

## Internet Appendix A129: Sustainable Tourism

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<b>(A) Working Title</b>	Usefulness of psychophysiological measures for sustainable tourism				
<b>(B) Basic Research Question</b>	How can tourists' environmentally sustainable behaviours be better understood using psychophysiological methods?				
<b>(C) Key paper(s)</b>	<p>1) Cacioppo, J. T., Tassinary, L. G., &amp; Berntson, G. G. (2007). Psychophysiological science: Interdisciplinary approaches to classic questions about the mind. <i>Handbook of psychophysiology</i>, 1-16.</p> <p>2) Juvan, E., &amp; Dolnicar, S. (2016). Measuring environmentally sustainable tourist behaviour. <i>Annals of Tourism Research</i>, 59, 30-44.</p>				
<b>(D) Motivation/Puzzle</b>	<p>The impact of tourism on the environment makes it important to explore tourists' environmentally sustainable behaviour. Most studies measuring tourists' environmentally sustainable behaviour rely on self-reports. Self-report measures have a number of limitations and biases, among which social desirability is the most critical bias in the sustainable tourism context. Social desirability occurs when respondents' answers to survey questions are affected by social expectations thus they try to create a positive social image of themselves (Holtgraves, 2004). Social desirability bias reduces the validity of survey measures to reflect actual behaviour in this context. Therefore, there is a need to investigate alternative methodological approaches not affected by social desirability bias.</p>				
<b>THREE</b>	<b>Three</b> core aspects of any empirical research project i.e. the " <b>IDioTs</b> " guide				
<b>(E) Idea?</b>	<p>Some methodological options have been used in self-reports to avoid social desirability bias when measuring tourists' environmentally sustainable behaviour. For example, an unprompted open-ended question approach used in self-report was found to be less prone to capture social desirability (Juvan &amp; Dolnicar, 2016). However, these approaches do not measure actual observed behaviour. This study takes a psychophysiological approach to directly and objectively observe actual behaviour. Psychophysiological methods use physiological indicators to explain psychological processes and thus behavioural outcomes (Cacioppo, Tassinary, and Berntson, 2007). Using these methods, this study conducts a series of experiments to test the usefulness of psychophysiological measures for understanding tourists' environmentally sustainable behaviour.</p>				
<b>(F) Data?</b>	<p><b>Setting:</b> The research is conducted in the UQBS psychophysiology laboratory. Different tourists' environmental sustainability behaviours are investigated in the experiments.</p> <p><b>Unit of analysis:</b> Individual participants are recruited, debriefed, given participant information and asked to sign a consent form before starting the experiment. Screening criteria for recruiting participants differ depending on the experiment.</p>				

	<p><b>Sample size:</b> Usually low sample size in each experiment (roughly 30 participants).</p> <p><b>Data type:</b> Physiological data will be collected from participants objectively during the experiment. Physiological data are participants' responses to stimuli.</p> <p><b>Additional data:</b> In order to validate the physiological data verbal protocols are collected retrospectively. Verbal data are used to confirm the interpretation of physiological data. Participants are also asked to complete an online survey before and or after the experiments. Survey data give additional measures of the dependant behavioural construct.</p>
<b>(G) Tools?</b>	The research involves the experimental method. Different types of stimuli are designed and included in the experiments. Physiological measurement devices such eye tracking and skin conductance recording system are tools for collecting physiological data. Also, post-processing software (Tobii Studio and AcqKnowledge, available at UQBS lab) and Matlab will be used.
<b>TWO</b>	<b>Two key questions</b>
<b>(H) What's New?</b>	<p>1) Psychophysiological methods are rarely used in tourism in general and sustainable tourism in particular. This research introduces to sustainable tourism research psychophysiological measures as a complement to more traditional self-report measures.</p> <p>2) Employing psychophysiological measures offers the opportunity to uncover foundational cognitive and affective psychological processes which lead to behavioural outcomes. Measuring actual observed behaviour, psychophysiological methods can overcome social desirability bias more successfully than methodological approaches in self-reports.</p>
<b>(I) So What?</b>	Practically, this study can offer initial insights for promising interventions that could be trialled in an attempt to increase the environmentally sustainable behaviour of tourists.
<b>ONE</b>	<b>One bottom line</b>
<b>(J) Contribution?</b>	<p>1) This research contributes to the methodological literature in tourism by introducing to sustainable tourism research psychophysiological measures as a complement to more traditional self-report measures.</p> <p>2) Practically, this study provides insights into tourist behaviours with environmental consequences.</p>
<b>(K) Other Considerations</b>	<p>Resource is needed for accessing to the psychophysiological laboratory at UQBS lab.</p> <p>Target Journal(s) The Journal of Sustainable Tourism or other A or A* tourism journals.</p> <p>There is a low risk of no results. And there is low risk of competitors given there has been no research into sustainable tourism using these methods.</p> <p>Ethical approval is needed before any experiment is undertaken.</p> <p>The scope of research is appropriate given the research is planned to be finished during PhD timeframe.</p>