

**Patterns of Performance: Implications for The Rey Auditory Verbal Learning  
Test.**

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This Dissertation is presented in Partial Fulfillment of the Requirements for the  
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I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary educational institution.

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## ABSTRACT

Three studies investigated patterns of performance as demonstrated by the serial position on the Rey Auditory Verbal Learning Test (RAVLT). Patterns of performance were explored in a sample of genuine traumatic brain injured subjects who were litigating (TBI-LIT; N = 22) and compared to a sample of genuine traumatic brain injured subjects who were not in litigation (TBI-NONLIT; N = 22). Comparisons were also made to a sample of subjects who were depressed but not neurologically compromised (PSY-DEP; N = 24). Results demonstrated that when time for loss of consciousness was controlled for, no difference existed between the litigating and non-litigating groups on any serial position. With this in mind the TBI-LIT and TBI NON-LIT groups were collapsed to form one traumatic brain injured group (TBI; N = 44). Patterns of performance were then compared between the TBI group, the PSY-DEP group and a normal control (NC; N = 68) group. No differences were demonstrated between the TBI and PSY-DEP groups on any serial position however, the NC group demonstrated significantly different primacy effects than the TBI group and significantly different recency effects than both the TBI and PSY-DEP groups (Study 1). Patterns of performance relative to the serial position were also compared in a group of Alzheimers Disease (AD; N=20) and dementia (DEM; N=20) subjects. Results indicated that the DEM group demonstrated a greater primacy effect than the AD group with both groups demonstrating a greater recency effect when compared to the primacy effect but no significantly so. Patterns of performance was also explored in a group of Huntington's Disease subjects (HD; =14) with this group demonstrating a significantly reduced primacy effect as compared to a recency effect (Study 2). In the third study patterns of performance

were compared in a group of subjects having sustained frontal lobe (FL; N=21) and posterior lobe (PL; N=21) lesions to the brain. Subjects with PL lesions demonstrated a significantly greater primacy effect as compared to the FL group with both groups demonstrating a reduced recency effect. Comparisons were also made between the PL and FL groups with normal control groups (FL-NC; N = 21; PL-NC; N = 21) and results indicated that the FL group demonstrated a significantly reduced primacy and recency effect when compared to the normal control group. When comparisons were made between the PL and a normal control group, the PL group demonstrated a significantly reduced recency effect as compared to normal controls. Patterns of performance were also explored in a small sample of subjects with diffuse (DIFF; N=6) damage to the brain and results demonstrated that this group displayed a reduced recency effect as compared to the primacy effect (Study 3). Overall, when examining the serial position effects across all experimental groups, subjects who had sustained a traumatic injury to the brain or who were depressed all demonstrated a greater primacy effect as compared to the recency effect by recalling more words on that position. This contrasted the pattern of performance which emerged with various dementing processes where more words were recalled in the recency position as compared to the primacy position. Results for all studies were analyzed using MANOVA followed by the Sheffe procedure.

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**DEFINITIONS OF ABBREVIATIONS USED**

<b>Traumatic Brain Injured</b>	<b>TBI</b>
<b>Traumatic Brain Injured Litigating</b>	<b>TBI – LIT</b>
<b>Traumatic Brain Injured Not Litigating</b>	<b>TBI – NONLIT</b>
<b>Psychiatric Depressed</b>	<b>PSY – DEP</b>
<b>Normal Control</b>	<b>N/C</b>
<b>Neurosciences Unit</b>	<b>NU</b>
<b>Alzheimers Disease</b>	<b>AD</b>
<b>Huntington's Disease</b>	<b>HD</b>
<b>Dementia</b>	<b>DEM</b>
<b>Frontal Lesions</b>	<b>FL</b>
<b>Posterior Lesions</b>	<b>PL</b>
<b>Frontal Lesions Normal Control</b>	<b>FL – N/C</b>
<b>Posterior Lesions Normal Control</b>	<b>PL – N/C</b>
<b>Mild Traumatic Brain Injury</b>	<b>MTBI</b>
<b>Glasgow Coma Scale</b>	<b>GCS</b>
<b>Closed Head Injury</b>	<b>CHI</b>
<b>Control</b>	<b>C</b>
<b>California Verbal Learning Test</b>	<b>CVLT</b>

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