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The effects of age of acquisition and word frequency on object naming accuracy in Alzheimer's disease

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Background

In this study, we constructed a 60-item picture set, comprising pictures that are culturally appropriate for the Greek population, which varied age of acquisition (AoA) and frequency in a fully-factorial design. Our main aim was to the effects of the above-mentioned factors on object naming accuracy in Alzheimer's disease.

Materials and methods

Values of written word frequency, rated AoA, rated concept familiarity, name agreement and word length were obtained for each item; it was found that almost all of them showed significant inter-correlations. The pictures were classified in four categories: a) early acquired-high frequency items, b) early acquired-low frequency items, c) later acquired-high frequency items and d) later acquired-low frequency items. The picture set was presented to 55 patients suffering from dementia of Alzheimer's type (DAT) in order to examine the possible effects of word frequency and AoA on their naming accuracy, with several potentially confounding factors being accounted for.

Results

We found that their naming accuracy was affected by both word frequency and AoA, and further that there was an interaction between the two variables, with the frequency effect being larger for the early acquired words.

Discussion

To our knowledge, we are the first to report such a finding. This result could be attributed to the fact that previous studies have used heterogeneous groups of aphasic patients and hence, patterns of performance specific to DAT may have gone unnoticed; yet, the possibility of additional language-specific effects cannot be excluded.

References

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