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September 4, 2015

Dear Mrs. Edith Royal, the DKR Fund Board of Directors, and Scientific Review Committee,

I recently developed a behavioral paradigm that proved effective in persistently reducing fear (Monfils et al., 2009). In a recent line of research, together with Dr. Driscoll, we proposed to employ the same logic to a different challenge—that of enhancing memory in a model of cognitive aging (in rats), and in older individuals (in humans). The logic is simple: by taking advantage of a selective and timely window of opportunity in memory instability, we can maximize our ability to manipulate encoded information and improve performance.

We are pleased to report that our experiments are currently underway, and have already yielded some encouraging results. 1. We have validated a model of cognitive impairments in rats. 2. Our preliminary results suggest that our cue-retrieval (experimental) group may help minimize memory deficits after injury. 3. The cue-retrieval manipulation in controls leads to differences in the ability to learn a new problem in control (no injury) subjects. Looking further into this effect should prove important in understanding how we can further use the cue-retrieval paradigm to improve outcome.

We have harvested the brains used in the experiments described above, and will examine them to identify possible brain mechanisms underlying group differences. Doing so will also help guide our next experimental steps. We are extremely grateful to the DK Royal Foundation for their continued support.

Sincerely,

A handwritten signature in black ink, appearing to read "M.H. Monfils".

Marie-H. Monfils, PhD
Associate Professor, University of Texas at Austin

DK Royal Report:

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