

# DIFFERENT RESEARCH PROGRAMS ON METACOGNITION: ARE THE BOUNDARIES IMAGINARY?

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**ABSTRACT:** This commentary asks whether the term “metacognition” means different things to researchers working in different subareas of cognitive and developmental psychology or whether they are just studying different aspects of the same underlying construct. The four articles in this special issue seem to be addressing phenomena that frequently share little except a label. Some of the phenomena that are called metacognitive necessarily involve conscious processing; however, other phenomena addressed in this issue, such as self-regulating behaviors, are typically executed without conscious awareness.

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The goal of this special issue, in the words of its editor to the contributors, is to:

“...bring together different research programs on metacognition in a common forum. Far too often, the literature on metacognition is unnecessarily compartmentalized with the result that the reader finds it difficult to gain an adequate appreciation of the many sides of metacognitive research and their relevance to one another. In my opinion, we should strive to eliminate these imaginary boundaries—my hope is that this issue will serve as a starting point.”

This is indeed a laudable and potentially important goal when one considers the wide variety of subdisciplines that have chosen to study metacognition. Given that the articles in this collection are so varied in content, it is useful to clarify what is meant by the term metacognition in each paper. Clearly if metacognition is to be studied by people in many different sub-disciplines, there is a need to understand what is common in their approaches. Are the sub-disciplines within metacognition more related than other sub-disciplines in cognitive and developmental

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psychology? It is important that we understand whether and how these groups' definitions of metacognition differ. Perhaps the most basic question concerns whether there exists a unified construct that underlies the various approaches to the study of metacognition.

The four articles in this issue discuss different topics but share an interest in metacognition, learning and individual differences. The connotations or denotations of metacognition expressed across and within these articles include cognition about cognition, theory of mind, beliefs and desires, and the monitoring and control of cognitive performance and activities, such as strategy selection. Bartsch and Estes are concerned with individual differences in children's development of theory of mind. Alexander and Schwanenflugel discuss the development of metacognitive concepts and thinking in gifted and nongifted children. Winne discusses individual differences in self-regulated learning. Kaszniak and Zak discuss the neurobiologic correlates of metamemory, focusing on deficit-awareness in patients suffering from amnesia and dementia.

What seems common to all of these views is that they assume that normal metacognitive functioning involves a conscious awareness of a set of mental activities. It is not clear to me, however, that the phenomena that these authors explore are, in fact, different facets of the same general construct. In the following commentary I suggest that metacognition not only means different things to these different groups, but that in some cases these distinctions are mutually exclusive.

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### **DISSOCIATIONS BETWEEN METACOGNITION AND COGNITION.**

In discussing the neuropsychology of metamemory, Kaszniak and Zak emphasize the dissociations between impairments that could be classified as either metacognitive or basic cognitive. If metacognition means self-knowledge about one's own cognitive functioning, as has been suggested by others (e.g., Flavell 1979; Metcalfe & Shimamura 1994), then patients with a certain class of deficit can be said to have damage to that region of the brain that supports metacognition. The region that appears to be implicated is the frontal lobes. Their finding of anosognosia, that some patients are totally oblivious to their neurological deficits yet seem ready to admit other shortcomings, is both intriguing and compelling for the view that these processes are independent. The implication of the frontal lobes in metacognitive processes is bolstered by evidence from Janowsky, Shimamura, and Squire (1989), who find impairment in metacognitive judgments such as feeling of knowing for non-amnesics who also have focal frontal lobe damage. They focus on clinical populations suffering from amnesia and dementia and provide evidence that there is a separate part of the brain that supports metacognitive functioning.

Kaszniak and Zak were concerned about establishing the validity of dissociations across clinical impairments in order to implicate certain brain structures as

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