

IMPLICIT AND EXPLICIT MEMORY FORMATION: INFLUENCE OF GENDER AND CULTURAL HABITS

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INTRODUCTION

Memory of past experiences can be experimentally assessed by direct or explicit recollection tests and by indirect or implicit retrieval tests; the latter do not require conscious recollection, or awareness of the nature of the memory probe.

A widely used task to explore implicit memory is the word stem-completion test (WSCT). WSCT consists in presenting the subject with a list of words; after a time interval the initial three letters stem of each word of the list are given and the subject is required to complete the stem with the first appropriate word that comes to mind. The test is based on the fact that implicit memory for items can be only inferred from changes in the efficiency or probability that an item is reproduced or elicited by appropriate cues at test. Thus, the exposure to a list of words facilitates subsequent identification of the words when the corresponding stems are provided (e.g. stem *ele__* for the word *elephant*). The facilitation is indicated by completion-responses corresponding to the target-words; it is referred to as priming effect and the rate of correct responses, that estimates the magnitude of the effect, represents the priming score (17).

It can be argued that priming score of WSCT may be inflated by false-positive responses, that is, correct stem-completions occurring by pure chance, as in the case of target-words with a high probability of coming to mind to complete the stem, independently of previous exposure. In order to hinder false-positive responses we selected the targets of WSCT according to probabilistic criteria fully described elsewhere (Lorenzi et al. submitted). In short, we collected potential completion-words of each experimental stem (22 stems, 25 different words per stem on average) and computed the frequency and order of occurrence of each word across the population. These measures provided an index of probability that estimates the likelihood of each word to be the said for completing the stem in absence of memory cues. The target of each experimental stem was chosen among the potential completions with a medium/low probability of occurrence, and corresponded to the word that most complied with the semantic and phonetic constraints suggested by literature of WSCT.

The primary goal of present work was to compare the implicit and explicit memory performance of control subjects with that of patients scheduled for surgical oper-

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