

INFORMATION TO PARTICIPANTS

INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled: Anticipation in fencing: Response modality, role of vision and instruction

This project is being conducted by Prof. Remco Polman from ISEAL at Victoria University.

Project explanation

To date fencing has received relatively little research attention. This is surprising considering the physiological and psychological demands of the sport. For example, the fencer has to respond to many stimuli during competition whilst under physical and psychological duress. In particular the fencer not only has to consider the movements he/she wants to perform, but they also have to anticipate the movements that their opponent will make and also how they will respond to these attacks. The use of appropriate early cues would help the fencer to react quicker and more accurately and thus increase their chance of successfully anticipating attacks and improve performance. However, to date it is unclear what these early cues are and how we could train athletes to become aware of these cues. This research will involve 4 interrelated studies investigating the role of stimulus and response modality and vision on fencing performance (speed and accuracy of responses). Eye movement will be examined using a mobile eye-tracker. This allows for the determination of early cues which provide the fencer with relevant information to anticipate actions. In addition, using specially designed contact lenses we will be able to determine the role of different visual pathways in this process. Finally, the research will explore the role of instruction on visual processes.

What will I be asked to do?

You will need to attend the Sports Science Laboratory at ISEAL, Victoria University on one occasion. The research consists of 4 experiments from which you can choose to do 1 or all 4 of them. Depending on how many experiments you would like to participate in, the visit will last between 90 and 120 minutes. You will be asked to bring your full fencing kit. In all experiments you will be asked to respond to a series of fencing movements which will be projected on a screen or performed by an epee fencer. Below follows a brief description of the 4 different experiments which allows you to determine whether you would like to participate and if so in which experiment or experiments.

Experiment 1: You would be required to respond to fencing movements presented on a video screen or by an epee fencer. Your response would be either verbal or through a fencing movement. You would be required to wear an eye-tracker in this experiment to record your eye movements. An eye tracker is like a pair of glasses and you will get used to this very quickly. You would be required to make 118 responses in total. Note you will have sufficient rest and each trial will only last a few seconds.

Experiment 2: You will be required to wear special contact lenses as part of this experiment and therefore you must have perfect vision and cannot wear contact lenses or glasses. The contact lenses will manipulate your field of vision. You will be required to respond to a video or an epee fencer. You will be required to conduct 64 trials in full vision and 64 in restricted vision.

Experiment 3: This experiment deals with how instruction might help your performance. You would be required to conduct 20 trials in two different conditions. In one condition we will ask you to engage in a simulated fight prior to conducting the trials. This mimics the moves you would normally make in a fight and will reflect the first round of a competition.

Experiment 4: This experiment deals with how external cues might help you to improve your anticipatory responses. You will be required to engage in 15 trials in 3 different conditions (total of 45 trials) which will be presented on a video screen.

We would like you to participate in one of the 4 experiments. However, if you want to you are able to participate in more than one.

What will I gain from participating?

You will be reimbursed with any travel costs which you incurred to take part in the research. You will have access to the results of the study which could provide you with information about your own fencing as well as the group's data and how you respond to certain stimuli. This could provide you with feedback about your own fencing which you could use to improve performance.

How will the information I give be used?

As a participant in this study, it is important that you are aware that your results are strictly confidential. Individual data will not be presented and results will be anonymous.

What are the potential risks of participating in this project?

You will be asked to perform fencing movements such as lunging. These are movements that you are used to and therefore there will be no risks involved in the participating in the research. You are not obliged to take part in this study, and are free to withdraw at any time during testing. Should you choose to withdraw from the programme you may do so without disadvantage to yourself and without any obligation to give a reason.

How will this project be conducted?

As mentioned previously, you will wear full fencing kit except your own mask as you will be wearing an eye tracker (experiments 1, 3 and 4). Therefore a mask will be provided by the research team. You will have to respond to movements projected on a screen (all experiments) or by an epee fencer (experiment 1 and 2). In experiment 2 we would require you to wear special contact lenses which would manipulate your field of vision and see if you respond differently. In all experiments we will also place an accelerometer on your hand to determine the speed and direction of movement made by your hand/sword as well as on your leg (shank) to determine movement of your front leg. This will provide us with information about how you anticipate and respond to certain fencing situations.

Who is conducting the study?

Chief Investigator: Prof. Remco Polman, ISEAL, Victoria University. Tel: 03 9919 9574 Email: Remco.polman@vu.edu.au

Any queries about your participation in this project may be directed to the Chief Investigator listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Research Ethics and Biosafety Manager, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 or phone (03) 9919 4148.