

DEMONSTRATION

The use of personal digital assistants in performance testing in psychopharmacology

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The personal digital assistant (PDA) is a notebook-sized electronic device with a touch-sensitive screen that can display text or graphics and accept input using a stylus or by finger touch. The ability to program such devices means that they can be used to administer psychological performance measures, including both traditional computerised tests, and many of those normally given as pencil and paper tests. The latter are often difficult or impossible to program on conventional computer systems, at least without making significant modifications to the test. The small size of the device makes it suitable for use in those situations where the portability of pencil and paper tests is valuable, e.g. in testing patients on hospital wards. Data are automatically collected, avoiding the need for manual scoring of test sheets by the experimenter. A further advantage for many tests is that multiple test versions can be automatically generated, an important

factor when some published tests have only one or two versions.

The use of the PDA will be demonstrated on an Apple Newton using a letter cancellation task. In such tasks, subjects are presented with a sheet on which are printed rows of letters. The subject crosses out each occurrence of a target letter, e.g. "e", working along the rows as quickly as possible. The total time is recorded using a stopwatch, and the number of correct cancellations scored. In the PDA version, sets of letters are automatically generated and displayed on the screen. The subject uses the stylus to cancel each target letter. All scoring is automated, which is particularly beneficial for this task, where manual scoring is time consuming.

Other types of test measure which may be programmed on PDAs include mazes, digit-symbol substitution (where the subject will be able to write the symbol, as in the original, rather than press a button, as is generally the case in automated versions), verbally administered tasks such as word-list learning, and visual analogue scales, as well as many of the tests found in current automated test systems. The PDA is thus a very versatile device, which may prove extremely useful in administering a wide range of automated performance tests.

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