

COMPARISON OF PERFORMANCE INTENSITY FUNCTION USING HEARING IN NOISE TEST AMONG YOUNG ADULTS AND ELDERLY WITH NORMAL HEARING

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The purpose of this study was to compare the reception threshold for sentences (RTS) and the Performance Intensity (PI) function among young adults aged between 21 to 39 years old and elderly aged 60 to 74 years old, using the Hearing in Noise Test (HINT). This study also measured the correlations between RTS and three frequencies pure tone average and between RTS and recognition score at suprathreshold level. Forty subjects consisted of 20 young and 20 elderly adults with normal hearing participated in the study. RTS and PI function were measured using HINT in four conditions; in quiet, noise front, noise right and noise left. Performance intensity functions (PI) were plotted based on percentages of correctly repeated sentences and words at five SNR levels. Results of this study showed that young adults had significantly lower RTSs than elderly in all HINT test conditions ($p < 0.05$). Comparison of PI function based on sentence score of the two groups showed that young adults had significantly greater gradients than the elderly in noise front and noise right conditions ($p < 0.05$), but not in noise left condition. On the other hand, the differences in gradient based on words scores were significant in all noise conditions ($p < 0.05$). Correlation result showed that there was significant positive relationship between three pure tone frequency averages with RTS ($p < 0.05$). Correlation also showed that there was significant negative relationship between RTS and suprathreshold in noise front and noise right conditions ($p < 0.05$). These findings suggest that age factor influence individual speech recognition and performance whereby the elderly showed poor performance than young adults. Better PTA is associated with better ability to recognize speech in noise, whereas, better RTS is associated with better speech recognition performance at suprathreshold level.

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