

## VISN 5 MIRECC Research Abstract

### Remediation of Self-Monitoring in Schizophrenia

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Schizophrenia and other serious mental illnesses are associated with enormous economic, social and personal costs in the VA and throughout the United States. The research proposed in this application is directly applicable to the strategic goal of VA, recently announced by Under Secretary of Health, Robert H. Roswell, to 'Restore the capability of veterans with disabilities to the greatest extent possible and improve the quality of their lives and that of their families.' Cognitive impairment in schizophrenia is an important predictor of community functioning and efforts to remediate these impairments have shown promise. The efforts are limited, however, by their neglect of self-monitoring (SM). Self-monitoring is a neurocognitive process that involves attending to the appropriateness and adequacy of ongoing behavior. There is behavioral and physiological evidence that schizophrenia patients have impairments in SM but remediation efforts to date have not addressed this process. We propose that SM should be a central focus of remediation efforts because it is only with adequate monitoring that the skills and strategies that are taught in the remediation clinic will be applied in patient's lives outside of the clinic. Towards the goal of integrating SM remediation into existing interventions, the proposed research addresses two central questions that constitute significant gaps in the existing research literature: First, are the failures in SM observed in schizophrenia related to impaired performance on broader measures of cognition? The answer to this question will help to establish the relevance of SM as a target for remediation. We expect that poor SM will be selectively related to poor performance on standardized neuropsychological tests that require subjects to inhibit prepotent responses and incorporate external feedback but not to tests that narrowly assess sensory and motor functioning. Secondly, are impairments in SM in schizophrenia modifiable with the use of behavioral strategies? To address the feasibility of modifying this neurocognitive process, we will have schizophrenia patients complete a choice reaction time task using either a strategy designed to enhance their attention to the accuracy of their responses or a comparison strategy intended to direct attention to the task stimuli rather than their own responses, then complete a second test using these strategies to gain a preliminary estimate of the malleability of SM deficits in schizophrenia. Self-monitoring will be assessed using a component of the event-related brain potential called the error-related negativity (ERN). The ERN is elicited following erroneous responses but not following correct responses and is thought to reflect on-line monitoring of response accuracy and adequacy. The results of the proposed work will have a direct impact on the development of ongoing cognitive remediation interventions for schizophrenia patients in the VA.