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Melissa L. Mitchell

Illinois Wesleyan University

Johnna K. Shapiro, Faculty Advisor

Illinois Wesleyan University

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AGE-RELATED DIFFERENCES IN KNOWLEDGE REPRESENTATION: A TEST OF THE INHIBITION-DEFICIT HYPOTHESIS

Melissa L. Mitchell, Dept. of Psychology, IWU, Johnna K. Shapiro*

In recent years, several age differences in cognitive processing have been documented. Age-related deficits in the areas of selective attention, memory and reading comprehension have been demonstrated empirically. One explanation for these differences is the inhibition-deficit hypothesis, which states that problems in cognitive tasks arise from an inability to suppress irrelevant information. This "inhibition deficit" appears to develop with age. The older individual may then become distracted or pay attention to stimuli which are not helpful to the task at hand. This hypothesis has received support in several empirical studies of simple cognitive tasks such as attention and sentence completion (e.g., Hartman & Hasher, 1991, Hasher, Stoltzfus, Zacks & Rypma, 1991). The current study attempted to test this hypothesis in the area of knowledge representation, using a more complex cognitive task. An associative priming task was used to determine subjects' reactions to word pairs. This allowed an investigation of the structure of word knowledge as it exists in memory. Some of the word pairs were highly associated (ACORN-SQUIRREL), some weakly associated (BLENDER-KITCHEN) and some unrelated (CRADLE-LETTER). Words were presented very briefly, one after the other and the subjects were asked to decide whether the second member of the pair was a word or a non-word. This priming paradigm assumes that in highly associated pairs, the presence of the first word will decrease reaction time to the second word. This supposedly occurs through a spread of activation between the words in memory. If a lack of inhibition exists, activation would continue to spread unchecked and reaction time would be equally fast to highly and weakly related word pairs. According to the inhibition-deficit hypothesis, older subjects would show no differences in reaction time, while younger subjects should react faster to highly associated words. Preliminary findings will be presented and discussed.