Data Integrity and Web-based Experiments in Cognitive Psychology

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Java and Macromedia’s Shockwave technology allow interactive cognitive psychology experiments to be delivered via the worldwide web. The existence of sites established for educational support has raised interest in the prospects for “research-grade” web-based experiments. In order to provide research-quality data, web-based experiments must answer questions that include the accuracy with which tachistoscopic displays can be presented, the accuracy with which reaction times can be measured, the control of the experimental environment, and falsification of subject variables. This SIG discussion will address issues regarding the integrity of data collected from web-based cognitive psychology experiments such as: Control over the selection of research participants, Control over the commitment of research participants, Control over the truthfulness of research participants, Control over ambient conditions, Effect of bandwidth on stimulus timing and accuracy of determination of reaction times, and Effect of machine differences on stimulus timing and accuracy of determination of reaction times.