Thematic Education's

IB Psychology

eBook

The Internal Assessment

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Chapter 7
The Internal Assessment

Introduction

Now that you've become familiar with psychological research and the experimental method, it's time for you to try your hand at conducting your own true experiment. The IB Psychology Internal Assessment (IA) is designed for you to get first-hand experience of planning, designing, conducting and reporting on a psychological experiment. You are being assessed on your knowledge and understanding of core concepts relating to the experimental method, including your ability to apply these concepts in your own procedures and reporting. This chapter is designed to guide you through the process of completing this assignment.

Many students get excited when they hear that they get to conduct an "experiment" and they begin planning all sorts of elaborate, borderline-evil plans. So before you begin and get carried away, cackling like a mad professor, it's important to go over a few very important rules that you need to follow for your IA.

Collaboration: It is mandatory to work as part of a group of two to four students to complete your IA. The initial stages of your IA will be a collaborative process. After you have your data, the remainder of the assignment should be completed independently.

Ethical Considerations: You are not allowed to conduct any experiment that use:

- Placebos
- Ingestion (e.g. effects of drinking coffee) or inhalation (e.g. drugs or smoking)
- Deprivation (e.g. effects of sleep deprivation)
- Conformity
- Obedience
- Children under 12
- Non-human animals
- Stress, anxiety, or any form of harm (physical or psychological)

Experimental Method: You need to ensure that as the researcher, you are the one who is manipulating the independent variable in your study and you have only one individual variable (with two conditions). This means that using a natural or quasi-experimental design is not allowed. For instance, you cannot investigate differences between age, culture, or gender. You also need to ensure that you're conducting an experiment, not a correlational study. Because of the difficulty in conducting statistical analysis on complex experiments, it's strongly recommended that you use a simple experimental design, which involves manipulating one independent variable and having only two conditions.

Your final report will be approximately 1,800 – 2,200 words and will consist of four general sections:

I. Introduction
II. Exploration
III. Analysis
IV. Evaluation

More explanation of the writing of the final report is included later in this chapter.

7.1 Planning

How do you plan your experiment?

(a) Choosing a Study

The first step in carrying out your experiment is to decide what topic you're going to investigate. You are allowed to choose a topic that comes from any area of psychology, but it's important that the study that you are replicating is based on one that has been published in a peer-reviewed publication. It is advisable to do a replication or a partial replication of a well-known study that is clearly related to a particular theory or phenomenon. The best chances of success are to keep it simple. For this reason, and the fact that biological and social experiments tend to break the "rules" of an IA, it's recommended you choose an experiment from the cognitive approach to understanding behaviour.

This list is not exhaustive and you can conduct experiments not included here, as long as they are approved by your teacher.

Here are some examples:

Bransford and Johnson (1972): Comprehension and Background Knowledge: This study investigates the effects of background knowledge on comprehension.

Loftus and Palmer (1974): Leading Questions: You can replicate this study by using different verbs in a leading question and measuring their effects. It's advised to only have two verbs, not all five.

Craik and Tulving (1975): Levels of Processing (LOP): This is a model of memory that is not included in this textbook, but might be interesting for your IA. The LOP model suggests that the deeper we process information the more likely we are to remember it.

It's essential you make sure your chosen experiment is in line with the IB's rules about what is acceptable. You run the risk of having your IA score a zero if it is deemed inappropriate. Animal studies are definitely out of the question.

Mueller and Oppenheimer (2014): Hand-writing vs Typing: If you are a fan of taking notes on your laptop, this study might interest you. Related to the idea of levels of processing, this study investigated the effects on learning of different note-taking strategies (hand-writing or typing).

Rauscher et al. (1993): The Mozart Effect: This study produced surprising (and highly debated) findings that listening to Mozart can increase spatial reasoning skills.

Music and Cognition: There are a range of studies that investigate the effects of listening to different types of music on cognitive performance. You may like to do some research and find a suitable study to replicate (e.g. Shih, Huang and Chiang, 2012).

Peterson and Peterson (1959): Short Term Store Duration: Conducting your experiment can be a good chance to revisit an experiment that could be used in other areas

of the course, such as Peterson and Peterson's experiment related to the multi-store model of memory.

Chartrand and Bargh (1999): The Chameleon Effect: This effect refers to unconscious mimicry of the actions of others. To conduct this experiment you would need to do careful research and consider your IVs and DVs *very* carefully.

Dijkstra and Pieterse (2008): Effects of Indoor Plants on Stress: You might not replicate this particular study, but it could serve as a beginning point for your research into the effects of plants on human behaviour. This study found that indoor plants in a hospital waiting room had stress reducing benefits. Before you choose such a study, it's important to consider the practicalities involved and to seek approval from your teacher first.

We'll continue to keep updating this list on our blog, so be sure to check it out for more information.

Kaplan (1995): Restorative Environments: If you are interested in the effects of nature on cognition, apa.com has a good article called "Green is good for you." Stephen Kaplan is a leading researcher in this area and his 1995 article ("The restorative benefits of nature") may also be a good starting point. This might help start your research into a suitable theory, model or study upon which to base your IA.

Stroop (1935): The Stroop Test: In this classic experiment J Ridley Stroop studied the effects of interfering stimuli on perception. It investigates the effects of incongruent and congruent colour words on speed of perception (e.g. red/ green/blue/blue).

Kleinke, Peterson and Rutledge (1998): Facial Expressions and Mood: "Fake it 'til you make it" is a common saying and there may be some element of truth to it. This study investigates the effect that mimicking facial expressions may have on mood.

The Mere Exposure Effect: There are a number of studies investigating the phenomenon known as the "mere exposure effect," which is a tendency for increased exposure to positively affect preference.

Sparrow, Liu and Wegner (2011): Google Effects on Memory: With the widespread reliance on google to find information, researchers have investigated the effects this may have on memory. If people believe that they will have future access to information their memory of the information may be impaired, and instead of remembering the information they will remember where to find it again. The study suggests that the internet may act as a type of external memory system.

All choices should be discussed with, and approved by, your teacher.

Dual Task Paradigms and the Working Memory Model: According to the working memory model, we use different short term processes when we learn new information: visual and auditory. The dual task paradigm requires participants to experience some form of interference (visual or verbal) that may affect their recollection of information (e.g. Robbins et al., 1996).

For ease of conducting the inferential statistical analyses on your data later in the process of the IA, it is advisable that you conduct a simple experiment. This requires modifying any experiment that has more than two conditions or more than two independent variables. For example, for Loftus and Palmer's experiment it would be a good idea to use only two different verbs, not all five. While it might be tempting to have elaborate designs, you will have more chances of being successful in this assignment if you keep it simple!

Be sure to refer to the guidelines in the introduction as you are choosing an appropriate study, especially regarding ethics.

(b) Background Research

After you've chosen a relevant study and this has been approved by your teacher, you need to do some research and background reading. You should try to find the original published article of your study and read it in its entirety, taking note on the context, aims, methods, results and conclusions. I would recommend first making sure that you fully comprehend the procedures used in the study and ensure that it would be acceptable for you to use for your experiment. Remember that you can make small modifications to the original study's procedures to suit the purpose of this assignment.

It's also important that you understand the original context of the study you are replicating, including any particular theory, model or phenomenon upon which it's based. Reading original journal articles will also help to give you an idea of the general style, structure and content of experimental reports. The "Introduction" section of published articles is especially important to read and review, as this provides the context for the study by summarizing relevant previous research on that topic.

In order to ensure academic honesty and avoid being accused of academic malpractice, take careful notes of your sources. Your final report will include these references.

In order to get full marks for the introduction in your IA you need to make sure that "…the theory or model upon which (your) investigation is based is described." This should guide your background research. An example of a study being based on a theory or model would be studies investigating an aspect of schema theory and effects on memory processes. If you were conducting a study related to schema theory, you would need to be able to describe this theory. The same applies for other theories or models, such as levels of processing, the multi-store model or the working memory model. It's essential that you understand the context (background information) relevant to the study you are replicating.

The IA takes hard work, grit and determination to do well. There's a lot to do in a short amount of time, so you have to be prepared to work hard if you want to do well. This begins with conducting careful background research on your study.

Depending on the nature of your research, the description of the theory or model that you're basing your experiment on might be quite brief. The full context could be provided through a detailed description of one or more studies that are related to the theory on which yours is based. For example, the dual processing model of decision making could be summarized in a couple of sentences and then a more thorough description of the study you are replicating could be described and explained in relation to the model.

After you have understood the theoretical background of the study that you are replicating, it's important that you can explain how your study is related to the theory or model.

As you're reading you should be continually thinking about your own experimental design, including what your independent and dependent variables will be.

Your background research should result in having the following information:

1. A detailed description of the original study you are replicating.
2. The context of the original study, including previous research.
3. An explanation of how the original study is related to a model, theory or phenomenon.
4. The relevance of the original study, e.g. possible applications.

While the above list is written in order of importance, you will need all this information if you are aiming to achieve high marks.