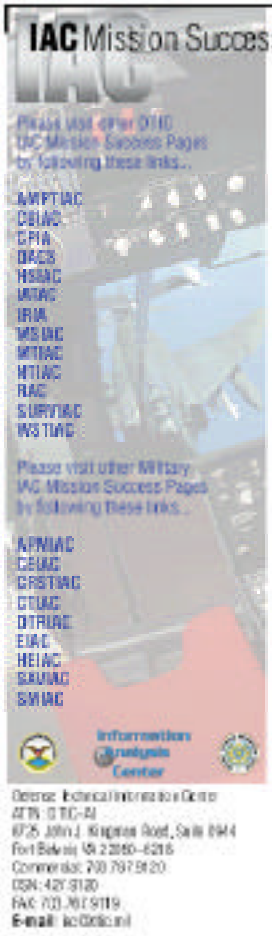

Defense Technical Information Center
ATTN: DTIC-AI
8725 John J. Kingman Road, Suite 0944
Fort Belvoir, VA 22060-6218
Commercial: 703 767 9120
DSN: 427 9120
FAX: 703 767 9119
E-mail: iac@dtic.mil

HSIAC Human Systems IAC

HSIAC | Story 1 | Story 2

Review and Analysis of Auditory Workload

Research in human performance often employs workload assessment tools such as NASA Task Load Index (TLX) and Subjective Workload Assessment Tool (SWAT). In addition to providing an overall workload score, these tools can also be used to divide workload into separate components (e.g., NASA-TLX separates workload into six components). While these are generalized workload assessment tools, the Army Research Lab (ARL) tasked Human Systems IAC to search for a specific tool to measure the workload associated with auditory processing. Such a scale, or information on how to develop such a measure, would be used to relate audio display design and soldier workload and then to predict changes in soldier performance from changes in workload. In support of ARL's request, the Human Systems IAC produced a Review and Analysis (R&A) on auditory workload assessment.

Continued on Story 1

Updating Strength Selection Criteria for the HQ Air Force Personnel Center (AFPC)

The make-up and duties of career fields, or Air Force Specialties (AFSs), do not remain constant and strength requirements must be updated. Through the Air Force Research Laboratory (AFRL) Human Effectiveness Directorate, the Human Systems Information Analysis Center (HSIAC) provides data gathering, analysis, and technical support to Head Quarters Air Force Personnel Center (HQ AFPC), which is responsible for maintaining the Strength Aptitude Test (SAT) criterion for each enlisted AFS. The SAT is a classification tool for matching the physical strength abilities of individuals with the physical strength requirements of jobs in the Air Force.

Continued on Story 2

Please visit our Web site at http://iac.dtic.mil/hsiac or send us an E-mail at hsiac@wpafb.af.mil

Visit the New Archives section for past stories…

Defense Technical Information Center
ATTN: DTIC-AI
8725 John J. Kingman Road, Suite 0944
Fort Belvoir, VA 22060-6218
Commercial: 703.767.9123
DSN: 427-9123
FAX: 703.767.9119
Email: iac@dtic.mil

HSIAC Human Systems IAC

HSIAC | Story 1 | Story 2

Review and Analysis of Auditory Workload (continued)

In producing this R&A, the Human Systems IAC first sought to determine whether a measure of auditory workload existed. To this end, Human Systems IAC conducted an exhaustive literature search and contacted the recognized leaders in both workload and auditory research. Based on the search results and expert interviews, it was determined that a metric of auditory workload did not exist.

The Human Systems IAC then provided recommendations for the development of a research plan whose implementation would result in an auditory workload assessment methodology. Human Systems IAC recommended the adaptation of the NASA-TLX and included suggestions for how to translate this metric into an auditory workload measure. The preliminary steps necessary to test and validate the resulting measure were also provided to ARL. Human Systems IAC's research plan is currently being employed by ARL as it conducts the recommended validation studies on the new auditory workload metric.

Please visit our Web site at http://iac.dtic.mil/hsiac or send us an E-mail at hsiac@wpafb.af.mil

Visit the New Archives section for past stories…

Defense Technical Information Center
ATTN: DTIC-AI
8725 John J. Kingman Road, Suite 0944
Fort Belvoir, VA 22060-6218
Commercial: 703 767 9120
DSN: 427 9120
FAX: 703 767 9119
E-mail: iac@dtic.mil

HSIAC Human Systems IAC

HSIAC | Story 1 | Story 2

Updating Strength Selection Criteria for the HQ Air Force Personnel Center (AFPC) (continued)

The SAT criteria are objectively defined, performance based, and the same for both men and women. The Air Force is the only service to have a uniform job requirements-based strength test for each enlisted job. As AFS physical demands change, the SAT criterion must be updated. Since the original survey of physical demands during 1978 to 1982, some AFSs have been subdivided and some combined to create new ones. In some cases, the systems and equipment used by the members of an AFS have changed. When changes in the job result in changes in the physical demands of the job, the SAT criterion may become obsolete. If this occurs, the physical demands must be re-analyzed to determine if the SAT criteria should be changed. Each year, the HSIAC through the AFRL Human Effectiveness Directorate re-surveys several AFSs and computes new SAT criteria for them.

After the AFS functional manager selects representative sites to visit, the re-survey consists of gathering, coordinating, and analyzing data to make a new SAT criterion recommendation for the AFS. During data collection, HSIAC personnel identify physically demanding tasks, interview workers, and measure object weights and forces associated with the task using precision equipment. Next, the AFS functional manager reviews the data to ensure they are complete and reasonable, but does not review the SAT criterion. Once the AFS functional manager concurs with the data, the SAT criterion computation is performed and a recommendation is presented to HQ AFPC.

In summary, the SAT criteria are kept up-to-date by re-surveying and re-measuring the physical demands of career fields that have changed. Since AFRL is independent of HQ AFPC, it is able to provide unbiased analyses of physical demand. Four benefits of the SAT are—

1. Improved job performance
2. Improved job satisfaction resulting from reduction of inadequate performance
3. Reduced attrition and re-training costs of weaker individuals departing from more physically demanding jobs
4. Reduced exposure to over-exertion injuries.

Please visit our Web site at http://iac.dtic.mil/hsiac or send us an E-mail at hsiac@wpafb.af.mil

Visit the New Archives section for past stories…