

A study lays the foundations to distinguish the different human ways for paying attention

Published: Wednesday, June 25, 2008 - 10:08

Is it possible to compensate attention problems through other attention ways? Does it produce the same effects to direct someone's attention in a voluntary (endogenous) or in an involuntary way (exogenous)? These are the questions answered by a research work of the [Department of Experimental Psychology and Behaviour Physiology](#) of the [University of Granada](#) carried out by doctor **Ana Belén Chica Martínez**, and supervised by Professor **Juan Lupiáñez Castillo**. The study of attentional orientation carried out by the [UGR](#) researchers is especially relevant for the rehabilitation of patients with attention disorders, as well as for attention training in healthy children, children who suffer attention deficits (hyperactivity), and in anyone normal aging. In the case of attention-deficit hyperactivity disorder, different recent studies point out that it affects more than 4% of the schoolchildren, which proves the importance of the work carried out by the [UGR](#).

How does our attention orientate?

The results of this research work contribute to the knowledge of the cerebral data related to attentional orientation and specify some of the conditions in which systems act in an independent way or interact with each other. Some of our results have changed the traditional conception on how attention orientates in an endogenous or exogenous way and on how such attentional capture depends on the demands of the task carried out by participants, explain the scientists of the [University of Granada](#).

Our attention can orientate to such relevant information according to the person's goals or purposes, which we know as endogenous or voluntary attentional orientation. However, stimuli can also attract our attention due to their potential danger, which we know as exogenous or involuntary attentional orientation. The work carried out at the [UGR](#)

has proved for the first time that both systems can produce effects in an independent way, without any interaction. This is: Even when we are paying attention voluntarily to a specific question, there can be typical effects of attention involuntary capture. These data support other hypothesis such as that the two types of attentional orientation are two differentiated attentional systems.

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Professors have observed that endogenous attention can increase the effect caused by exogenous attention, even producing effects that endogenous attention would not produce by itself. The results of this research have been published in different journals such as *Psicothema*, *Journal of Cognitive Neuroscience*, *Cognitive Neuropsychology* or *Experimental Brain Research*.

Source: [Universidad de Granada](#)

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