there was no impairment, relative to placebo, in the mecamylamine and donepezil condition. There was no effect of mecamylamine on reaction time in either task. Delay-dependent memory impairments have been observed in patients with Alzheimer’s disease, as have impairments in CPT-Ax performance. The present findings add to evidence that loss of nicotinic receptor function in patients with Alzheimer’s disease, as have impairments in CPT-Ax performance. The present findings add to evidence that loss of nicotinic receptor function in patients with Alzheimer’s disease, as have impairments in CPT-Ax performance.

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This study investigated the test-retest reliability of the Steady State Visually Evoked Potentials (SSVEP) produced whilst the participant completed the Emotional Stroop (ES) as well as the International Affective Picture System (IAPS). The ES requires participants to respond to the colour of either an emotionally positive, negative or neutral word as quickly as possible whilst the IAPS requires participants to rate each positive, negative or neutral picture presented in terms of its valence and arousal. The results of this study will guide future clinical electrophysiological research on emotional processing that proposes to use repeated administration of these tasks. This study is of utmost importance to determine the reliability over time of certain electrophysiological parameters that manifest themselves whilst healthy subjects undertake these tasks. Research on electrophysiological test-retest reliability is limited. Recently, two studies have suggested that the test-retest reliability for the behavioural measure (ie the emotional interference effect) of the ES is poor (Siegrist, 1997; Kindt, Bierman & Brosschot, 1996). Neither of these studies however, considered electrophysiological parameters associated with the completion of such a task. Preliminary results gathered at the Brain Sciences Institute have indicated that electrophysiological responsiveness may be distinguished from behavioural responsiveness and is possibly a more sensitive measure of physiological effects. As many factors may contribute to the variability of the behavioural findings, it is of obvious theoretical importance to attempt to locate electrophysiological parameters whilst subjects are undertaking both tasks to determine if such parameters (millisecond changes) are reliable from week to week. Electrophysiological parameters are possibly an important variable to consider when determining reliability of psychological tasks. The Brain Sciences Institute has developed a brain electrophysiological imaging technique called steady state probe tomography (SSPT). This procedure enables cortical activity throughout the whole domains of the cerebrum to be probed during visual and non-visual tasks. The technique shows considerable sensitivity to cognitive and/or emotional factors and relative insensitivity to most EEG artefacts. SSPT involves examining the relationship between the cognitive and/or emotional processes and the steady state visually evoked potentials (SSVEP). Strong cognitive and emotional effects of the SSVEP have been demonstrated when the stimulus eliciting SSVEP consists of a uniform visual flicker superimposed on the computer monitor presenting the cognitive tasks. However, it is not known if these changes are reliable and reproducible from week to week. Task specific changes with emotional tasks using the emotional stroop have been demonstrated previously (Silberstein, Robb, Burrows & Pipingas, 1998) and although the IAPS has not been used as an activation task together with SSPT, it has been widely used and validated. Recordings were made on two consecutive days separated by one week and it was hypothesised that characteristic and consistent changes will be observed in terms of emotional valence. Preliminary results have been examined and the changes in the SSVEP parameters, phase and amplitude, for each of the two recordings support our hypotheses. Results that will be presented will use recordings from at least 16 healthy subjects and discussed with respects to the application of these tasks in a clinical setting.


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**Abstract**

The present study assessed the behavioural test-retest reliability of the ES and the IAPS in 22 healthy adult participants. The ES requires participants to respond to the colour of either an emotionally positive, negative or neutral word as quickly as possible whilst the IAPS requires participants to rate each positive, negative or neutral picture in terms of its valence and arousal. Research on the behavioural test-retest reliability of these tasks is limited. To date no test-retest has been completed on the IAPS. That is, no known study that has assessed how a participant's ratings of pictures that contain emotional content vary from one occasion to the next. Two studies however, have recently shown that the test-retest reliability for the behavioural measure (ie the interference effect) of the ES is poor (Siegrist, 1997; Kindt, Bierman & Brosschot, 1996). However, the present study assessed test-retest ES response times over a much shorter time interval than what was used in the Kindt et al. (1996) study. A delay of three months between each assessment was considered excessive due to certain factors that could affect response in that period. Siegrist (1997) reported high test-retest reliability coefficients for ES response times for self-relevant words, but lower test-retest reliability coefficients for the interference effects (which is the response time for emotionally valent words minus response time for control words) of these self-relevant words. However, this only suggests that ES interference effects may not be stable in a healthy adult population and that we must observe these (interference) effects in a clinical population to determine reliability. It is important to have an understanding of task reliability especially when these tasks are being used in research on clinical populations and have application in determining response to drug treatment (Williams, Mathews & MacLeod, 1996; Kalin, Davidson, Irwin, Warner, Orendi, Sutton, Mock, Sorenson, Lowe & Turski, 1997). The present study, using healthy adult participants, proposed to correlate the ES response times recorded one week apart for each of the stimulus categories, which differ in terms of valence (positive, negative and neutral). Preliminary results show response times for each of the categories were reliable from one week to the next and as hypothesised, no interference effects were apparent. Presentation of the photographic images is able to evoke a broad range of emotions, similar to those experienced outside the laboratory and it is the ratings on valence and arousal dimensions for each of these pictures that were correlated. Preliminary results also accord with hypotheses.


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**References**

