

## *D4909 – Introduction to Academic Writing in Sports Science*

### **Seminar 3**

#### **Homework tasks**

**A literature review integrated with the researcher's personal intention may result in a theoretical foundation of a study, see the example below.**

***\* Read through the text below and answer the following questions:***

- Which lines/paragraphs outline the topic as a relevant research area, and describe what previous studies have revealed?
- Which lines/paragraphs establish where the gap in the research is, paving the way for the current study?
- Which lines/paragraphs outline how the current study will move to answer the gap in the research and why this is relevant.

1. Research has indicated that a relationship exists between psychological, physiologic, and health variables. This was documented in relations between personality types and coronary artery disease (18, 21), blood pressure and personality (15,16, 20), vascular reaction and personality traits (41) and anxiety and injury proneness (28).
2. The type A behaviour pattern has been established as an independent cluster of behaviours and attitudes (called an action-emotion complex) that relates to the risk of developing coronary heart disease (36). Type A individuals are said to be hard driving and competitive, feel pressured by time, aggressive, impatient, hostile (22).
3. Physiologic responses to similar physical stress may vary among individuals. A notable example is the systolic blood pressure (SBP) response to an exercise task. Several authors have shown that the BP response to exercise may be useful in prediction of future hypertension (6, 19, 43).
4. Weingarten et al. (42) examined the relationship between SBP response to exercise and anxiety in elite water polo players. They found a significantly higher resting SBP in the group scoring higher on anxiety, with a trend to higher SBP during exercise.
5. Competitive athletes have been shown to have a higher SBP response to exercise than non-trained individuals in the same age range. This was true for adolescents (4,7,) as well as for adults (5). Due to the various components of the type A personality, it could be assumed

that competitive athletes have more tendencies towards A personality. This, however, was not measured in the above studies.

6. Whether this holds true for specific sports groups is unknown. There is some evidence that certain psychological characteristics are common to successful sportsmen participating in a specific sport (33,34). This gives rise to the question of whether a relationship exists between the psychological make-up and the SBP response to exercise.

7. While some data are available on the influence of psychological status (anxiety, extraversion, motivation) on performance (9), there are no studies examining the relationships between type A personality and objective physiologic parameters during exercise and more specifically SBP response to exercise.

8. This paper attempts to examine some of the relationships between type A personality traits and SBP response to an exercise task.

(adapted from Tenenbaum, G; Driscoll, M.P. (2005) *Methods of Research in Sport Sciences*)

**\* Write 4-5 paragraphs about your research:**

- Give more details on the type of research study you will use, the research design, and why it suits your research study, the hypothesis, more details on your research population, how you will recruit the subjects, the inclusion / exclusion criteria, how you will manage drop outs, what sort of data collection you will use and how you will manage and interpret the data. Also discuss the expected findings of your study in relation to the hypothesis.

- Be prepared to present your written work to the group next seminar, and / or to have your written work reviewed by the group (vocabulary, grammar, general English etc).

- We will listen to and peer review the presentations and written work at the start of the next seminar.

**- Presentations:**

**- Peer review some written work:**

## Unit 3 Writing a Scientific Abstract

What is an abstract?

What is its purpose?

What content should be in a scientific abstract?

### Content of a scientific abstract

An abstract is merely an advertisement for the complete article and must be brief by definition due to the word count restrictions. However, it must include all the relevant information for the article. A typical abstract should contain the **IMRAD** format.

*\* Match the parts of an abstract to their correct meanings below:*

*method                  discussion                  introduction                  results*

Summarises the findings and relevance of the study – why the work was important.

Outlines simplistically who the study groups and population are, how the data was collected, the duration and time period of the study and any other relevant factors in the data collection.

The background to the study which discusses what is known and unknown about the topic. It justifies the reason for the study.

The section where the basic findings of the study are displayed, including statistical values such as probability.

Adapted from: (Grech, V. WASP (Write a Scientific Paper): Preparing an Abstract.)

**Discuss the terms below. A good abstract should be...**

*Informative:*

*Descriptive:*

*Critical:*

*Formal:*

**Important concepts when writing an abstract include:**

*Follow the conference guidelines:*

*Tailor the abstract to the audience:*

*Do not use references unless the guidelines require them:*

*Say why the research is important:*

(Adapted from: <https://www.ptglab.com/news/blog/how-to-write-a-good-scientific-abstract/>)

**Tips for writing a great abstract:**

**\* Complete the below information with the correct article *the, a* or *no article*:**

*Length:* Make sure it's \_\_\_\_\_ correct length. If it's longer than \_\_\_\_\_ required word count, then it's highly likely to be rejected by the journal or the organisers of \_\_\_\_\_ conference. If it's too short then it's unlikely to show enough detail about \_\_\_\_\_ study – you will lose valuable marketing messages.

*Content:* Make sure your abstract is \_\_\_\_\_ reflection of your work and study. It should include \_\_\_\_\_ most important aspects and main findings of \_\_\_\_\_ research. Avoid including unnecessary information that provides \_\_\_\_\_ distraction to \_\_\_\_\_ more relevant information, and don't expand too much on \_\_\_\_\_ work of other authors.

*Language and style:* Make sure \_\_\_\_\_ language used in the abstract is clear, academic, formal and avoid using jargon or slang. This will ensure it's easier to follow for \_\_\_\_\_ reader, and it is pitched at \_\_\_\_\_ correct audience (other academic readers). Make sure \_\_\_\_\_ writing is clear and concise, using \_\_\_\_\_ proof-reader to check language can often help when English is not your first language.

*Conclusion and Keywords:* Finish with \_\_\_\_\_ strong, clear conclusion – it is \_\_\_\_\_ last thing that the reader will be left with when they finish reading. This should briefly summarise \_\_\_\_\_ importance of the research, and aim to leave \_\_\_\_\_ strong impression. In addition, pick \_\_\_\_\_ most important keywords for your study, so it can be easily found in searches. Include at least several keywords in order to help with this.

(Adapted from: <https://blog.webshop.elsevier.com/tips-for-writing/bad-vs-good-abstract/>)

## **Title**

Why is the title of your research paper important or abstract important? What are the most important characteristics of titles from an academic perspective?

*\* Discuss with the group.*

## **Which of the below are titles of high quality?**

Decide which titles could be of high quality from an academic perspective and which could not. Explain your opinion. *\* Discuss in pairs / small groups, then with the class.*

1. Gender Issues in Reproductive Health and Promoting Male Responsibility
2. Early Prediction of Response to Chemotherapy and Survival in Malignant Pleural Mesothelioma Using a Novel Semiautomated 3-Dimensional Volume-Based Analysis of Serial <sup>18</sup>F-FDG PET Scans
3. Shells
4. Pretty Feet Hit the Street
5. The Impact of Herbivory on Plants in Different Resource Conditions: A Meta-Analysis
6. A Study of Moral Relativism and Moral Objectivity
7. Diffusion on a curved surface coupled to diffusion in the volume: Application to cell biology
8. The Effect of Institutional Culture on Change Strategies in Higher Education: Universal Principles or Culturally Responsive Concepts?
9. This is a research on Female Tragic Hero in English Renaissance Drama.
10. Study on Parallel Translations of Passages from the Seventh Chapter of: On the Ecclesiastical Hierarchy of Pseudo-Dionysius the Areopagite into Old Church Slavonic and Church Slavonic
11. Direct Discrimination, Indirect Discrimination and Autonomy
12. How Do We Introduce the Next Generation of Radiotracers into Clinical Practice?

13. Cold War to Cold Peace: Explaining U.S.-French Competition in Francophone Africa
14. Statistics for ESC in AO, PO and IO
15. Why The Axioms and Theorems of Arithmetic are not Legal Norms

**Determine the parts of this abstract**

*\* Read the following abstract and identify the different sections of it – IMRAD.*

*\* Discuss with the group.*

1. A cross-sectional observational design study was conducted to determine lumbar repositioning error in 15 subjects who had chronic low back pain with a clinical diagnosis of lumbar segmental instability and 15 asymptomatic participants. 2. The aim of the study was to determine whether individuals with lumbar segmental instability have a decreased ability to reposition their lumbar spine into a neutral spinal position. 3. Proprioception of the lumbar spine has been investigated in individuals who have low back pain with variable results. 4. The testing procedure's lack of sensitivity and the non-homogeneity of groups may be responsible for the conflicting findings. 5. Repositioning accuracy of the lumbar spine was assessed using the 3Space Fastrak to determine error in 15 participants with lumbar segmental instability and 15 asymptomatic subjects. 6. The participants were assisted into a neutral spinal sitting posture and then asked to reproduce this position independently over five trials separated by periods of relaxed full lumbar flexion. 7. Lumbosacral repositioning error was significantly greater in participants with lumbar segmental instability than in the asymptomatic group ( $t[28] = 2.48; P = 0.02$ ). 8. There also was a significant difference between the groups at each individual sensor. 9. The results of this study indicate that individuals with a clinical diagnosis of lumbar segmental instability demonstrate an inability to reposition the lumbar spine accurately into a neutral spinal posture while seated. 10. This finding provides evidence of a deficiency in lumbar proprioceptive awareness among this population.

(adapted from O'Sullivan et al, *Spine*, 2003 May 15;28(10):1074-9)

*Introduction:*

*Method:*

*Results:*

*Discussion:*

**Which abstract is better and why?**

*\* Read the following two sample abstracts of the same study. Which one is the best? Why?*

*\* Then discuss with the group.*

**Sample 1:** This experiment will determine what will make enzymes affective and what will make them ineffective. We tested different samples of enzymes in a spectrophotometer and recorded their absorption rates. Six samples were placed in the spectrophotometer but two contained no enzyme; these acted as blanks for the other samples. The four remaining samples

contained Catecholase ranging from 0.5 ml to 1.75 m. The second half of the experiment contained four test tubes with a constant amount of Catecholase, but the pH levels ranged from four to eight. It was found that if the enzyme was present in large amounts, then the absorption rate was high, and if the pH level ranged from 6 to eight then the absorption rate was high. Therefore it can be said that enzymes work well in neutral pH levels and in large amounts.

### ***Comments on Sample 1:***

**Sample 2:** This experiment was performed to determine the factors that positively influence enzyme reaction rates in cellular activities since some enzymes seem to be more effective than others. Catecholase enzyme activity was measured through its absorption rate in a spectrophotometer, using light with a wavelength of 540 nm. We compared the absorbance rates in samples with varying enzyme concentrations and a constant pH of 7, and with samples with constant enzyme concentration and varying pH levels. The samples with the highest enzyme concentration had the greatest absorption rate of 95 percent compared to the sample with the lowest concentration and an absorption rate of 24 percent. This suggests that a higher concentration of enzymes leads to a greater product production rate. The samples with a pH between six and eight had the greatest absorption rate of 70 percent compared to an absorption rate of 15 percent with a pH of 4; this suggests that Catecholase is most effective in a neutral pH ranging from six to eight.

### ***Comments on Sample 2:***

(Adapted from: <http://writing2.richmond.edu/training/project/biology/abslit.html>)

## **Homework Tasks**

### **a) Write or create a title for your own research project**

- Write down or create 1 or more titles for your own PhD work / academic article.
- Discuss your title with the group, be prepared to offer and receive feedback on your title.

### **b) Prepare a scientific abstract on your own research**

- Predict and create your results and conclusions if you don't already have them.
- Maximum of 250 words in the IMRAD format as above.
- Be prepared to submit the written abstract next seminar, it will form part of the course assessment. Also be prepared to present your abstract next seminar to the group.