

## The Roles of Representations in Selection

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Attention research in Taiwan began with a study on attention breadth. As a growing number of cognitive psychologists contribute to the field over the past decades, the research topics have become diversified. Researchers in Taiwan have begun studying the mechanisms of selection in perception, memory, and decision processes. On the roles of representations in selection, we reviewed Taiwan's research in two domains: the influence of representation characteristics on selection, and the interaction between representations and top-down control. For the first domain, we reviewed three topics: the impact of emotional representation on selective attention, the influence of working memory representation on selective attention, and the effect of relative feature strength on the selection for perceptual decision. For the second domain, we reviewed three topics: the interaction between selective attention and visual working memory, representation competition and inhibition, and the locus of selective attention. Evidence from these studies showed that selection dynamically and flexibly operates according to the characteristics of stimulus representations that elicit bottom-up competition and behavior goals that activate top-down control under the constraint of resource limitation. Selection occurs continuously at multiple levels in multiple mechanisms. Thus, theoretical research should systematically investigate the contingency that selection operates in various contexts. Future research may integrate neuroscience methodology to investigate how selection operates as a function of individual differences, experimental contexts, and the task demand on cognitive processes. Future research may also uncover interlinks among selective attention, working memory, and consciousness.

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