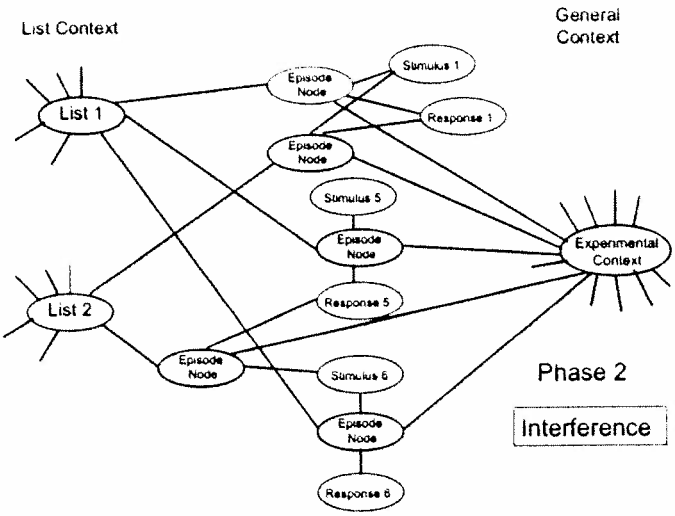

Figure 14.8 Stimulus and response model. Adapted from Reder et al. (2007).

human memory system, both for individuals with memory deficits and for those with normally functioning systems. Memory studies employing midazolam can elucidate the roles of different aspects of the memory process, while defining which aspects are specifically targeted and spared by anterograde amnesia. The drug's focused impairment of binding (i.e., association formation) can make it especially useful for a range of experimental tasks.

The controlled administration of midazolam to create anterograde amnesia in experimental settings can be particularly useful to test various hypotheses concerning memory functioning. It is also potentially useful for isolating the brain regions that appear to be essential for memory function by combining the use of the drug with neuroimaging. By using midazolam, subjects can serve as their own controls, and we can study the same brain with and without anterograde amnesia, thus eliminating the individual differences that make it difficult to study patients with organic amnesia. The examples presented demonstrate how midazolam can be used to specifically investigate current issues in the field of memory research.

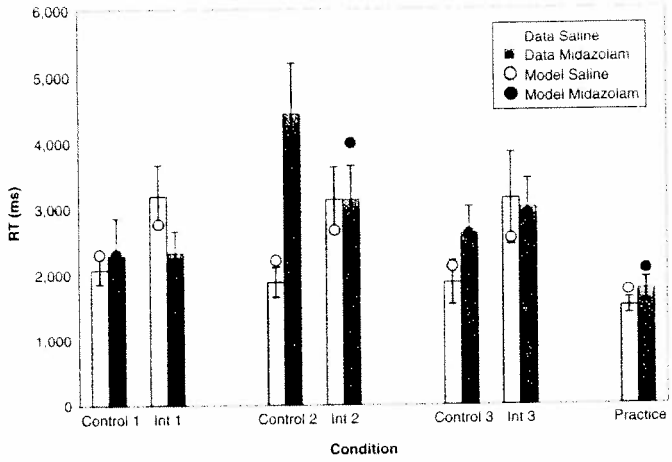

Figure 14.9 Model fits for final test response time as a function of drug condition, type of pair, and list. Reproduced from L. M. Reder et al., Retrograde facilitation under midazolam: The role of general and specific interference. *Psychonomic Bulletin and Review*, 2007, *14*(2), 261–269.

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