# Ethically Approved Investigation

**Psychology**

**Relationship between personality and  
participation in sport**

**Teacher’s guide**

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**Investigation  
Relationship between personality and participation in sport**

**Information sheet for teachers**

**Background**

Personality has been described as the characteristics of an individual that account for their unique and consistent patterns of behaviour (Pervin & John, 2007). Over several decades, personality theorists have developed numerous theories and approaches to describe and understand personality. One of the more recent approaches to personality is the Big Five model developed by McCrae and Costa (1990, as cited in Fletcher & Garton, 2007), which claims that there are five key personality factors.

The Big Five model focuses on the following personality traits – openness to experience (O), conscientiousness (C), extraversion (E), agreeableness (A), and neuroticism (N). An easy way to remember all five dimensions of this model is using the acronym OCEAN (Gray, 2007). Costa and McCrae developed a widely used personality measurement tool, called the NEO Personality Inventory (where N, E, and O stand for three of the traits), to measure the five central traits and their associated surface traits. With this approach, individuals can score high and low on each of the surface traits. Below are some examples of the surface traits (both high and low scoring) connected to each central trait, which has been adapted from Gray (2007).

Openness to experience – non-openness (O): curious – uncurious; independent – conforming

Conscientiousness – undirectedness (C): careful – careless; ambitious – aimless

Extroversion – introversion (E): sociable – reserved; talkative – quiet

Agreeableness – antagonism (A): courteous – rude; trusting – suspicious; selfless – selfish

Neuroticism – stability (N): worrying – calm; impatient – patient; vulnerable – hardy

This model of personality has been used widely by sports psychologists in their research.

Sports psychologists use personality as a way of understanding how, and explaining why, different athletes may react differently to situations involving both success and failure in their chosen sports. The key personality attributes attached to high-level sporting performance are emotional stability (low N), conscientiousness (high C) and confidence (high E) while anxiety (high N) can have a negative influence.

The aim of this investigation is to examine the relationship between personality and participation in sport. Specifically, students will investigate whether there is a connection between particular personality traits (e.g. extraversion, agreeableness) and different types of sport (e.g. netball, soccer). Each student will individually complete a questionnaire regarding their participation in sport and will be asked to identify some of their personality traits (based on the Big Five model) through use of a rating scale.

Some of the possible relationships that students might investigate using the data collected for this investigation are:

* + types of personality traits, in relation to the Big Five, evident in individuals who participate in sport
  + connections between types of sports played (i.e. netball, swimming) and personality traits – are there certain personality traits connected with different sports?
  + any differences in the personality traits of individuals who play team sports and individuals who play individual sports
  + any similarities in the personality traits of individuals who don’t participate in sport
  + gender differences in personality traits
  + personality traits associated with male-dominated sports (i.e. AFL) and female-dominated sports   
    (e.g. netball)
  + individual differences based on examining only one or two of the traits.

**Teaching/learning**

Teachers need to consider whether students’ participation in the investigation will be enhanced by some prior exploring of concepts and terms encountered in the investigation. Any teaching/learning experienced by students prior to the investigation needs to be selective and should not bias the data collected in the investigation. Further exploration of theory and concepts associated with the investigation can then continue after the data has been collected.

Use the following process to collect the data:

* + Randomly assign a number to each participant, e.g. by drawing names and numbers out of a hat. Each student’s participant number should be known only to you and the student.
  + Students individually complete the questionnaire (Handout 3). The completion of this questionnaire should take approximately 10 minutes. Ask students to avoid answering ‘down the middle’ by giving all ‘3’s’. The questionnaire examines students’ participation in sport and will identify some of their personality traits using the Big Five approach as a model.

Raw scores from the student questionnaire can be collated and tabulated using the data record sheet provided (Handout 4). From these raw scores, the average rating assigned to each personality dimension from each participant can be calculated. From these averages, students can discuss any relationships that may be emerging between types of sports played and general personality characteristics. Students may even like to examine if there are any gender differences arising from the data.

Depending on how students wish to examine the data (e.g. in relation to gender, sports played, overall central traits (e.g. extroversion) or at the surface traits (e.g. silent – talkative etc.), the most straightforward way to present the findings (e.g. sports played and average rating scores on the five dimensions) might be in the form of a table.

For example:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Open to experience (O)** | | | **Conscientiousness (C)** | | | **Extraversion  (E)** | | | **Agreeableness (A)** | | | **Neuroticism  (N)** | | |
| **Partic. # - Add sport** | O1 | O2 | **Avg.  O** | C1 | C2 | **Avg.  C** | E1 | E2 | **Avg.  E** | A1 | A2 | **Avg.  A** | N1 | N2 | **Avg.  N** |
| **1**  **Football (male)** | 4 | 4 | **4** | 3 | 4 | **3.5** | 5 | 5 | **5** | 2 | 2 | **2** | 1 | 1 | **1** |
| **2**  **Netball**  **(female)** | 5 | 4 | **4.5** | 4 | 5 | **4.5** | 2 | 3 | **2.5** | 5 | 5 | **5** | 4 | 5 | **4.5** |
| **3**  **No sport**  **(female)** | 3 | 2 | **2.5** | 3 | 5 | **4** | 3 | 3 | **3** | 3 | 5 | **4** | 3 | 4 | **3.5** |

It is important to note that students cannot claim the differences in these scores are significant as the application of more complex statistical analyses (such as *p*-values) are required to determine this.

Students will write a formal report consisting of an abstract, introduction, method, results and discussion sections. Materials required for writing the scientific report will include data (tables and graphs), list of references, questionnaire and responses and a half-A4 page of notes.

**Ethical considerations**

An information letter has been provided for your students (Handout 1) stating the nature and purpose of this investigation. Students will need to read this letter and make a decision about their participation in this investigation. Participation will only be possible for students who return their signed consent form (Handout 2), which outlines the student’s rights and responsibilities as a participant of this investigation. Parental/guardian consent will be required for students under the age of 18 to participate in this investigation. Usual permission procedures apply for students living independently.

Students who consent to participate in this study will be required to individually complete a questionnaire regarding their participation in sport and will be asked to identify some of their personality traits (based on the Big Five model) through the use of a rating scale. To ensure that written student data and identity remain anonymous, the participants’ data should be coded with a number (no names) that is known to you. You will need to keep the data and record of ID numbers assigned to students in a safe and secure place until the completion of the unit for participants who may want to withdraw their data. All student data and confidential information will need to be shredded at the completion of the unit.

It is anticipated that your students will not be at risk of worry or discomfort from any of the procedures in this investigation. While steps have been taken to minimise any potential harm or risk, you should advise your school counsellor/s or welfare officer/s about the investigations that students will participate in and be observant of any negative reactions that occur during the investigation.

As a teacher, you are responsible for the physical and emotional safety of all your students. You should inform your students of the facilities within the school that can provide them with support and privacy, and of the wider range of services available in the community (e.g. local youth services and hotlines) that can assist them with any concerns that may arise from the investigation. You will need to be on the lookout for any behaviours that are uncharacteristic of your students (i.e. withdrawal, agitation, disruption) as they may indicate distress as a result of their participation in an investigation.

Usually it is necessary to conduct an investigation without informing the participants in detail of its nature. This allows the participants’ spontaneous and natural reactions and feelings to be measured reducing the influence of subject bias. As the classroom teacher, it is your responsibility to ensure that your students do not suffer distress in this process and therefore you need to ensure that your students are fully debriefed. This provides not only an opportunity to fully inform the participants of the purposes of the investigation, but to eliminate any mistaken attitudes or beliefs that the participants may have about the research.

**Possible issues arising from this investigation**

* Some students may feel uncomfortable in thinking about and rating their perceived personality traits and react adversely to relatively negative scores.
* The number of students and gender distribution in the class may prevent an analysis of the data by gender to safeguard anonymity of students’ identities.

**Resources**

*Text*

Fletcher, J., & Garton, A. (2015). *Psychology: Self and Others.* Nelson Cengage Learning, Melbourne.

Gray, P. (2007). *Psychology* (5th ed.). New York, NY: Worth Publishers.

Pervin, L.A., & Oliver, P.J. (2007). *Personality – theory and research* (10th ed.). Hoboken, NJ: John Wiley & Sons.

*Websites*

<http://www.personality-and-aptitude-career-tests.com/five-factor-model.html> (clear description of personality connected to high and low levels of the each of the Big Five)

<http://www.sduis.edu/articles/athletes.html>(article makes links between athletes and personality)

**[SCHOOL LETTERHEAD]**

**Handout 1**

**Investigation: Relationship between personality and participation in sport**

**Information letter**

Dear student,

As part of this psychology unit, you will be examining the relationship between personality and participation in sport. Specifically, you will investigate whether there is a connection between particular personality traits (e.g. extraversion, agreeableness) and different types of sport (e.g. netball, soccer).

Participants will be involved in completing a short questionnaire to gauge their participation in sport and to identify some of their perceived personality traits. Data collection for this investigation will take place during regular class time.

To safeguard anonymity, written student responses will be identified by a code number and all individual student data will be shredded at the completion of the unit.

To give your consent to being involved in this investigation, please read, complete and sign the attached consent form.

Your parent or guardian must also provide consent for your participation in this investigation. If they agree, please ask them to also sign the provided consent form.

Even if you have signed the consent form, you may withdraw from this investigation at any time. There will be no consequences if you do not want to participate, or if you initially agree to participate and later decide to withdraw. Your rights and responsibilities are detailed in the consent form.

Please ask me if you do not fully understand the information provided or if you would like further information or have any concerns about what is required of you in this investigation.

Yours sincerely

<teacher name>

**[SCHOOL LETTERHEAD]**

**Handout 2**

**Investigation: Relationship between personality and participation in sport**

**Consent form**

Participant’s name:

Investigation title: Examining the relationship between personality and participation in sport

Teacher’s name:

I consent to participate in the research investigation named above. The nature of the research, including the procedures, has been explained to me, and is summarised in the information letter I have been given.

I give permission for the responsible teacher, named above, to use the outlined investigation procedures with me.

I understand that:

(a) I am free to withdraw from the investigation at any time. There will be no consequences if I decline to participate or if I initially agree to participate, but later decide to withdraw.

(b) The investigation is for the purpose of teaching and learning.

(c) The confidentiality of the information I provide will be safeguarded. Written responses will be identified only by a code number in order to ensure that responses are anonymous.

(d) There are no known adverse effects of participation in this investigation.

(e) I will maintain the confidentiality of other participants in this investigation.

**Please return this signed consent form to your teacher.**

**Signed:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Student)

**Students under the age of 18 may participate in this investigation only if a parent or guardian completes the following section.**

I consent to the participation of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the above research investigation.

**Signed:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Parent/Guardian)

**Handout 3**

**Investigation: Relationship between personality and participation in sport**

**Questionnaire**

Using the questionnaire below, please record your response by circling the rating on the scale of 1 to 5 that most represents what you think your personality traits are.

Rating 1 and 2 relates to the trait on the left (e.g. silent) and Rating 4 and 5 relates to the trait on the right (e.g. talkative).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Class participant number** (e.g. 1–20) \_\_\_\_\_\_\_\_\_\_\_\_ **Gender** (please circle) F M **Age** \_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| **Do you play sport?**  (please circle)  Yes No | | **If yes, what sports do you play?**  (please list) | | | | | |
|  |  | **Very** | **Moderately** | **Neither** | **Moderately** | **Very** |  |
| **O1** | **Unimaginative** | 1 | 2 | 3 | 4 | 5 | **Imaginative** |
| **O2** | **Uncreative** | 1 | 2 | 3 | 4 | 5 | **Creative** |
| **C1** | **Disorganised** | 1 | 2 | 3 | 4 | 5 | **Organised** |
| **C2** | **Impractical** | 1 | 2 | 3 | 4 | 5 | **Practical** |
| **E1** | **Silent** | 1 | 2 | 3 | 4 | 5 | **Talkative** |
| **E2** | **Unassertive** | 1 | 2 | 3 | 4 | 5 | **Assertive** |
| **A1** | **Unkind** | 1 | 2 | 3 | 4 | 5 | **Kind** |
| **A2** | **Uncooperative** | 1 | 2 | 3 | 4 | 5 | **Cooperative** |
| **N1** | **Relaxed** | 1 | 2 | 3 | 4 | 5 | **Tense** |
| **N2** | **Unemotional** | 1 | 2 | 3 | 4 | 5 | **Emotional** |

**Handout 4**

**Investigation: Relationship between personality and participation in sport**

**Data record sheet**

In the table below, record the ratings given by each participant in the table below. The average rating for each   
of the ‘Big Five Factors of Personality’ can be calculated for each person and comparisons can be made between individuals in relation to the sport(s) they play.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Open to experience (O)** | | | **Conscientiousness (C)** | | | **Extraversion (E)** | | | **Agreeableness (A)** | | | **Neuroticism (N)** | | |
| **Partic. # - Add sport + gender** | O1 | O2 | **Avg.**  **O** | C1 | C2 | **Avg.**  **C** | E1 | E2 | **Avg.**  **E** | A1 | A2 | **Avg.**  **A** | N1 | N2 | **Avg.**  **N** |
| **1** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **4** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **5** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **6** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **7** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **8** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **9** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **10** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **11** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **12** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **13** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **14** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **15** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **16** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **17** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **18** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **19** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **20** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Psychology assessment task**

**Assessment type:** Investigation

**Conditions**

Time for the task:

* one week to conduct the investigation, collect the data and research personality theories
* two lessons to write the scientific report in class under supervised conditions

**Task weighting**

xx% of the school mark for this pair of units

**Relationship between personality and participation in sport**

Personality has been described as the characteristics of an individual that account for their unique and consistent patterns of behaviour (Pervin & John, 2007). Over several decades, personality theorists have developed numerous theories and approaches to describe and understand personality. One of the more recent approaches to personality is the Big Five model developed by McCrae and Costa (1990, as cited in Fletcher & Garton, 2015), which claims that there are five key personality factors: openness to experience (O), conscientiousness (C), extraversion (E), agreeableness (A), and neuroticism (N). An easy way to remember all five dimensions of this model is using the acronym OCEAN (Gray, 2007).

The aim of this investigation is to examine the relationship between personality and participation in sport. Specifically, you will investigate whether there is a connection between particular personality traits   
(e.g. extraversion, agreeableness) and different types of sport played (e.g. netball, soccer).

You will complete a questionnaire regarding your participation in sport and a rating scale based on the Big Five model to identify some of your perceived personality traits. These ratings will be collected from all participants and collated to form a set of results for the class.

Using your class notes and library research, make succinct notes on the theories and evidence related to this topic. You will write a formal scientific report in class under supervised conditions. You are permitted a half-A4 page of notes to write your report.

Come prepared with:

* data (tables and graphs)
* list of references
* a half-A4 page of notes.

Your formal report will need to include:

* an abstract – provide an overview of the investigation, including the aim, main features of the method, summary of results and conclusion/s
* an introduction – provide information and research related to the topic for the investigation
* method – describe the participants, materials and procedures so that the investigation can be replicated
* results – represent data in a written summary, tables and graphs
* discussion
  + discuss the results of the investigation and how they relate to relevant psychological theories
  + evaluate the design of the investigation and explain how the investigation could be improved
  + discuss how ethical issues were addressed
  + explain the relevance of the results to the population from which the sample was drawn, and to theory or other research
  + state a conclusion that relates the results to the hypothesis or research question
* references – provide an alphabetical list of any references used in the report
* appendix – attach your data sheet.

**Marking key – Relationship between personality and participation in sport**

|  |  |
| --- | --- |
| **Description** | **Marks** |
| **Abstract** |  |
| * succinctly writes a specific aim | 2 |
| * provides a general aim | 1 |
| * briefly describes the method, including   + the participants   + materials used   + how the task was administered | 1–3 |
| * states the results of the research * draws a relevant conclusion | 1–2 |
| **Subtotal** | **7** |
| **Introduction** |  |
| * Provides general background information/theories * makes a relevant statement about personality models * identifies relevant examples of personality models * describes examples of personality models | 1–3 |
| * cites relevant research * makes links between the research and the topic | 1–2 |
| * writes research question/prediction as a hypothesis that follows on logically from the aim | 2 |
| * poses a research question/prediction | 1 |
| * identifies the independent variable * identifies dependent variable | 1–2 |
| **Subtotal** | **9** |
| **Method** |  |
| * describes participants in sufficient detail to be replicated, e.g. number, age, gender * describes the selection process | 1–2 |
| * describes materials in sufficient detail to be replicated | 1–2 |
| * describes the procedure including:   + addresses anonymity   + describes the process for allocating participants to groups and roles   + describes task in sufficient detail to be replicated   + describes the collection, collation and presentation of questionnaire results | 1–4 |
| **Subtotal** | **8** |
| **Results** |  |
| * organises all relevant data logically in correctly labelled tables   + correctly organises table   + correctly labels table, including units where appropriate   + includes relevant data | 1–3 |
| * presents data in a graph   + correctly graphs data   + uses appropriate labelling   + uses appropriate titles | 1–3 |
| * provides an accurate and detailed description of the data | 1–2 |
| **Subtotal** | **8** |

|  |  |
| --- | --- |
| **Discussion** |  |
| * analyses critically the results of the investigation, relates the results to the hypothesis and explains how they relate to relevant psychological theories | 3–4 |
| * describes what happened in the investigation and cites relevant psychological theories | 1–2 |
| * evaluates the investigation design:   + explicitly explains how variables are controlled   + discusses any methodological flaws   + explains steps taken to ensure reliability and how it could be improved | 1–3 |
| * discusses ethical issues and describes how these were addressed | 1–2 |
| * discusses relevance of results to the population from which the sample was drawn as well as to theory or other research referred to in the introduction | 1–2 |
| * makes accurate conclusions that relate to the hypothesis or research question | 1–2 |
| **Subtotal** | **13** |
| **References** |  |
| * includes a range of relevant references | 2 |
| * includes relevant references | 1 |
| **Subtotal** | **2** |
| **Appendix** | |
| * appends data sheet | 1 |
| **Subtotal** | **1** |
| **Total** | **48** |