

# **Animal models in neuropharmacology: an ethological perspective**

Eleni Konsolaki

Deree-The American College of Greece, Greece

Animal models are widely used in experimental pharmacological protocols in order to study drug effects on neural function underlying specific behaviors. This is the reason why the protocols include behavioral experiments to assess the performance of the animals in several cognitive or mobility tasks. These preclinical studies are important in the development of drugs for the treatment of neuropsychiatric disorders. However, translational failure continues to be a challenge for the neuropharmacological field as the results of these early phase studies fail to predict the results of phase III or randomised clinical trials. The present study proposes a novel approach for the successful transition from animal studies to the clinic: the measurement of ecological variables even in demanding behavioral tasks. One characteristic of the behavioral experiments is the simultaneous recording of various variables during only one behavioral task. Statistical significant differences between experimental and controls groups are then reported and terms such as “anxiety-like” or “depression-like” are used in order to interpret the behavioral performance based on the similarity with the human behavior/symptoms. We suggest that following the ethological perspective we tend to avoid vague categorization and we may overcome the potential impediments of translational failure. We compared C57Bl/6J mice behavioral task performance in the literature with and without ecological variables either measured in species-specific behavioral tasks or in cognitive tasks (as qualitative variables) and we found completely different behavioral phenotypes. Our study sheds light on the crucial role of ecological variables and how they may alternate behavioral data interpretation.

## **Biography**

Dr. Eleni Konsolaki is a psychologist with expertise in the biological basis of cognitive functions. After two master's degrees in cognitive science and statistics, she received her PhD in neuroscience from the Biomedical Research Foundation of the Academy of Athens (in collaboration with the University of Athens). Her work which has been supported by Onassis and Propondis Foundations and the Foundation for Education and European Culture has been published in peer-reviewed journals and awarded from the University of Athens. At present, she is instructor at Deree-The American College of Greece and external collaborator of the University and TEI of Athens.