Parents Understanding of Difficulties Faced by Children with Dyslexia

Dr Jenkins is an educational psychologist working in a small school for children with specific learning difficulties. As part of his doctoral thesis, he is conducting a study that explores how parents understand their children's difficulties. He has chosen to focus specifically on children who have been diagnosed with dyslexia and, as he is looking to explore an in-depth understanding of what these parents think, he decides to utilise a qualitative methodology. He recruits six parents who expressed an interest in the study and contacted him to take part. Each participant took part in a face-to-face discussion with Dr Jenkins and the conversation was guided by a set of flexible questions with appropriate prompts. Each interview was audio recorded and the transcripts were analysed using Interpretative Phenomenological Analysis (IPA).

1. What type of method of data collection has Dr Jenkins used? (1)
- a. Participant observation
 - b. Focus groups
 - c. **Semi-structured interviews**
 - d. Experimental

2. For what reason may Dr Jenkins have chosen IPA over thematic analysis? (1)

- a. IPA is more flexible
- b. Thematic analysis is not a type of qualitative analysis
- c. He wanted to understand the lived experiences of the parents and IPA allows for more depth in interpretation.**
- d. None of the above

3. Which of the below would be one responsibility Dr Jenkins would have when using this type of data collection method? (2)

- a. To use open-ended prompts to help guide the discussions when needed but ensure that participants feel able to express their own views and opinions**
- b. To allow the conversation to drift as much as possible away from the topic in question in order to gain more data
- c. Express his own personal opinions as a way of directing further discussion
- d. To highlight some of the common concerns reported by parents in order to see if the participants agree with other people's experiences of having a child with dyslexia

4. Why would it be important that any personal data collected during this research study are kept within secure and confidential records? (2)

- a. So that the participants cannot find out what has been written about them
- b. So that individuals, places and organisations cannot be harmed through identification or disclosure of personal information**
- c. So that government officials, teachers and other people in authority can have easy access to the data
- d. To enable the researcher to track down individuals and find out more about their lives and experiences with their children

5. One of the participants expresses a worry that their child's education may be affected as a result of taking part in this study. What information must Dr Jenkins do to ensure that participants are aware of what is expected of them and what will happen following completion of the study before they take part?

(2)

- a. Ensure fully informed consent which includes the right to withdraw their data at any points during or after their interviews
- b. Ensure that participants are aware of the confidential nature of the research and that individual information will not be passed on to anyone directly involved in the care of their family member
- c. Confirm in writing that any personally identifiable information (names, location, or context) will be changed or removed to protect confidentiality in any presentation of study findings
- d. **All of the above**

Study 2: Perceptions and engagement in healthy eating in children and adults

A researcher is interested in exploring the differences in the ways in which adults and children interpret, and believe they engage in, healthy eating. He wants to recruit a group of adults (aged 21 and above) and a group of children (aged between 10 and 14) to take part in the study. All participants will be required to give informed consent to take part in the research and will be asked to sign a consent form when they attend the sessions. Participants will also be made aware that the conversations they have with the researcher will be audio recorded. He constructs a semi-structured schedule of questions in preparation for the sessions.

Following completion of the group discussions, the researcher begins to transcribe the recordings. Whilst listening to the recordings he remembers that a participant had asked him to give her the details of a local food bank that she wanted to donate to. He could not remember her name but had an image of what she looked like in his head. He gets the consent forms from the participants and starts to use social media to see which participant was the one who had asked him this.

He finds the correct woman and contacts her privately on social media. Whilst conversing, she asks if it would be possible to get the full name of another participant in the study; she had been having a conversation with him following the completion of the study but could not remember his last name and wanted to stay in touch with him. The researcher provides the surname of the participant.

1. Is the type of method used to collect data in this study appropriate? Explain your answer. (2)

Yes the method used to collect data (focus groups) is appropriate as the researcher is looking to explore **perceptions and differences between two age groups**. – 2 marks

2. How many participants would be suitable per group for the chosen method? (2)

6-8 participants – 2 marks

3. Have all the participants provided appropriate informed consent? If not, what should the researcher have ensured he did to ensure informed consent was suitably obtained for all participants? (4)

1 mark = no they have not all provided appropriate consent

1 mark = there are participants under the age of 18 and so additional consent is needed from parents or guardians in addition to child's assent

1 mark – BPS guidelines – two levels of consent for children protects both the child and their legal guardian

1 mark = demonstration of full understanding and agreement to take part

Not all participants have provided appropriate informed consent (1), as children aged 10–14 are unable to provide full legal consent (1). According to BPS ethical guidelines, the researcher should have obtained parental or guardian consent in addition to the child's assent (1). This ensures that both the child and their legal guardian fully understand the nature of the study and agree to participation (1).

Informed consent has not been fully obtained (1) because the study includes participants aged 10–14, who are minors and cannot legally provide consent on their own (1). The researcher should have obtained informed consent from parents or guardians, as well as assent from the children themselves (1). This would ensure the study adheres to BPS ethical guidelines regarding the protection of vulnerable participants (1).

The consent obtained is not appropriate for all participants (1), as children aged 10–14 are considered a vulnerable group and cannot provide full informed consent independently (1). The researcher should have obtained parental or guardian consent alongside the child's assent (1), ensuring that all parties were fully informed of the study's aims, procedures, and their right to withdraw. This is required under BPS ethical guidelines for research involving minors (1).

4. Outline one breach of ethics that has occurred and explain why this would be considered a breach of ethics. You must refer to appropriate ethical guidance in your answer. (4)

1 mark – identify one thing

1 mark – name the principle it links to (BPS ethics)

2 marks – explain why it is a problem

One ethical breach is that the researcher shared a participant's surname with another individual (1 mark). This violates the BPS principle of confidentiality, which requires that personal information is not disclosed without consent (1 mark). By revealing identifying information, the researcher risked compromising anonymity and potentially causing harm to the participant (2 marks)

A breach of ethics occurred when the researcher used consent forms and social media to identify a participant (1 mark). This violates BPS data protection and confidentiality guidelines (1 mark), as personal data collected for research purposes should not be used to contact participants outside the agreed context. This misuse of data breaches trust and participants' right to privacy (2 marks)

One ethical breach is the misuse of personal data, as the researcher used consent forms to identify a participant and then contacted them via social media (1 mark). This violates BPS guidelines on confidentiality and data protection (1 mark), as personal information should only be used for the purposes for which it was collected. Additionally, sharing another participant's surname further breaches confidentiality, as it risks identifying individuals without their consent (2 marks)

The researcher contacting a participant via social media is unethical as it goes beyond the agreed research procedures and violates professional boundaries. Providing identifying details means anonymity is no longer protected, breaching BPS ethical standards – this is too vague and would achieve 2 marks maximum – 1 mark for identifying the lack of adherence to professional boundaries, and 1 mark for relating to anonymity and BPS.

Section C: Extraversion and salary

A team of researchers want to investigate whether the amount of money a person earns in occupations related to sales and marketing is related to the personality trait of extraversion. Participants were asked to provide details of their current annual salary. They were then asked to complete the Extraversion sub-scale of the Big Five Inventory (BFI) to assess their level of extraversion out of a total score of 40. The table below summarises the data collected in the study.

Table 1

Data Related to Current Annual Salary and Level of Extraversion for Participants Working in Sales and Marketing.

Participant	Current annual salary (£)	Extraversion score
1	15,000	17
2	32,000	25
3	19,000	19
4	25,000	20
5	44,000	38
6	30,000	24
7	27,000	17
8	16,000	27
9	23,000	26
10	28,000	35

1. Calculate the mean score for extraversion. (1)

24.8 – 1 mark

- Calculate the mean annual salary (1)

£25,900 – 1 mark

Draw a suitable graph to represent the data displayed in Table 1 on the graph paper provided. Label your graph appropriately in APA style. (5)

1 mark = appropriate title containing 'scatterplot / graph', 'relationship', 'extraversion' and 'salary'

1 mark = appropriate labelling of X axis and scale

1 mark = appropriate labelling of Y axis and scale

1 mark – all 10 data points plotted

1 mark = attempt at line of best fit

Note: the axis containing the variable salary MUST indicate that the value is in £'s. IF this is not included, 0 marks for that part of the graph.

4. Which of the following correlation co-efficients best represents the data displayed in your graph? (1)

- a. $r = -.65$
- b. $r = .10$
- c. $r = -.10$
- d. $r = .65$

5. In relation to your answer to Question 4 above, what does your chosen correlation co-efficient suggest about the strength and the direction of the relationship between extraversion and annual salary? (2)

There is a moderate / strong positive relationship being observed between extraversion and salary – 1 mark

This suggests that as levels of extraversion increase, salary also tends to increase – 1 mark

Strong relationship (not stating positive) = 0 marks

Positive relationship (not stating strong) = 1 mark

As one variable increases the other also increases = 0 marks – there must be reference made to the specific variables