

WOMBAT Situational Awareness and Stress Tolerance Test



The **WOMBAT Situational Awareness and Stress Tolerance Test** is a psychological assessment tool for selecting **complex-system operators** such as pilots, air traffic controllers, ship and train operators, etc and in fact anyone in charge of complex operations involving multiple concurrent inputs and response alternatives. The concept of **situational awareness** was introduced to the aviation community in the late 1970s by Dr. Stanley N. Roscoe of the University of Illinois Aviation Research Laboratory, only in those days he called it "**residual attention**." Research by Roscoe and his students and associates led to the development of the WOMBAT Test.

To some, WOMBAT may have the look and feel of a video game. However, it is much more than a complex game; it is a powerful, culture-independent PC-based system for measuring situational awareness under stress. A study by Dr. David O'Hare of the University of Otago in New Zealand and published in the Human Factors Journal provided strong evidence that the test does in fact measure "*an individual's ability to maintain situational awareness and that this ability is found in high levels in elite pilots.*" When high levels of situational awareness are demonstrated on the test, individuals can be expected to perform well on complex jobs.



The reverse is also true. When a low level of situational awareness is indicated by WOMBAT, the risk of hiring that job applicant is dangerously high, translating into **greater costs of training** for specific jobs, with **higher attrition rates**, and more **operational failures on the job**.

The testing process could not be simpler. The applicant sits in front of a desktop computer and interacts with it using a special console. The console has two standard joysticks and a custom keypad. The testee first goes through a time-limited, step-by-step instruction and practice period to learn the rules of the test. Once the rules are all clearly understood and the testee has reached near-asymptotic performance on every element of the various subtasks, the test phase begins and normally lasts for 90 minutes, although it can be shortened as determined by the needs of the organization.

The results are captured and do not require expert knowledge for analysis; only one important number, the **final score**, is normally used to compare testees. Alternatively, the rate of scoring during the final 30 minutes can be used to assure that all testees have reached their individual limits on the test. The higher these numbers are, the better is the testee's ability to maintain situational awareness under prolonged stress. For more detailed study of a testee's performance, and particularly for research purposes, a complete record of scoring during each ten-minute segment of the test is recorded and can be printed out on request.

Users of the WOMBAT test worldwide have consistently reported more than a 100% return on investment during the first few months from the reduction in trainee attrition alone, something no other selection device has been able to demonstrate. Today's managers readily understand the value of such an investment and no longer think of an effective selection device as just another unnecessary expense. They have come to appreciate the cost both in short-term money and long-term reputation incurred by poor trainee selection, whether in ab initio training or subsequent operational hiring.

