

Psychology Research Centre
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Ageing, Landmark Recognition, Attention, and Route Learning: This study investigates psychological processes involved in learning unfamiliar routes.

When you are learning a route many cognitive processes are involved. One major process is visual attention, which allows you to select and focus relevant areas and objects that you encounter along the route. However, the number of areas you attend to and the amount of attention you engage while travelling the route is not constant, but may be influenced by the decision point (left, right, straight?) and would therefore be considered as a high information region, whereas non-decision points would be considered less informative. The connection between attentional engagement and informativeness of scenes during route learning are the purpose of this study.

The amount of attentional engagement in a task is directly reflected in the time to disengage from it. By recording your response times to the sound stimuli while learning the route, the level of engagement can be measured for individual viewpoints along the route. The second indicator of visual attention is selectivity, which is reflected in your eye movements. The more selective you are, the more you focus on specific regions in the scene. Both indicators taken together reveal patterns of your attention throughout the route learning task. We are interested how this pattern will be modulated along the route over several learning trials and if there are age related effects on this modulation of attention. Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will foster our understanding of human route learning abilities and may provide explanations for age related deficiencies in navigation and route learning.

Experiment: In this experiment you will be lead along a route through a virtual environment presented as a video. Your task is to learn the route by heart, so that you are able to reproduce it. Occasionally, you will hear a sound to which you should respond as fast as possible by pressing the 'space' key. You will be familiarised with this response task before the experiment starts. The route learning task will be repeated several times. After the learning is finished, your route knowledge will be tested.

Testing: You will be presented with a series of screenshots of intersections. Use the arrow keys of the keyboard to indicate the correct direction of turn (right, left or straight) to follow the previously learned route. Only your first key-press per presented intersection will be recorded and no feedback on the correctness of your response will be given. Please try to respond as fast and as accurate as possible.

Your participation is voluntary and you are free to withdraw up to the point of anonymisation, without giving reason and without there being any negative consequences. All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications. All data relating to this study will be kept for a minimum of 5 years at a BU password protected secure network

If you have any other questions or would like to get a copy of this introduction please feel free to ask: Ramona Grzeschik – rgrzeschik@bournemouth.ac.uk

If you have any complaints about the project in the first instance you can contact any member of the research team. If you feel your complaint has not been handled to your satisfaction you can contact the Deputy Dean for Research & Professional Practice to take your complaint further: Professor Matt Bentley – mbentley@bournemouth.ac.uk

Thank you very much for your participation! 😊