

Appendix C

Subject Instructions for experiments 1 to 6

Experiment 1 (real and virtual reality drum comparison)

Drum condition

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to moving black and white stripes (optokinetic drum). You will be seated in the chair under the drum. A strap will be placed around your head and attached to the chair in order to keep your head still and you will be asked to wear special glasses to reduce your visual field. The drum will be lowered over you and rotated around you.

Please look straight ahead at the stripes at all times.

Do not deliberately follow the stripes. You should allow your eyes to naturally follow them.

You may stop the drum at any time, for any reason, by pressing your emergency stop button, or by requesting that it should be stopped.

Each minute you will be asked **'how do you feel?'** to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

Each minute you will also be asked **‘what is moving?’** to which you will reply from the following table to indicate your perception of motion:

Perception of what is moving	You report:
Drum Only	You perceive that the only thing moving is the drum (real or virtual).
Drum and Self (intermittent)	You perceive the drum to be moving but also experience periods of self motion.
Drum and Self (continuous)	You perceive the drum to be moving and simultaneously experience continuous self motion.
Self Only	You perceive the drum to be stationary and experience continuous self motion only.

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Virtual reality condition

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to moving black and white stripes (shown on a virtual reality display). You will be seated in the chair under the drum. A strap will be placed around your head and attached to the chair in order to keep your head still. The drum will be lowered over you and rotated around you whilst you watch the stripes moving on the virtual reality display.

Please look straight ahead at the stripes at all times.

Do not deliberately follow the stripes. You should allow your eyes to naturally follow them.

You may stop the drum at any time, for any reason, by pressing your emergency stop button, or by requesting that it should be stopped.

Each minute you will be asked **‘how do you feel?’** to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

Each minute you will also be asked **‘what is moving?’** to which you will reply from the following table to indicate your perception of motion:

Perception of what is moving	You report:
Drum Only	You perceive that the only thing moving is the drum (real or virtual).
Drum and Self (intermittent)	You perceive the drum to be moving but also experience periods of self motion.
Drum and Self (continuous)	You perceive the drum to be moving and simultaneously experience continuous self motion.
Self Only	You perceive the drum to be stationary and experience continuous self motion only.

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Experiment 2 (optokinetic drum with and without fixation)

Normal condition

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to moving black and white stripes (shown on a virtual reality display). You will be seated in the chair under the drum. The drum will stay in its raised position. A strap will be placed around your head and attached to the chair in order to keep your head still. During exposure you will listen to 'white noise' on the headphones of the virtual reality display, and I will talk to you each minute through a microphone. Your eye movements will be measured using electro-oculography – which will be explained to you by the experimenter.

Please look straight ahead at the stripes at all times.

Do not deliberately follow the stripes. You should allow your eyes to naturally follow them.

You may stop the experiment at any time, for any reason, by removing the virtual reality display from your head, or by requesting that it should be stopped.

Each minute you will be asked **'how do you feel?'** to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

Each minute you will also be asked **'what is moving?'** to which you will reply from the following table to indicate your perception of motion:

Perception of what is moving	You report:
Drum Only	You perceive that the only thing moving is the drum (real or virtual).
Drum and Self (intermittent)	You perceive the drum to be moving but also experience periods of self motion.
Drum and Self (continuous)	You perceive the drum to be moving and simultaneously experience continuous self motion.
Self Only	You perceive the drum to be stationary and experience continuous self motion only.

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Fixation condition

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to moving black and white stripes (shown on a virtual reality display). You will be seated in the chair under the drum. The drum will stay in its raised position. A strap will be placed around your head and attached to the chair in order to keep your head still. During exposure you will listen to 'white noise' on the headphones of the virtual reality display, and I will talk to you each minute through a microphone. Your eye movements will be measured using electro-oculography – which will be explained to you by the experimenter.

Please look straight ahead at the stationary cross at all times. Do not follow the stripes on the screen.

You may stop the experiment at any time, for any reason, by removing the virtual reality display from your head, or by requesting that it should be stopped.

Each minute you will be asked '**how do you feel?**' to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

Each minute you will also be asked **‘what is moving?’** to which you will reply from the following table to indicate your perception of motion:

Perception of what is moving	You report:
Drum Only	You perceive that the only thing moving is the drum (real or virtual).
Drum and Self (intermittent)	You perceive the drum to be moving but also experience periods of self motion.
Drum and Self (continuous)	You perceive the drum to be moving and simultaneously experience continuous self motion.
Self Only	You perceive the drum to be stationary and experience continuous self motion only.

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Experiment 3 (normal and blurred stripes)

The instructions for experiment 3 are the same as those for experiment 2 - normal condition.

Experiment 4 (single and multiple dots)

Single dot condition

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to a moving dot (shown on a virtual reality display). You will be seated in the chair under the drum. The drum will stay in its raised position. A strap will be placed around your head and attached to the chair in order to keep your head still. During exposure you will listen to 'white noise' on the headphones of the virtual reality display, and I will talk to you each minute through a microphone. Your eye movements will be measured using electro-oculography – which will be explained to you by the experimenter.

Please follow the single dot at all times.

You may stop the experiment at any time, for any reason, by removing the virtual reality display from your head, or by requesting that it should be stopped.

Each minute you will be asked '**how do you feel?**' to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

You will also be asked **‘how much are you moving?’** to which you should reply, with any number between 0 and 100% from the table below to indicate your perception of motion:

Perception of motion	You report:
You feel like you are stationary and it is the dot which appears to be moving only.	0%
You feel like you are moving a bit, but the dot is moving more	1-49%
You feel like you are moving at the same speed as the dot	50%
You feel like you are moving a lot and the dot is moving a bit	51-99%
You feel like you are moving and the dot appears stationary	100%

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Multiple dot condition

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to a moving dot (shown on a virtual reality display). You will be seated in the chair under the drum. The drum will stay in its raised position. A strap will be placed around your head and attached to the chair in order to keep your head still. During exposure you will listen to ‘white noise’ on the headphones of the virtual reality display, and I will talk to you each minute through a microphone. Your eye movements will be measured using electro-oculography – which will be explained to you by the experimenter.

Please track each dot as it passes, in the central row of dots. Do not skip any of the dots (demonstrated to the subject on the computer monitor).

You may stop the experiment at any time, for any reason, by removing the virtual reality display from your head, or by requesting that it should be stopped.

Each minute you will be asked **‘how do you feel?’** to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

You will also be asked **‘how much are you moving?’** to which you should reply, with any number between 0 and 100% from the table below to indicate your perception of motion:

Perception of motion	You report:
You feel like you are stationary and it is the dot which appears to be moving only.	0%
You feel like you are moving a bit, but the dot is moving more	1-49%
You feel like you are moving at the same speed as the dot	50%
You feel like you are moving a lot and the dot is moving a bit	51-99%
You feel like you are moving and the dot appears stationary	100%

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Experiment 5 (optokinetic drum with and without vision correction)

Both conditions

The purpose of this experiment is to measure the illusion of motion and motion sickness, experienced during exposure to moving black and white stripes (optokinetic drum). You will be seated in the chair under the drum. A strap will be placed around your head and attached to the chair in order to keep your head still. The drum will be lowered over you and rotated around you.

Please look straight ahead at the stripes at all times.

Do not deliberately follow the stripes. You should allow your eyes to naturally follow them.

You may stop the drum at any time, for any reason, by pressing your emergency stop button, or by requesting that it should be stopped.

Each minute you will be asked **‘how do you feel?’** to which you should reply from the following Table:

Subjective Response	Corresponding Feeling
0	No symptoms
1	Any symptom, however slight
2	Mild symptoms e.g. stomach awareness, but no nausea
3	Mild nausea
4	Mild to moderate nausea
5	Moderate nausea, but can continue
6	Moderate nausea, want to stop

Each minute you will also be asked '**how much are you moving?**' to which you will reply from the following table to indicate your perception of motion:

Perception of motion (vection)	You report:
You feel like you are stationary and it is the dot(s) which appear to be moving only.	0%
You feel like you are moving a bit, but the dot(s) are moving more	1-49%
You feel like you are moving at the same speed as the dot(s)	50%
You feel like you are moving a lot and the dot(s) are moving a bit	51-99%
You feel like you are moving and the dot(s) appear stationary	100%

The experiment will end after 30 minutes, when you reach 6 on the motion sickness scale, or if you wish to stop for any other reason.

Experiment 6 (measurement of eye movements)

Instructions as per experiment 5. Subjects were verbally instructed about the IRIS eye measurement system.