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Introduction

Psychology is the systematic study of behaviour and mental processes. Psychology has its roots in both the natural and social sciences, leading to a variety of research designs and applications, and providing a unique approach to understanding modern society.

IB psychology examines the interaction of biological, cognitive and sociocultural influences on human behaviour, thereby adopting an integrative approach. Understanding how psychological knowledge is generated, developed and applied enables students to achieve a greater understanding of themselves and appreciate the diversity of human behaviour. The ethical concerns raised by the methodology and application of psychological research are key considerations in IB psychology.

Psychology and the international dimension

IB psychology takes a holistic approach that fosters intercultural understanding and respect. In the core of the IB psychology course, the biological level of analysis demonstrates what all humans share, whereas the cognitive and sociocultural levels of analysis reveal the immense diversity of influences that produce human behaviour and mental processes. Cultural diversity is explored and students are encouraged to develop empathy for the feelings, needs and lives of others within and outside their own culture. This empathy contributes to an international understanding.
Group 3 aims

The aims of all subjects in **group 3, individuals and societies** are to:

1. encourage the systematic and critical study of: human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
2. develop in the student the capacity to identify, to analyse critically and to evaluate theories, concepts and arguments about the nature and activities of the individual and society
3. enable the student to collect, describe and analyse data used in studies of society, to test hypotheses, and to interpret complex data and source material
4. promote the appreciation of the way in which learning is relevant to both the culture in which the student lives, and the culture of other societies
5. develop an awareness in the student that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
6. enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

Psychology aims

In addition, the aims of the **psychology** course at SL and at HL are to:

7. develop an awareness of how psychological research can be applied for the benefit of human beings
8. ensure that ethical practices are upheld in psychological inquiry
9. develop an understanding of the biological, cognitive and sociocultural influences on human behaviour
10. develop an understanding of alternative explanations of behaviour
11. understand and use diverse methods of psychological inquiry.
Assessment Objectives

Having followed the psychology course at SL or at HL, students will be expected to demonstrate the following.

1. **Knowledge and comprehension of specified content**
   - Demonstrate knowledge and comprehension of key terms and concepts in psychology
   - Demonstrate knowledge and comprehension of psychological research methods
   - Demonstrate knowledge and comprehension of a range of appropriately identified psychological theories and research studies
   - Demonstrate knowledge and comprehension of the biological, cognitive and sociocultural levels of analysis
   - Demonstrate knowledge and comprehension of one option at SL or two options at HL

2. **Application and analysis**
   - Demonstrate an ability to use examples of psychological research and psychological concepts to formulate an argument in response to a specific question
   - At HL only, analyse qualitative psychological research in terms of methodological, reflexive and ethical issues involved in research

3. **Synthesis and evaluation**
   - Evaluate psychological theories and empirical studies
   - Discuss how biological, cognitive and sociocultural levels of analysis can be used to explain behaviour
   - Evaluate research methods used to investigate behaviour

4. **Selection and use of skills appropriate to psychology**
   - Demonstrate the acquisition of knowledge and skills required for experimental design, data collection and presentation, data analysis and interpretation
   - At HL only, analyse data using an appropriate inferential statistical test
   - Write an organized response
Assessment Objectives in Practice

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Paper 1</th>
<th>Paper 2</th>
<th>Paper 3</th>
<th>Internal assessment</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge and comprehension of specified content</td>
<td>40%</td>
<td>40%</td>
<td>33% (HL)</td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>2. Application and analysis</td>
<td>30%</td>
<td>20%</td>
<td>33% (HL)</td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>3. Synthesis and evaluation</td>
<td>20%</td>
<td>20%</td>
<td>33% (HL)</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>4. Selection and use of skills appropriate to psychology</td>
<td>10%</td>
<td>20%</td>
<td>100%</td>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

Command terms

Classification of command terms

In the learning outcomes (see syllabus content) the command terms are associated with assessment objectives 1, 2 or 3 and indicate the depth of understanding that is required of students in relation to each item of content. The grouping of command terms under assessment objectives reflects the cognitive demand of each term and is related to Bloom's taxonomy.

A command term used in an examination question will be:

- the same as that specified in the related learning outcome, or
- another command term associated with the same assessment objective, or
- a command term of less cognitive demand.

For example, if a learning outcome begins with the command term "explain", an examination question based on this learning outcome could contain the command term "explain", another command term associated with assessment objective 2 (such as “analyse”), or a command term associated with assessment objective 1 (such as “describe”), but not a command term associated with assessment objective 3 (such as “evaluate”).
Command terms associated with assessment objective 1: Knowledge and comprehension

<table>
<thead>
<tr>
<th>Command term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define</td>
<td>Give the precise meaning of a word, phrase, concept or physical quantity.</td>
</tr>
<tr>
<td>Describe</td>
<td>Give a detailed account.</td>
</tr>
<tr>
<td>Outline</td>
<td>Give a brief account or summary.</td>
</tr>
<tr>
<td>State</td>
<td>Give a specific name, value or other brief answer without explanation or calculation.</td>
</tr>
</tbody>
</table>

Command terms associated with assessment objective 2: Application and analysis

<table>
<thead>
<tr>
<th>Command term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyse</td>
<td>Break down in order to bring out the essential elements or structure.</td>
</tr>
<tr>
<td>Apply</td>
<td>Use an idea, equation, principle, theory or law in relation to a given problem or issue.</td>
</tr>
<tr>
<td>Distinguish</td>
<td>Make clear the differences between two or more concepts or items.</td>
</tr>
<tr>
<td>Explain</td>
<td>Give a detailed account including reasons or causes.</td>
</tr>
</tbody>
</table>

Command terms associated with assessment objective 3: Synthesis and evaluation

<table>
<thead>
<tr>
<th>Command term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare</td>
<td>Give an account of the similarities between two (or more) items or situations, referring to both (all) of them throughout.</td>
</tr>
<tr>
<td>Compare and contrast</td>
<td>Give an account of similarities and differences between two (or more) items or situations, referring to both (all) of them throughout.</td>
</tr>
<tr>
<td>Contrast</td>
<td>Give an account of the differences between two (or more) items or situations, referring to both (all) of them throughout.</td>
</tr>
<tr>
<td>Discuss</td>
<td>Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.</td>
</tr>
<tr>
<td>Evaluate</td>
<td>Make an appraisal by weighing up the strengths and limitations.</td>
</tr>
<tr>
<td>Examine</td>
<td>Consider an argument or concept in a way that uncovers the assumptions and interrelationships of the issue.</td>
</tr>
<tr>
<td>To what extent</td>
<td>Consider the merits or otherwise of an argument or concept. Opinions and conclusions should be presented clearly and supported with appropriate evidence and sound argument.</td>
</tr>
</tbody>
</table>
## Syllabus Outline

<table>
<thead>
<tr>
<th>Syllabus component</th>
<th>Teaching hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part 1: Core (SL/HL)</strong></td>
<td></td>
</tr>
<tr>
<td>• The biological level of analysis</td>
<td>90  90</td>
</tr>
<tr>
<td>• The cognitive level of analysis</td>
<td></td>
</tr>
<tr>
<td>• The sociocultural level of analysis</td>
<td></td>
</tr>
<tr>
<td><strong>Part 2: Options (SL/HL)</strong></td>
<td>30  60</td>
</tr>
<tr>
<td>• Abnormal psychology</td>
<td></td>
</tr>
<tr>
<td>• Developmental psychology</td>
<td></td>
</tr>
<tr>
<td>• Health psychology</td>
<td></td>
</tr>
<tr>
<td>• Psychology of human relationships</td>
<td></td>
</tr>
<tr>
<td>• Sport psychology</td>
<td></td>
</tr>
<tr>
<td><strong>Part 3: Qualitative research methodology (HL only)</strong></td>
<td>50</td>
</tr>
<tr>
<td>• Qualitative research in psychology</td>
<td></td>
</tr>
<tr>
<td><strong>Part 4: Simple experimental study (SL/HL)</strong></td>
<td>30  40</td>
</tr>
<tr>
<td>• Introduction to experimental research methodology</td>
<td></td>
</tr>
<tr>
<td><strong>Total teaching hours</strong></td>
<td>150 240</td>
</tr>
</tbody>
</table>
### Assessment outline- HL

**First examinations 2011**

<table>
<thead>
<tr>
<th>Assessment component</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External assessment (4 hours)</strong></td>
<td>80%</td>
</tr>
<tr>
<td><strong>Paper 1 (2 hours)</strong></td>
<td>35%</td>
</tr>
<tr>
<td>Section A: Three compulsory questions on part 1 of the syllabus.</td>
<td></td>
</tr>
<tr>
<td>Section B: Three questions on part 1 of the syllabus. Students choose <strong>one</strong> question to answer in essay form.</td>
<td></td>
</tr>
<tr>
<td>(46 marks)</td>
<td></td>
</tr>
<tr>
<td><strong>Paper 2 (2 hours)</strong></td>
<td>25%</td>
</tr>
<tr>
<td><strong>Fifteen</strong> questions on part 2 of the syllabus. Students choose <strong>two</strong> questions to answer in essay form.</td>
<td></td>
</tr>
<tr>
<td>(44 marks)</td>
<td></td>
</tr>
<tr>
<td><strong>Paper 3 (1 hour)</strong></td>
<td>20%</td>
</tr>
<tr>
<td>Three compulsory questions based on an unseen text, covering part 3 of the syllabus.</td>
<td></td>
</tr>
<tr>
<td>(30 marks)</td>
<td></td>
</tr>
<tr>
<td><strong>Internal assessment</strong></td>
<td>20%</td>
</tr>
<tr>
<td>A report of a simple experimental study conducted by the student.</td>
<td></td>
</tr>
<tr>
<td>(28 marks)</td>
<td></td>
</tr>
</tbody>
</table>
External Assessment

Two different methods are used to assess students.

- Detailed markschemes specific to each examination paper
- Assessment criteria

The assessment criteria are published in this guide.

For paper 1, there are markschemes and assessment criteria.

For paper 2, there are markschemes and assessment criteria.

For paper 3, there are markschemes.

The assessment criteria are related to the assessment objectives established for the psychology course and the group 3 grade descriptors. The markschemes are specific to each examination.
External assessment details—HL

The external assessment at HL is the same as at SL but with the following differences.

**Paper 1**
Duration: 2 hours  
Weighting: 35%  
The questions on HL paper 1 are the same as those on SL paper 1 and are marked according to the same markscheme (for section A) and assessment criteria (for section B).

The assessment weighting of paper 1 at HL is 35%.

**Paper 2**
Duration: 2 hours  
Weighting: 25%  
The questions on HL paper 2 are the same as those on SL paper 2 and are marked according to the same assessment criteria.

HL students spend two hours on paper 2 and are required to answer two questions. Each of the questions must be chosen from a different option.

Each question is worth 22 marks.

The maximum mark for the paper is 44.

The assessment weighting for paper 2 at HL is 25%.

**Paper 3**
Duration: 1 hour  
Weighting: 20%  
The purpose of paper 3 is to assess students’ knowledge and understanding of qualitative research methodology. This paper consists of questions based on an abstract or an extract from a study, interview, observation or scenario (approximately 500 words) including, for example:

- the aim
- participant characteristics
- the research method used
- results and/or findings.

Students must answer all the questions.
External assessment criteria—HL

Paper 1
The assessment criteria for HL paper 1 are the same as those for SL paper 1.

Paper 2
The assessment criteria for HL paper 2 are the same as those for SL paper 2.

Markbands for paper 3
The framework below provides a general guide for teachers to the assessment of responses to paper 3 questions. Markschemes prepared for each examination question guide the awarding of marks by examiners.

<table>
<thead>
<tr>
<th>Markband</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The answer does not reach a standard described by the descriptors below.</td>
</tr>
<tr>
<td>Low</td>
<td>There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question. The response makes no direct reference to the stimulus material or relies too heavily on quotations from the text.</td>
</tr>
<tr>
<td>Mid</td>
<td>The question is partially answered. Knowledge and understanding is accurate but limited. Either the command term is not effectively addressed or the response is not sufficiently explicit in answering the question. The response makes limited use of the stimulus material.</td>
</tr>
<tr>
<td>High</td>
<td>The question is answered in a focused and effective manner and meets the demands of the command term. The answer is supported by appropriate and accurate knowledge and understanding of qualitative research methodology. The response demonstrates a critical understanding of qualitative research methodology applied to the stimulus material.</td>
</tr>
</tbody>
</table>
Purpose of internal assessment

Internal assessment is an integral part of the course and is compulsory for both SL and HL students. It enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations. The internal assessment should, as far as possible, be woven into normal classroom teaching and not be a separate activity conducted after a course has been taught.

The internal assessment requirements at SL and at HL are different. SL students plan, undertake and report a replication of a simple experimental study. HL students also plan, undertake and report a simple experimental study but this may be a replication or a modification of a published study. Additional requirements are made of HL students, for example, they are required to apply an inferential statistical test to the data they gather.

Guidance and authenticity

The report of the simple experimental study submitted for internal assessment must be the student’s own work. However, it is not the intention that students should decide upon a title or topic and be left to work on the internal assessment component without any further support from the teacher. The teacher should play an important role during both the planning stage and the period when the student is working on the internally assessed work. It is the responsibility of the teacher to ensure that students are familiar with:

- the requirements of the type of work to be internally assessed
- the psychology course ethical guidelines
- the assessment criteria; students must understand that the work submitted for assessment must address these criteria effectively.

Teachers and students must discuss the internally assessed work. Students should be encouraged to initiate discussions with the teacher to obtain advice and information, and students must not be penalized for seeking guidance. However, if a student could not have completed the work without substantial support from the teacher, this should be recorded on the appropriate form from the Handbook of procedures for the Diploma Programme.

It is the responsibility of teachers to ensure that all students understand the basic meaning and significance of concepts that relate to academic honesty, especially authenticity and intellectual property. Teachers must ensure that all student work for assessment is prepared according to the requirements and must explain clearly to students that the internally assessed work must be entirely their own.

As part of the learning process, teachers can give advice to students on a first draft of the internally assessed work. This advice should be in terms of the way the work could be improved, but this first draft must not be heavily annotated or edited by the teacher. The next version handed to the teacher after the first draft must be the final one.
All work submitted to the IB for moderation or assessment must be authenticated by a teacher, and must not include any known instances of suspected or confirmed malpractice. Each student must sign the coversheet for internal assessment to confirm that the work is his or her authentic work and constitutes the final version of that work. Once a student has officially submitted the final version of the work to a teacher (or the coordinator) for internal assessment, together with the signed coversheet, it cannot be retracted.

Authenticity may be checked by discussion with the student on the content of the work, and scrutiny of one or more of the following:

• the student’s initial proposal
• the first draft of the written work
• the references cited
• the style of writing compared with work known to be that of the student
• the analysis of the work by a web-based plagiarism detection service such as turnitin.com.

The requirement for teachers and students to sign the coversheet for internal assessment applies to the work of all students, not just the sample work that will be submitted to an examiner for the purpose of moderation. If the teacher and student sign a coversheet, but there is a comment to the effect that the work may not be authentic, the student will not be eligible for a mark in that component and no grade will be awarded. For further details refer to the IB publication Academic honesty and the relevant articles in the General regulations: Diploma Programme.

The same piece of work cannot be submitted to meet the requirements of both the internal assessment and the extended essay.

Group work

Group work may be undertaken by groups of up to four students. Each group must collect its own data and this may be pooled with data collected by other groups. More than one group is allowed to research the same aim at SL (see “Internal assessment details—SL”) or the same hypothesis at HL (see “Internal assessment details—HL”), but each student must write up his or her own individual report. It is accepted that considerable similarities will exist in the procedures reported by members of a group working together on a study.

Time allocation

Internal assessment is an integral part of the psychology course, contributing 25% to the final assessment in the SL course and 20% to the final assessment in the HL course. This weighting should be reflected in the time that is allocated to teaching the knowledge, skills and understanding required to undertake the work as well as the total time allocated to carry out the work.

It is recommended that a total of approximately 30 hours (SL) or 40 hours (HL) should be allocated to the work. This should include:

• time for the teacher to explain to students the requirements of the internal assessment
• time to consider the psychology course ethical guidelines
• class time for students to work on the internal assessment component
• time for consultation between the teacher and each student
• time to review and monitor progress, and to check authenticity.
Requirements and recommendations

Ethical guidelines for internal assessment

The IB acknowledges that individual cultures have different interpretations of how ethical issues should be resolved in relation to the simple experimental study. Based on feedback from examiners, it is evident that a clear set of guidelines is needed for teachers and students when they are considering possible topics for the simple experimental study.

The following guidelines should be applied to all experimental studies.

- Any experimental study that creates anxiety, stress, pain or discomfort for participants must not be permitted.
- Any experimental study that involves unjustified deception, involuntary participation or invasion of privacy, including the inappropriate use of information and communication technology (ICT), email and the internet, must be avoided. There may be rare occasions when such infringements cannot be avoided, in which case the approval of other experienced psychologists should be sought before proceeding. (See the psychology forum on the online curriculum centre (OCC) for further guidance.)
- All participants must be informed before commencing the experimental study that they have the right to withdraw at any time. Pressure must not be placed on any individual participant to continue with the investigation beyond this point.
- Each participant must be informed of the aims and objectives of the research and must be shown the results of the research.
- Young children should not be used as participants. Experimental studies involving children need the written consent of parent(s) or guardian(s). Students must ensure that parents are fully informed about the implications for children who take part in such research. Where an experimental study is conducted with children in a school, the written consent of the teachers concerned must also be obtained.
- Participants must be debriefed and given the right to withdraw their own personal data and responses. Anonymity for each participant must be guaranteed.
- Teachers and students must exercise the greatest sensitivity to local and international cultures.
- Students must avoid conducting research with any adult who is not in a fit state of mind and cannot respond freely and independently.
- If any participant shows stress and/or pain at any stage of an experimental study, the investigation must finish immediately, and the participant must be allowed to withdraw.
- Non-human animals must not be used for experimental study.
- All data collected must be kept in a confidential and responsible manner and not divulged to any other person.
- Students must regard it as their duty to monitor the ways in which their peers conduct research, and to encourage public re-evaluation of any research that contravenes these guidelines.

Experimental studies that are conducted online, using ICT methods, are subject to the same guidelines. Any data collected online must be deleted once the research is complete. Such data must not be used for any purpose other than the conduct of the experimental study.

Students found to have carried out unethical work will be awarded no marks for the internal assessment component.
Internal assessment details—HL

Simple experimental study
Duration: 40 recommended teaching hours
Weighting: 20%
See the internal assessment details in “Internal assessment details—SL”.

HL students may undertake a replication or a modification of a published experimental study.

In addition to the internal assessment requirements made of SL students, HL students are required to:

- undertake more extensive background research related to their simple experimental study
- provide an operationalized experimental hypothesis and an operationalized null hypothesis
- apply an inferential statistical test to their data and interpret the result of the test.

The report
The work will be internally assessed by the teacher and externally moderated by the IB.

Every HL student must produce a written report using the following format.

| Title page          | • Title                           |
|                    | • Student name and number         |
|                    | • Subject and level               |
|                    | • Date, month and year of submission |
|                    | • Number of words                 |
| Abstract            | • Statement of aim and hypotheses |
|                    | • Summary of methods              |
|                    | • Summary of results              |
|                    | • Conclusion                      |
| Introduction        | • Aim of the study                |
|                    | • Literature review (analysis of relevant background studies and theories) |
|                    | • Operationalized experimental hypothesis |
|                    | • Operationalized null hypothesis |
| Method (sub-section headings are in bold) | • Design: type and justification of experimental design, controls, ethical considerations including informed consent, identification of independent and dependent variables |
|                    | • Participants: characteristics of the sample, target population, sampling technique, allocation of participants to conditions |
|                    | • Materials: list of materials used, reference to copies in appendices |
|                    | • Procedures: described in sufficient detail to allow full replication |
Results

• Statement of the measure(s) of central tendency, as appropriate
• Statement of the measure(s) of dispersion, as appropriate
• Justification of choice of descriptive statistic
• Reporting of inferential statistics and justification for their use (calculations in appendix)
• Statement of statistical significance
• Appropriate use of fully explained graphs and tables (may be computer generated)

Discussion

• Interpretation of descriptive and inferential statistics
• Comparison of findings to studies and theories reviewed in the introduction
• Identification of limitations of the student’s research
• Suggestions for modification to address limitations of the student’s research
• Conclusion

References

• Works cited within the report listed in a standard format

Appendices

• Raw data tables and calculations
• Supplementary information
• One copy of instrument(s) used
• Copy of standardized instructions and debriefing notes
• Copy of blank, informed consent form (participant and/or parent)

Words

1,500–2,000*

Marks

28

*The word count does not include supplementary information such as abstract, title page, references, section headings, parenthetical citations, graphs, charts and appendices.
Internal assessment criteria—HL

**Simple experimental study**

The HL experimental study is assessed against nine criteria that are related to the objectives for the psychology course and the sections of the report.

<table>
<thead>
<tr>
<th>Criterion A</th>
<th>Introduction</th>
<th>5 marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion B</td>
<td>Method: Design</td>
<td>2 marks</td>
</tr>
<tr>
<td>Criterion C</td>
<td>Method: Participants</td>
<td>2 marks</td>
</tr>
<tr>
<td>Criterion D</td>
<td>Method: Procedure</td>
<td>2 marks</td>
</tr>
<tr>
<td>Criterion E</td>
<td>Results: Descriptive</td>
<td>2 marks</td>
</tr>
<tr>
<td>Criterion F</td>
<td>Results: Inferential</td>
<td>3 marks</td>
</tr>
<tr>
<td>Criterion G</td>
<td>Discussion</td>
<td>8 marks</td>
</tr>
<tr>
<td>Criterion H</td>
<td>Citation of sources</td>
<td>2 marks</td>
</tr>
<tr>
<td>Criterion I</td>
<td>Report format</td>
<td>2 marks</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>28 marks</strong></td>
</tr>
</tbody>
</table>

**A Introduction**

<table>
<thead>
<tr>
<th>Marks</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>There is no introduction or the background research presented is not made relevant to the experimental hypothesis. The aim of the study is not stated. No hypotheses are stated.</td>
</tr>
<tr>
<td>1–3</td>
<td>Background theories and/or studies are identified but are limited in number, not well explained and/or not highly relevant to the hypotheses. The aim of the study is clearly stated. The experimental and/or null hypotheses are stated but are unclear or not operationalized. The prediction made in the experimental hypothesis is not clearly justified by the background studies and/or theories.</td>
</tr>
<tr>
<td>4–5</td>
<td>Background theories and/or studies are adequately explained and highly relevant to the hypotheses. The aim of the study is clearly stated. The experimental and null hypotheses are appropriately stated and operationalized. The prediction made in the experimental hypothesis is justified by the background studies and/or theories.</td>
</tr>
</tbody>
</table>
### B Method: Design

<table>
<thead>
<tr>
<th>Marks</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The independent variable and dependent variable are not accurately identified. No appropriate experimental design is identified. There is no evidence of appropriate application of ethical guidelines, for example, there is no evidence that informed consent was obtained from participants or their parents.</td>
</tr>
<tr>
<td>1</td>
<td>The independent variable and dependent variable are accurately identified but are not operationalized. The experimental design is appropriate to the aim of the research but its selection has not been appropriately justified. There is clear indication and documentation of how ethical guidelines were followed.</td>
</tr>
<tr>
<td>2</td>
<td>The independent variable and dependent variable are accurately identified and operationalized. The experimental design is appropriate to the aim and its use is appropriately justified. There is clear indication and documentation of how ethical guidelines were followed.</td>
</tr>
</tbody>
</table>

### C Method: Participants

<table>
<thead>
<tr>
<th>Marks</th>
<th>Level descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No relevant characteristics of the participants are identified. No relevant sampling technique is identified or the sampling method is incorrectly identified. The target population has not been identified.</td>
</tr>
<tr>
<td>1</td>
<td>Some characteristics of the participants are identified but not all are relevant. Some relevant participant characteristics have been omitted. The sample is selected using an appropriate method but the use of this method is not explained. The target population has been identified and is appropriate.</td>
</tr>
<tr>
<td>2</td>
<td>Relevant characteristics of the participants are identified. The sample is selected using an appropriate method and the use of this method is explained. The target population has been identified and is appropriate.</td>
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### D Method: Procedure

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<td>No relevant procedural information is included. The information provided does not allow replication. There are no details of how the ethical guidelines were applied.</td>
</tr>
<tr>
<td>1</td>
<td>The procedural information is relevant but not clearly described, so that the study is not easily replicable. Details of how the ethical guidelines were applied are included. Necessary materials have not been included and referenced in the appendices.</td>
</tr>
<tr>
<td>2</td>
<td>The procedural information is relevant and clearly described, so that the study is easily replicable. Details of how the ethical guidelines were applied are included. Necessary materials have been included and referenced in the appendices.</td>
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## E Results: Descriptive

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<td>There are no results or the results are irrelevant to the stated hypotheses of the student’s experimental study. Relevant descriptive statistics have not been applied to the data. There is no graphing of data.</td>
</tr>
<tr>
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<td>Results are stated and accurate and reflect the hypotheses of the research. Descriptive statistics (one measure of central tendency and one measure of dispersion) are applied to the data, but their use is not explained. The graph of results is not accurate, is unclear or is not sufficiently related to the hypotheses of the study. Results are not presented in both words and tabular form.</td>
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<tr>
<td>2</td>
<td>Results are clearly stated and accurate and reflect the hypotheses of the research. Appropriate descriptive statistics (one measure of central tendency and one measure of dispersion) are applied to the data and their use is explained. The graph of results is accurate, clear and directly relevant to the hypotheses of the study. Results are presented in both words and tabular form.</td>
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## F Results: Inferential

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<td>3</td>
<td>An appropriate inferential statistical test has been chosen and explicitly justified. Results of the inferential statistical test are accurately stated. The null hypothesis has been accepted or rejected appropriately according to the results of the statistical test. A statement of statistical significance is appropriate and clear.</td>
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## G Discussion

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<td>3–5</td>
<td>Discussion of the results is not well developed or is incomplete (for example, discussion of either the descriptive or inferential statistics is missing). The findings of the student’s experimental study are mentioned with reference to relevant background studies and/or theories. Some relevant limitations of the design and procedure have been identified, but a rigorous analysis of method is not achieved. Some modifications are suggested. The conclusion is appropriate.</td>
</tr>
<tr>
<td>6–8</td>
<td>Discussion of results is well developed and complete (for example, descriptive and inferential statistics are discussed). The findings of the student’s experimental study are discussed with reference to relevant background studies and/or theories. Limitations of the design and procedure are highly relevant and have been rigorously analysed. Modifications are suggested and ideas for further research are mentioned. The conclusion is appropriate.</td>
</tr>
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### H Citation of sources

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<td>1</td>
<td>The references are incomplete or a standard citation method is not used consistently.</td>
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<td>2</td>
<td>All in-text citations and references are provided. A standard citation method is used consistently throughout the body of the report and in the references section.</td>
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### I Report format

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<td>The report is within the word limit of 1,500–2,000 words. The report is complete but not in the required format. Appendices are not labelled appropriately and/or are not referenced in the body of the report. The abstract is poorly written and does not include a summary overview of the student’s experimental study, including the results.</td>
</tr>
<tr>
<td>2</td>
<td>The report is within the word limit of 1,500–2,000 words. The report is complete and in the required format. Appendices are labelled appropriately and are referenced in the body of the report. The abstract is clearly written and includes a summary overview of the student’s experimental study, including the results.</td>
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</table>
Psychology

Higher level

Specimen papers 1, 2 and 3
INSTRUCTIONS TO CANDIDATES

• Do not turn over this examination paper until instructed to do so.
• Section A: answer all the questions.
• Section B: answer one question.
SECTION A

Answer all questions in this section. Marks will be awarded for focused answers supported by relevant knowledge.

Biological level of analysis

1. Explain how one study demonstrates localization of function in the brain. [8 marks]

Cognitive level of analysis

2. Outline two principles that define the cognitive level of analysis. [8 marks]

Sociocultural level of analysis

3. Explain one compliance technique. [8 marks]

SECTION B

Answer one question in this section. Marks will be awarded for demonstration of knowledge and understanding (including the use of relevant psychological research), evidence of critical thinking (e.g. application, analysis, synthesis, evaluation), and organization of answers.

4. To what extent does genetic inheritance influence behaviour? Use relevant research studies in your response. [22 marks]

5. Discuss the use of one research method (e.g. experiments, case studies) in the cognitive level of analysis. Use relevant research studies in your response. [22 marks]

6. Evaluate the role that one cultural dimension (e.g. individualism/collectivism, power distance) may have on behaviour. [22 marks]
INSTRUCTIONS TO CANDIDATES

• Do not open this examination paper until instructed to do so.
• Answer two questions, each from a different option.
Answer two questions, each from a different option.

Each question is worth [22 marks]. Marks will be awarded for demonstration of knowledge and understanding (including the use of relevant psychological research), evidence of critical thinking (e.g. application, analysis, synthesis, evaluation), and organization of answers.

**Abnormal psychology**

1. “There are controversies surrounding the concept of abnormality.”
   With reference to this statement, discuss the concepts of normality and abnormality.

2. Describe the symptoms and prevalence of one psychological disorder.
   Discuss cultural and/or gender variations in the prevalence of one psychological disorder.

3. Discuss how
   - biological, or
   - cognitive, or
   - socio-cultural
   factors influence psychological disorders.

**Developmental psychology**

4. Discuss potential effects of deprivation or trauma in childhood on later development.

5. Define resilience.
   Describe and evaluate one strategy to build resilience.

6. Outline physical changes in adolescence.
   Discuss how such physical changes during adolescence relate to development of identity.
Health psychology

7. Discuss two aspects of stress (physiological, psychological, or social).

8. Outline two factors related to the development of substance abuse or addictive behaviour.
   Evaluate one prevention strategy for either substance abuse or addictive behaviour.


Psychology of human relationships

10. Evaluate two research studies investigating the role of communication in maintaining relationships.

11. Discuss one strategy for reducing violence that addresses biological or cognitive or sociocultural factors.

12. Examine one short-term and one long-term effect of exposure to violence.

Sport psychology

13. To what extent do biological factors influence behaviour in sport?

14. Describe one reason why an athlete might use drugs in sport.
   Discuss effects of using drugs in sport.

15. Evaluate one theory of motivation in sport.
INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Read the passage carefully and then answer all the questions.
Anxiety is frequently experienced by athletes before they take part in a competitive event. Research findings by Hanton and Jones (1999) show that in swimming competitions, boys perceived these anxieties negatively. The boys felt sick, tired or nervous just before their race. However when Hanton and Jones used semi-structured interviews to investigate the anxieties expressed by ten elite male swimmers, aged between 19 and 27 years, they found very different views were expressed now they were adults, compared to how they felt as children.

These older swimmers recalled how they had felt as boys, when they were entered into swimming competitions. Several of the feelings they had are listed in the first column in Figure 1. These were regarded as early unwanted feelings at that time, but now as adults they had gradually been able to adapt their unwanted or negative feelings into something far more positive and helpful to their swimming performances. The swimmers had learned to use imagery, self-talk and other positive strategies to enhance their performance.

Hanton and Jones used inductive content analysis with the interview transcripts obtained from the adult swimmers. They listed the raw data from the ten transcripts into themes that had similar meanings, as shown in Figure 1.

In summary what the researchers did was to:

- Read and re-read the transcripts several times
- Identify raw data themes and list them into groups shown in the first column of Figure 1
- Draw out (or induce) meanings from the themes and name these, as shown in the second column of Figure 1. These are called higher order sub-themes
- Decide on a further refinement of the second column themes in order to turn these into higher order themes
- Identify the “dimension” – a final phrase that is the “essence” of the preceding columns.
**Figure 1 — Inductive content analysis: early unwanted negative experiences**

<table>
<thead>
<tr>
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<th>Higher order sub-themes</th>
<th>Higher order themes</th>
<th>Dimension</th>
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<tbody>
<tr>
<td>Fear of coming last</td>
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<td></td>
</tr>
<tr>
<td>Worried about making mistakes</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Worried about swimming correct number of lengths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried about performing poorly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried about bottling* under pressure</td>
<td>Experiencing competition worries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried about letting team down</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scared of racing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doubts if trained enough</td>
<td>Experiencing preparation worries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling sick at the pool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt tired before the race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funny feeling in my head</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pins and needles in hands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constantly fidgeting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Bottling: lacking the courage to do something

(Source: adapted, with permission, from S. Hanton and G. Jones, 1999, “The acquisition and development of cognitive skills and strategies: Making the butterflies fly in formation.” *The Sport Psychologist*, 13(1), 1–21)
Answer all of the following three questions.

1. The study outlined above uses the phrase “inductive content analysis”. Explain the advantages and disadvantages of using this research strategy in the context of this specific study. [10 marks]

2. Just ten elite swimmers were used in this research. To what extent could the findings of the research be generalized from this study? [10 marks]

3. Interviews are a major research factor in this study. Discuss ways in which you, as a researcher in this study, would prepare for the interviews and the post interview information that you would give to each of the ten participants. [10 marks]
Psychology Internal Assessment

An experiment into the effect of categorization of words on recall

Psychology Higher Level

Name: XXXXX

Candidate number: XXXXXXX

Date of submission: XXXXX

Word count: 1900
Abstract

The aim of this research is to ascertain whether categorization of words from word lists influences recall. The hypothesis predicted that words recalled from the categorized word list would be significantly higher than words recalled from the uncategorized word list. The IV was the categorized/uncategorized wordlists and the DV was the number of words recalled. The repeated measures design was chosen. An opportunity sample of 10 participants participated in the school environment. A list of uncategorized words was be read out to participants in Condition 1. The participants were then instructed to write all the words they could recall. The same procedure was followed for the categorized word list in Condition 2. The mean no. of words recalled in the categorized word list was more than in the uncategorized word list i.e. 13.7 and 11 respectively. The scores were dispersed close to the mean. The Wilcoxon test showed that there was a significant difference between the scores of the two groups at the 0.05 significance level. The experimental hypothesis was hence accepted and the null hypothesis rejected. Thus, it was found that categorization greatly effects recall.

Word count: 186
Introduction

A large number of theories and experiments have been dedicated to finding the factors that could affect memory. One such factor is categorization. “Categorization is the process of grouping or classifying people, objects, events, and experiences.”¹ Thus, it has long been said that categorization increases recall. One such finding that this experiment is on is that by Tulving and Pearlstone (1966)² on the effect of categorization on recall of words.

Atkinson and Shiffrin (1968)³ put forward a model called the multi-store model. This model describes memory in terms of information flowing through a system⁴. It reveals that memory is made up of a series of stores: sensory memory, short-term memory and long-term memory. Short-term memory has a limited storage capacity and a very short duration, whereas long-term memory has an effectively infinite capacity and memories can last a lifetime. Information in long-term memory is more likely to be in the form of semantics, organized by general meaning rather than greater detail⁵. This model is an explanation for the

⁴ibid
⁵ibid
results of Tulving and Pearlstone’s study as categorization increases organization of information. The model states that organization of information in memory increases recall. This is primarily because long-term memory is more likely to be in the form of semantics. Thus, categorization, can allow information to be stored in the long-term store, where information lasts for longer period of time.

Cognitive processes such as memory require deep processing for better retrieval. Craik and Lokhart(1972)\(^6\) introduced a model called the Levels of Processing, which demonstrates processes involved in memory. They proposed that “memory is just a by-product of the depth of processing of information and there is no clear distinction between short term memory and long term memory.”\(^7\) This model can explain why categorization of words leads to better recall. As words are categorized into several groups, an individual’s semantic understanding is enhanced as categorization makes memory more organized. This further leads to better encoding, and thus better retrieval.

The above models are extremely significant, as they have given researchers a larger picture about how memory processes and how categorization may affect recall.

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Furthermore, a study by Irene Daum and Shelley Channon (2000)\(^8\) further support the results of Tulving and Pearlstone’s study. In their study, they compared amnesic patients to a healthy group of participants (control group) on the recall of word lists containing categorized or uncategorized words. Their results showed that the amnesic group performed below the control group on all measures of recall and the type of list didn’t significantly affect the amnesic group participants’ results. However, the control group showed better recall of the word list that was categorized. Although this study doesn’t involve amnesic patients, it does involve healthy individuals. The healthy participants of Daum’s and Channon’s study showed that categorization increased recall, which is exactly what Tulving and Pearlstone found in their study.

Present experiment is a replication of Tulving and Pearlstone’s (1966), with a few modifications. These modifications include the use of fewer participants as compared to the original study. Furthermore, in this experiment, only one word list for each condition is used, instead of 3 word lists for each in the original study. Another modification is the words used and number of words in the word lists. The number of words in each wordlist is 16, with four groups in this study. The words in the wordlist are also different from those in the original study.

\(^8\)“The Effect of Semantic Categorisation on Recall Memory in Amnesia.” ResearchGate. 
Aim:
To ascertain whether categorization of words from word lists influences recall.

Research hypothesis:
The number of words recalled from the categorized word list\(^9\) will be significantly higher than that of the uncategorized word list\(^{10}\).

Null hypothesis:
There will be no significant difference between recall from categorized and uncategorized word lists\(^{11}\) or any difference will be due to chance.

Method:

Design

Conditions:

Condition 1: Categorized word list\(^{12}\) was read out

Condition 2: Uncategorized word list\(^{13}\) was read out

The repeated measures design was chosen due to low availability of participants, in order to save time and minimize extraneous variables such as each

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\(^9\)Refer to Appendix 3.
\(^{10}\)Ibid.
\(^{11}\)Ibid.
\(^{12}\)Ibid.
\(^{13}\)Ibid.
individual’s capacity of memory and eliminate the effect of natural variation, such as noise, between individuals. A possible disadvantage of using this design is order effects, such as boredom, practice and participant expectations.

Extraneous factors that could affect results, such as noise and high temperature, were eliminated by conducting the experiment in a quiet, air-conditioned room on the highest floor of the school building. In addition, bias was eliminated by using the exact same procedure and giving the participants the exact same instructions for both the conditions.

Ethical considerations were followed. Participants were briefed before the experiment and debriefed\textsuperscript{14} after it. They were made aware that they had the right to withdraw from the experiment at any time and their anonymity would be protected. All participants signed a consent form\textsuperscript{15} before the experiment. In addition, no offensive words were present in any of the word lists. Lastly, participants were not harmed psychologically or physically. The results were made known to them.

**Independent variable:**

Word lists\textsuperscript{16}: categorized or uncategorized word list

**Dependent variable:**

\textsuperscript{14}Refer to Appendix 2.
\textsuperscript{15}Refer to Appendix 1.
\textsuperscript{16}Refer to Appendix 3.
The number of words recalled from the two word lists

Participants:

The participants were selected using opportunity sampling by selecting people that were available at the time, as this saved time and was convenient. Available students were asked to meet outside the psychology room at a particular time. The sample consisted of IB students of ages 17-18 years from Symbiosis International School with fluency in English. There were 10 participants (5 girls and 5 boys). The same sample was used for both conditions. The target population was 17-18 year old, IBDP students of Symbiosis International School with fluency in English.

Materials:

- Two lists of words (categorized and uncategorized)\(^{17}\)
- 14 A4 sheets of paper
- 14 Consent forms printed\(^{18}\)
- 13 pens for participants (3 extras)
- Standardized briefing and debriefing instructions\(^{19}\)

\(^{17}\)Refer to Appendix 3.
\(^{18}\)Refer to Appendix 1.
\(^{19}\)Refer to Appendix 2.
Procedure:

Participants were welcomed in a quiet classroom. They were then asked to sit at desks that were prepared with a pen, sheet of paper and consent form\textsuperscript{20}. Briefing\textsuperscript{21} was read out and participants were asked to sign the consent form. After informed consent was taken:

**Condition 1 (control):** Participants were told that a word list\textsuperscript{22} will be read out once and they will have to recall the words thereafter. After participants were clear on the procedure, the experiment was commenced.

The categorized word list was read out, as well as presented on a PowerPoint presentation to the experimental group by the experimenter (1.5 seconds per word). Two methods were used just in case participants misinterpret a word. After the word list was read out, the participants were told that they would get 3 minutes to write down the words they can recall.

As soon as the wordlist was read out and presented, participants were once again told that they have 3 minutes to write as many words as they can recall on the sheet of paper given to them. A stopwatch was used to record exactly 3 minutes.

\textsuperscript{20}Refer to Appendix 1.
\textsuperscript{21}Refer to Appendix 2.
\textsuperscript{22}Refer to Appendix 3.
**Condition 2 (experimental):** The same procedure was repeated, except the uncategorized word list\textsuperscript{23} was read out.

Once this was done, participants were asked to answer three questions\textsuperscript{24}.

They were asked to write their answers on the back of their sheets of paper. After the experiment was over, participants were debriefed\textsuperscript{25} about the nature of the experiment and told that they will be informed about the results.

**Results:**

**Descriptive:**

The experiment collected interval data. Hence, standard deviation and mean\textsuperscript{26} were chosen as descriptive statistics. Mean was chosen as a measure in order to find the average of all the findings to create an overall, clearer picture of difference between the results from the two conditions. Standard deviation was used to see how spread out the results are from the mean. From the mean measures on table 1, it can be inferred that categorized words resulted in a higher mean recall of words than uncategorized words. The results were dispersed fairly close to the mean with low standard deviations (2 and 1.4).

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\textsuperscript{23}Refer to Appendix 3.
\textsuperscript{24}Refer to Appendix 4.
\textsuperscript{25}Refer to Appendix 2.
\textsuperscript{26}Refer to Appendix 6.
Table 1\textsuperscript{27}: Mean recall and Standard deviation of categorized and uncategorized words.

<table>
<thead>
<tr>
<th>No. of words recalled</th>
<th>MEAN</th>
<th>STD DEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORIZED LIST</td>
<td>13.7</td>
<td>1.418</td>
</tr>
<tr>
<td>UNCATEGORIZED LIST</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 1\textsuperscript{28}: Difference in mean recalls of categorized and uncategorized words

**Inferential**

A Wilcoxon test\textsuperscript{29} was chosen as the experiment tested a difference, repeated measures design was chosen and the data was interval; the data was then converted to ordinal through ranking. Since the obtained W value, 6 is less than

\textsuperscript{27}ibid
\textsuperscript{28}Refer to Appendix 6
\textsuperscript{29}Refer to Appendix 5.
the critical value, 10, the results are significant at 0.05 level of significance. Thus, the null hypothesis is rejected and the experimental hypothesis is accepted.

**Discussion**

The experiment showed that it is easier to memorize categorized words since the words recalled from the categorized word list had a mean\(^{30}\) of 13.7, as compared to a mean of 11 of the uncategorized word list and a Wilcoxon test\(^{31}\) showed that there was a significant difference between recalls of the two word lists\(^{32}\) at P=0.05. These findings are consistent with the prediction of Tulving’s and Pearlstone’s study in that categorization increases recall. This supports the hypothesis of this experiment and the findings of the original experiment.

The results of this study are similar to those of Tulving and Pearlstone’s experiment, in that there is an increase in recall from categorized word list than uncategorized word list. However, Tulving and Pearlstone’s study consisted of a significantly larger number of participants (929) as compared to this experiment, which consisted of 10 participants. More participants could be used in a future experiment to achieve higher generalizability. Yet, obtaining similar results clearly implied that categorization is an effective memory strategy to memorize words.

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\(^{30}\) Refer to Appendix 6.

\(^{31}\) Refer to Appendix 5.

\(^{32}\) Refer to Appendix 3.
with. This corroborates the findings of Irene Daum and Shelley Channon\textsuperscript{33} who also found an increase in words recalled from a categorized word list than uncategorized word list in healthy participants in their study of amnesic patients. Additionally, it was discovered that individual participants used multiple strategies to recall words. This indicates that it may be too simplistic to consider categorization in isolation.

One limitation could be that most participants were 17-18 years. The low SDs\textsuperscript{34} (1.42 and 2) indicates that participants performed relatively similarly, since data was spread quite close to mean. This could be as all participants were similar in age and were all IB students. An improvement in a future experiment is to use a larger age range and number of participants.

Additionally, this experiment was a much simpler version of the original experiment. The sample size was smaller, the word lists were shorter, and the words in the wordlists were easier. The easier and shorter wordlist would have made it easier for participants to recall words. This could decrease the generalizability of the study. Moreover, artificiality could have been a problem due to the experimental method. However, seeing as it was conducted in a classroom, this can be

\begin{itemize}
  \item \textsuperscript{33}Shelley Channon, and Irene Daum. "The Effect of Semantic Categorisation on Recall Memory in Amnesia." ResearchGate, https://www.researchgate.net/publication/11886900_The_Effect_of_Semantic_Categorisation_on_Recall_Memory_in_Amnesia
  \item \textsuperscript{34}Refer to Appendix 6.
\end{itemize}
considered a natural environment. Repeating the experiment in different environments could prevent this problem. However, due to lack of time, doing so was not plausible.

**Conclusion**

In conclusion, the results achieved in the experiment are consistent with cognitive theories about memory such as the Multi-store Model\textsuperscript{35} and Levels of Processing\textsuperscript{36}. Therefore, this experiment concluded that categorized words are better recalled than uncategorized words, probably due to semantics.


Bibliography


Appendices

Appendix 1.

Confirmed consent:

CONSENT FORM

Hello, I would like you to take part in my experiment for my IB Psychology HL internal assessment.
If you agree to participate in this experiment, please consider the following:
• I understand that all data collected will be confidential and anonymous.
• I understand that my participation is voluntary.
• I understand that I have the right to withdraw from the experiment at any given time.
• I understand that I will be given an explanation about the nature of the study.

I, ________________________________________, understand the information above and agree to voluntarily participate in this experiment.

Signature: __________________

Date: ____________________
Appendix 2.

Standardized Briefing and Instructions:

Good afternoon everyone!

Thank you for willing to participate in my experiment.

Please carefully read and fill out the consent forms given to you all. If, at any point, you change your mind, you are entitled to withdraw from this experiment.

Please listen carefully.

I will now read a word list out to you. Once I am done, you will get 3 minutes to write down as many words as you can recall. I will then repeat this procedure with another word list. For the second word list, please use the second paper on your table, which says “Word List 2” and write down as many words as you can recall from this list. A power point presentation with the words will also be shown to you all.

If you have any questions, please feel free to ask me.

Debriefing:

The aim of this experiment was to investigate the effect of categorization on recall. Research has shown that categorization of words increases recall. Therefore, one of the word lists had categorized words and the other had uncategorized words. Categorization of words was done by putting words into groups in one of the word lists.

Please note that your results will be confidential. If you have any questions or wish to know the results of this experiment, you are welcome to contact me for your results tomorrow..

Thank you once again for your participation.
Appendix 3.

Categorized and Uncategorized word lists

(Categorized)

Skirt
Jeans
Shorts
Hat
Apple
Grape
Mango
Peach
Dog
Lion
Bear
Elephant
Pink
Red
White
Purple
(Uncategorized)

Yellow
Shirt
Banana
Tiger
Cap
Pear
Black
Dress
Cat
Green
Shoe
Guava
Donkey
Blue
Cherry
Monkey
Appendix 4.

Questions:

1. Which list did you find easier?
2. What helped you recall?
3. Did you use any techniques to memorize words?

Appendix 5.

Wilcoxon test

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<th>R</th>
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Significance Level:
- 0.01
- 0.05

1 or 2-tailed hypothesis?:
- One-tailed
- Two-tailed

Result Details
- W-value: 6
- Mean Difference: 3.7
- Sum of pos. ranks: 49
- Sum of neg. ranks: 6
- Z-value: -2.1915
- Mean (W): 27.5
- Standard Deviation (W): 9.81
- Sample Size (N): 10

Result 1 - Z-value
The Z-value is -2.1915. The p-value is 0.01426. The result is significant at p ≤ 0.05.

Result 2 - W-value
The W-value is 6. The critical value of W for N = 10 at p ≤ 0.05 is 10. Therefore, the result is significant at p ≤ 0.05.
Appendix 6.

Screenshots from mean and standard deviation online calculator

(Categorized)

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(Uncategorized)

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### Appendix 7.

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Is a more plausible explanation for prejudice and discrimination the Social Identity Theory or the Social Dominance Theory?
Abstract

For years, Psychologists and Researchers have been developing explanations and increasing their understanding of two of the most common detrimental social behaviors- Prejudice and Discrimination. These two specific behaviors can be present on both a small and large scale however they are practiced by all individuals alike, sometimes unintentionally.

Theories have been formulated and accordingly research has been carried out, helping us to understand Prejudice and Discrimination as well as the causes for such behavior. Two such theories are that of the Social Identity Theory by Tajfel and Turner in 1979 and The Social Dominance Theory by Sidanius and Pratto in 1999. This therefore resulted in the research question: “Is a more plausible explanation for prejudice and discrimination the Social Identity Theory or the Social Dominance Theory?”

In this essay, The Social Identity Theory (SIT) and The Social Dominance Theory (SDT) have been introduced followed by an explanation and evaluation of the theories as a plausible explanation for prejudice and discrimination through studies, journals and experiments. Relevant research that has been discussed and evaluated under SIT includes Tajfel 1970, Cialdini 1976, Fein and Spencer 1977, Jane Elliot 1968 and Jetten and Wohl 2012 and under SDT includes Gaucher, Friesen, and Kay 2011, Zitek and Tiedens 2011, Guimond, Dambrun, Michinov and Duarte 2003 and Sidanius and Pratto, 1999.

Although SIT is still evolving and expanding, SDT is modern and addresses current situations regarding prejudice and discrimination with more efficiency. Through the studies of SDT it is evident that this theory effectively explains both behaviors whereas SIT fails to address both behaviors equally. The studies of SDT seem to have more reliability and validity than SIT which
also resulted in the conclusion. It is therefore concluded that the Social Dominance theory provides a more plausible explanation for prejudice and discrimination.

**Word Count**: 298
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Introduction

In a world that is faced with inevitable cruelty ranging from discrimination and suppression, to warfare and massacre, it is important to study the fundamental reasons and explanations for such behavior. For years, psychologists and researchers have been developing explanations and likely reasons for such behavior. Social Psychology as defined by Baron, Byrne and Suls (1989) is ‘the scientific field that seeks to understand the nature and causes of individual behavior in social situations.’

Personally, having studied the sociocultural level of analysis has resulted in questioning the cause of prejudice and discrimination.

Prejudice, ‘is defined as a negative prejudgment or assumption made about someone before or without having adequate knowledge to do so with guaranteed accuracy. It is most commonly used in reference to a preconceived judgment toward someone because of social class, gender, race, ethnicity, disability, age, religion, sexual orientation, or other personal traits.’ Discrimination ‘is a sociological term referring to treatment taken toward or against an individual of a certain group. In other words, discrimination is an actual behavior toward someone else. Certain types of discrimination are illegal.’ Discrimination also means making distinctions in favor of or against, a person or thing based on the group, class, or category to which that person or thing belongs rather than on individual merit’. Being ‘prejudiced’ refers to having preconceived ideas and notions directed at a particular group. ‘Discrimination’ is often used to denote the behavioral component, while ‘prejudice’ denotes the cognitive and affective

3. ibid.
components.\textsuperscript{5} A person however, need not discriminate despite being prejudiced and vice versa. Major examples of both behaviors are Apartheid which was prevalent in South Africa and the mass killings of the Jews by the Nazi’s in the Second World War.

One of the main reasons for the decision to study the chosen topic is the exposure as a young girl of seventeen to stereotypes of gender roles. These lead to prejudiced beliefs and moreover, discriminatory practices towards women. A recent report by Amnesty International by Marco Perolini, Amnesty International’s expert on discrimination in reference to discrimination of Muslims in Europe states, ‘Muslim women are being denied jobs and girls prevented from attending regular classes just because they wear traditional forms of dress, such as the headscarf. Men can be dismissed for wearing beards associated with Islam.’\textsuperscript{6} These acts are not primarily gender based but also religion based, which are only two of the countless grounds on which both prejudice and discrimination are practiced regularly. Furthermore, growing up in India, a country with a definite caste and religion distinction as well as rigid gender roles has resulted in being a witness if not victim to both prejudiced as well as discriminatory practices and behavior.

However it is still difficult to understand or come to terms with why factors such as social class and gender can affect people’s behavior and attitude towards others. In order to explore this concept, the following research question was formed, “Is a more plausible explanation for prejudice and discrimination the Social Identity Theory or the Social Dominance Theory?”

Introduction to the Social Identity Theory (SIT)

The Social Identity Theory (SIT) was developed by Tajfel and his colleagues, particularly Tajfel and Turner in 1979. The original core SIT was to analyze intergroup discrimination, and its causes. The theory is based on four interrelated concepts. These are ‘social categorization’, ‘social identity’, ‘social comparison’ and ‘positive distinctiveness’. According to the SIT and social categorization theory, individuals can encompass two principal identities: a personal identity, representing personal traits and personal relationships and a social identity which represents intergroup behaviors and relationships (Tajfel, 1972). The theory primarily proposes that the social environment gets divided into ‘in-groups’ to which the individual is a member of, and ‘out-groups’ to which the individual is not a member of. The members of the groups often favour their ‘in-group’ and discriminate against the ‘out-group’. Thus Tajfel also went on to study the minimal conditions or requirements needed for intergroup discrimination in ‘The Minimal Group Paradigm’. Categorization of ‘in-groups’ and ‘out-groups’ can occur ranging from a small scale, for example, two classes in a school wherein the children are part of an ‘in-group’ and observe the other class which possibly has barely any differences as an ‘out-group’, to a large scale, for example, two neighboring countries such as Britain and France whose members see themselves as individuals of an ‘in-group’ and the members of the corresponding country as an ‘out-group’. In both cases whether on a small or a large scale, the potential for prejudice and discrimination is highly probable.

Exploration and Evaluation of SIT

In 1970, Henry Tajfel performed an experiment to understand prejudice and discrimination. The aim of his experiment was to demonstrate that ‘social categorization’ which means dividing people into groups, is enough to result in people favoring their own group and showing prejudice and discrimination to the members of the other group or in other words intergroup discrimination.\(^9\) In this experiment the participants are divided into groups based on differences that had been defined by the researchers. They were actually divided into their respective groups at random. ‘The exaggeration and highlighting of the various differences and similarities between groups is known as the category accentuation effect.’\(^10\)

This study by Tajfel lends itself appropriately to the explanation of SIT. It accurately demonstrates a crucial part of the theory which is how social categorization leads to intergroup discrimination. In both of the experiments, the boys who in reality had no actual differences because of being randomly allocated demonstrated discrimination to the other group merely after being divided into their respective groups. Thus we see that the minimal condition required for intergroup discrimination is in fact social categorization. We also see that conflict and differences between two groups does not directly result in discrimination.

The experiment could be viewed as having low ecological validity since the tasks the boys had to carry out, for example, filling in the matrices to reward money, was not directly applicable to daily life. The atmosphere set and public division of the boys into groups may have resulted in

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the boys viewing the experiment as a competitive activity influencing their behavior and actions. ‘When individuals are cognizant of their social identity--aware of the groups to which they belong--their perceptions, inclinations, and behavior can change dramatically. First, they become more inclined to embrace the beliefs and demonstrate the values that epitomize their group. (Hogg & Terry, 2001; Tajfel, 1972).’ The boys were also young, aged fourteen to fifteen, which could have amplified the competitive behavior and outlook to the tasks and resulted in the appearance of Demand characteristics. This experiment does not provide us with an understanding of the causes of prejudice, therefore a plausible explanation for the behavior of prejudice unlike discrimination cannot be found in this experiment.

Robert Cialdini in 1976 performed an experiment highly relevant to SIT. The aim of his experiment was to investigate the tendency of individuals to associate themselves publically with victorious others, a term known as “basking in reflected glory” (BIRG). The participants of the experiment were football fans from large U.S. football universities. The results they found were that students had tendencies to associate themselves more with their own university and football team with their clothing and apparel and tended to use the pronoun ‘we’ rather than ‘they’ more often when describing their teams victory when their football team had won a game compared to when they lost.

This experiment clearly demonstrates that people are inclined to seek a positive social identity which can be explained by SIT’s concept of social comparison and positive distinctiveness. ‘Specifically, they construct these social categories and characterize the

13. ibid.
prototypes to differentiate their own group from other collectives’ (Reid & Hogg, 2005). The need to associate oneself with their group’s success and positive attributes is seen via the subsequent association of what their group represents, for example, the university students in the experiment.

The lesser identification of in-group via less group related clothing and apparel and identification with their group using pronouns such as ‘them’ instead of ‘we’ after a loss showcase how individual’s discriminate when their social identity is threatened or their in-group is not positively represented. The student’s behavior changed in order to keep their self-esteem and pride intact. These are often conditions that can lead to prejudice and discrimination. Discrimination is also clearly highlighted in this experiment. The increased support and enthusiasm following a victory by increased identification using clothing and apparel and use of the pronoun ‘we’ instead of ‘them’ all imply making clear distinctions, between two groups in favor of their in-group, thus showing discrimination.

This experiment possesses a large amount of ecological validity. Football matches similar to the ones in the experiment are still practiced worldwide and are present on larger and smaller scales as well ranging through a number of sports and events where people associate with an in-group. There may have been considerably less demand characteristics due to the personal response and opinion that was required from the participants which were subjective and varied from person to person.

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The experiment therefore provides an explanation for prejudice and discrimination with respect to SIT however only to a certain extent as clear acts of prejudice and discrimination have not been investigated in depth by Cialdini.

In an experiment by Fein and Spencer in 1997, the researchers found that with a decrease in self-esteem, a person is more likely to express prejudice.

Very often prejudice and discrimination is used in order to increase one’s self-worth or self-esteem. According to the SIT, we strive for a positive self-concept. Intergroup favoritism and intergroup differentiation are just some of the many ways we maintain our self-esteem.

The experiment was perhaps not entirely ethical since the participants were lied to about their results of the intelligence test. An intelligent participant or one who was confident in good results may have caused frustration and confusion in participants. Furthermore the direct use of the two nationalities (Jewish and Italian) could have had an effect on some students and had no effect on others since cultural background plays a major role in their perception of either of the nationalities as good candidates for a job. Therefore the experiment lacks ecological validity and may not attain the same results with participants from a different cultural background. However the experiment does give us a basic understanding of not only prejudice with the attitude of the student towards to nationality of the candidate but also clear discrimination with the rejection of that particular candidate for a job solely based on nationality. We also understand the relationship between self-esteem and prejudice which connects to the social identities concept of positive distinctiveness.

Therefore from this experiment by Fein and Spencer we can see how SIT does provide a plausible explanation for prejudice and discrimination to a large extent.
An experiment by Jane Elliot in 1968 supports SIT. Simultaneously it lends itself appropriately to prejudice and discrimination as well as the consequences that follow. In her “Blue eye/Brown eye” experiment Elliot aimed to study group tyranny and bias.

The segregation of individuals into groups causes a change of individual behavior in social situations. The social identities that had been given to the children from the formation of groups resulted in discrimination and a shift in intergroup behavior. Apart from the ‘level of self’, an individual has multiple ‘social identities’. Social identity is the individual’s self-concept derived from perceived membership of social groups’ (Hogg & Vaughan, 2002). The membership of the social group and significance of the group in Elliot’s experiment was given to the children and formed by the researcher. This important aspect of SIT explains to a large extent the discrimination that is practiced by individuals in circumstances consisting of a defined ‘in-group’ and ‘out-group’. The experiment however does not lend itself to prejudice and the explanation of negative prejudgment since the judgment in the experiment was made by the researchers with the information provided to the children prior to the experiment. The situation hence lacks the ecological value it requires to be applied to other situations. However we do learn that social categorization when present, does amplify prejudice and discrimination. Rosenthal and Crisp (2006) find, when the similarities between groups are highlighted, and the differences are blurred; the threat for stereotype may decline. If the similarities were instilled in the children’s minds and not the major differences due to eye colour, the outcome of the experiment would have been very different. However an added explanation is that individuals tend to mirror the level of aggression shown by their colleagues. Kugihara (2001) demonstrated the latter during a

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fire drill, this was ‘especially when the exits were crowded, highlighting that norms are followed when anxiety rises.’\textsuperscript{17} This could be an explanation for the collective behavior of both groups for example the bossy, dominant and arrogant behaviors of the children, even when the roles and situation was reversed.

According to Jetten and Wohl (2012) when individuals feel their group has evolved sporadically over time, they are more likely to perceive other groups in an unfavorable manner and their own group as unsteady.\textsuperscript{18} They feel a powerful incentive to preserve their group. In order to fulfill this goal, they prefer to shun other groups. In an experiment where groups were divided into a continuous status and a discontinuous status in regard to England, the discontinuous group was more likely to reject and have an unfavorable attitude towards immigration.\textsuperscript{19} Here we can see two SIT concepts of social comparison and positive distinctiveness come into play. An explanation for prejudice can be clearly drawn out from this study.

Defining two separate groups however does not necessarily result in discrimination to primarily the ‘out-group’. Haslam et al. noted that very often prejudice and discrimination is practiced within the ‘in-group’ as well and this depends on the extremity of both groups. Thus social categorization does not lend itself entirely to explain intergroup prejudice and discrimination.\textsuperscript{20}

\textbf{Introduction to the Social Dominance Theory (SDT)}

The Social Dominance Theory was developed by Sidanius and Pratto in 1999. The main focus of this theory is on Social Dominance Orientation (SDO) which measures how much an individual

\begin{flushend}
\textsuperscript{17} ibid.
\textsuperscript{19} ibid.
\textsuperscript{20} ibid.
accepts general cultural ideologies concerning equality or inequality within society (Pratto, 1999: Sidanius and Pratto, 1999). The theory proposes that in a society there are individuals who accept or may even favor the presence of dominant and subordinate groups as being just and consistent with a natural order. For individuals with a high SDO, there will be an inclination to promote and encourage intergroup hierarchies and for their in-groups to dominate and be more successful than their out-groups. They therefore do not promote equality and the practices of prejudice and discrimination are the result of an individual with a high SDO. A low SDO on the other hand will result in a person believing in the equality of groups and a promotion of equal and just intergroup relationships. In order to justify the dominance of certain groups over subordinate groups are various ‘legitimizing myths’. They are defined as ‘consensually held values, attitudes, beliefs, stereotypes or cultural ideologies that provide moral and intellectual justification for group-based oppression and inequality’ (Kessler and Mummendey, 2008).

**Exploration and Evaluation of SDT**

Gaucher, Friesen, and Kay (2011) demonstrated that some dominant groups might attempt to maintain their dominance through job advertisements in a subtle manner. In male dominated industries, men might formulate and design job advertisements in a certain way that appeals more to men. This is done through the use of specific characteristics such as confident and headstrong in place of tender and caring which enable men to relate and appeal to the job

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22. ibid”389.
23. ibid”389.
24. ibid”389.
25. ibid”389.
advertisements more than women. Such job advertisements would cause a woman to feel wrong for the role advertised or the role would be considered as undesirable.\textsuperscript{27}

‘Gaucher, Friesen, and Kay (2011) undertook five studies that verify these arguments. One of the studies was a content analysis of job advertisements. In industries dominated by men, such as plumbing and engineering, the job advertisements often referred to traits that correspond to agency, such as confident and headstrong. In contrast, in industries dominated by women, such as bookkeeping and human resources, job advertisements did not often allude to these traits.’\textsuperscript{28}

This experiment contains a high ecological validity since the same principle can be found with both job as well as product advertising. This study was that of content analysis and hence reliability and validity increase. Ethical considerations seem to be taken to a large extent.

Dominant roles and inequality between groups is often promoted in a similar way. Through the use of stereotypical words and defining characteristics of certain groups, it is easy to maintain the establishment of a dominant and subordinate group. Language, actions and behavior are tools for individuals with a high SDO to maintain or encourage intergroup hierarchies. This is primarily prejudice and discrimination. Having a high SDO however is not only used to describe individuals who support their own dominant groups, if the individual has an acceptance of their subordinate groups and identifies with their groups, their SDO lends itself to an acceptance of this subordination.

In a study by Zitek and Tiedens (2011), their participants were given a diagram with seven male faces that had been arranged according to a hierarchy. A face located at the top was followed by

\begin{itemize}
\item \textsuperscript{28} ibid.
\end{itemize}
two faces beneath this and finally four faces at the bottom. Some participants received the same diagram however with female faces. The remaining participants were given either one of the previous diagrams, but this time the hierarchy was in a reversed order. The row with one face was now on the bottom and the row with four faces was now the top row. Participants were asked to memorize the diagram. Next, the diagram was removed, and participants were presented with the seven faces and were instructed to reproduce this arrangement. They were then permitted to scan the diagram again until they could successfully reproduce this arrangement. Especially if the hierarchy was reversed or female, participants often needed to scan the diagram several times. After they reproduced the diagram correctly, they completed a measure of social dominance orientation.29

Zitek and Tiedens (2011) believe that people can more efficiently learn and memorize hierarchical social relationships in comparison to egalitarian social relationships.30 Hierarchy and order facilitates one’s memory. This is because hierarchies are common and often conform to a fixed specific pattern and this makes it easier to learn and memorize. When people find it difficult to learn a series or pattern they prefer for a hierarchy to emerge.31 This is a phenomenon that occurs daily and is often subconscious. This does however translate to inequality and distinction between social groups. This provides a palpable explanation for the prejudice

30. Ibid.
and discrimination practiced by individuals even on a small scale and unintentionally for example in order to learn or memorize with more efficiency.\textsuperscript{32}

The choice of career paths and education provides clear distinctions between individuals thus resulting in the formation of groups. This may consequently affect SDO. According to Guimond, Dambrun, Michinov and Duarte (2003), Individuals are more likely to possess a higher SDO after they study for more than six semesters rather than fewer than two semesters of law.\textsuperscript{33} Law specifically as a discipline legitimizes myths that promote inequality and therefore exposure to law does have to potential to increase an individual’s SDO.\textsuperscript{34} Similarly ‘SDO is likely to diminish after individuals complete more units in psychology(Guimond, Dambrun, Michinov and Duarte, 2003).\textsuperscript{35} The SDT’s concept of SDO aids in the understanding of Prejudice and Discrimination at a personal level. A law student has the exposure which requires if not results in a basic understanding of prejudice and discrimination. A psychology student however is made to acquire knowledge which would possibly reduce innate feelings of prejudice and discrimination over time. Prejudice and discrimination is therefore practiced by people based on their understanding of behavior, inter-group relationships and personality. These factors can either decrease or increase an individual’s SDO which results in either a more or less prejudiced and discriminatory individual.\textsuperscript{36}

SDO can be used to explain racism (see Duriez and van Hiel, 2002; Esses, Dovidio, Jackson, & Armstrong, 2001; Heaven and Quintin, 2003; Levin, 2004; Pratto and Lemieux, 2001) and

\begin{flushright}
\textsuperscript{33} ibid. \\
\textsuperscript{34} ibid. \\
\textsuperscript{35} ibid. \\
\textsuperscript{36} ibid.
\end{flushright}
sexism (Bates and Heaven, 2001; Heaven, 1999; Lippa and Arad, 1999; Pratto et al., 2000; Russell and Trigg, 2004).\textsuperscript{37} Two of the most widely used behaviors with respect to prejudice and discrimination.\textsuperscript{38}

`Furthermore, individuals who report a social dominance orientation are more inclined to blame victims of rape, espouse nationalist positions, support wars, accept death penalties, and oppose immigration--beliefs that maintain or enhance the prevailing hierarchies (see Pratto, Sidanius, Stallworth, &Malle, 1994; Sidanius&Pratto, 1999)`\textsuperscript{39} These studies by researchers are deeply significant in providing an explanation for prejudice and discrimination. A direct cause can be drawn from the SDT for several beliefs and behaviors which are ultimately both prejudiced and discriminatory in nature.\textsuperscript{40}

Threats have the power to highlight some of these effects. For example, when an individual’s status is threatened, individuals who possess a high SDO are more likely to demonstrate prejudice (Pratto& Shih, 2000).\textsuperscript{41} They become more increasingly expected to indulge in legitimizing myths in order to justify their oppression and promotion of inequality. The SDT’s explanation of these myths helps us to understand the fundamental use of this justification which is to maintain dominance and practice prejudice and discrimination with more ease and reason.

\textsuperscript{38} ibid.
\textsuperscript{39} ibid.
\textsuperscript{40} ibid.
\textsuperscript{41} ibid.
Conclusion

The Social Dominance Theory, as per the investigation carried out, provides a more plausible explanation for Prejudice and Discrimination than the Social Identity Theory. While both theories are promising and provide satisfying explanations for prejudice and discrimination, The SDT addresses both Prejudice and Discrimination more efficiently.

However, more focus could have been applied towards evaluation in regard to prejudice and discrimination, rather than the methodology drawbacks of the research. Organization and categorization of ideas and concepts could have had more clarity.

Prejudice and discrimination is practiced in many different ways by very different people and the SDT’s concept of SDO makes the explanation of prejudice and discrimination personalized, thus making the explanation more plausible than the SIT. SIT on the other hand is not personalized. It focuses mainly on inter-group relationships and thus does not address all explanations needed for prejudice and discrimination since very often prejudice and discrimination is a personalized behavior. Most of the studies that have been done to explain the SIT provide more of an explanation for discrimination and the actions of an individual rather than prejudice and the beliefs and feelings of an individual for example the experiments of Tajfel 1970 and Cialdini 1976. The main reason for this is because in most of these experiments the prejudiced beliefs were instilled into the participants by the researchers prior to the study providing little explanation for prejudice and questionable explanation for discrimination. The SDT pays attention to common practices of prejudice and discrimination such as racism, sexism, extremist attitudes and behaviors etc. as a result the conclusions made are more reliable. Another observation is that the experiments of the SDT have more ecological validity and are hence more
convincing. This is because most of the experiments are case studies and even those which are not are still relevant to common situations for example the experiment by Zitek and Tiedens (2011), Individuals use hierarchy’s and prejudiced ideologies in order to learn with more ease and memorize more efficiently. The SDT is a fairly recent theory as well having being formed in 1999 as compared to the SIT formed in 1979. Even though the SIT is still evolving and expanding considerably, the SDT is modern and addresses current situations regarding prejudice and discrimination for example prejudice and discrimination practiced in a work place. Thus, in conclusion, The Social Dominance Theory provides a more plausible explanation for prejudice and discrimination.
Bibliography


Social Identity Theory is a sociopsychological theory developed by Henri Tajfel and John Turner. The theory posits that individuals derive their sense of identity from their membership in social groups. This sense of identity is central to understanding human behavior and social dynamics.

Social Identity Theory suggests that people categorize themselves and others into social groups based on shared characteristics, such as race, gender, or occupation. These group memberships provide a sense of identity and belonging, which is essential for psychological well-being. However, the theory also highlights the potential for negative outcomes when group memberships become excessively salient, leading to the formation of ingroups and outgroups.

The fluency of social hierarchy refers to the ease with which hierarchical relationships are seen, remembered, learned, and liked. Research by Zitek and Tiedens (2012) indicates that individuals find it easier to process information when it is presented in hierarchical formats. This fluency can influence attitudes and perceptions of他人 in hierarchical settings.

The fluency of social hierarchy is a critical aspect of understanding social identity and its implications for social behavior. It highlights the importance of examining the dynamics of social identity in various contexts and how these dynamics can shape individual and group interactions.
Resources


2. IB past papers

3. Worksheets

Web resources


3. https://explorable.com