



Editorial note. Introduction to the Special Issue “Brain and Behavior: A Neuroscientific / Psychophysiological Approach”, in honor and memory of Prof. Jesús Gómez Amor[†]

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Título: Nota editorial. Introducción al tema monográfico “Cerebro y conducta: un enfoque neurocientífico/psicofisiológico”, en honor y recuerdo del Prof. Jesús Gómez Amor[†].*

Resumen: Nota editorial en la que se presenta el monográfico y se hace un breve comentario de los artículos que lo componen.

Palabra clave: Cerebro y conducta. Psicobiología. Psicofisiología. Diferencias individuales. Ciclo menstrual. Actividad electrodérmica.

Abstract: Editorial note in which the special theme is presented and a brief comment is made on the articles that compose it.

Keywords: Brain and behavior. Psychobiology. Psychophysiology. Individual differences. Menstrual cycle. Electrodermal activity.

First of all, we want to thank *Annals of Psychology* for the opportunity to publish this special issue dedicated to the memory of our dear friend and colleague, Prof. Jesús Gómez Amor. This year is the fifth anniversary of his passing, and it is an honor to take the opportunity to highlight his important contributions to Psychology. Throughout his career, Jesús played several salient roles that had a clear impact on Spanish Psychology. Many of these contributions were recognized in 2016 at different levels (Conference of Deans of Spain, University of Murcia, Faculty of Psychology and Colegio Oficial de Psicólogos both in the Murcia Region and in the Consejo General de la Psicología de España). In all these different contexts, Jesús undertook and carried out important initiatives that clearly influenced the development of Psychology in our country.

In this issue, it is our aim to gather papers from several research teams that collaborated with Jesús in different stages of his career. Jesús initiated his research in the field of Psychobiology at the University of Murcia, writing his doctoral thesis (1987) under the supervision of Prof. Jose M. Martínez Selva. At that time, this group was working on Psychophysiology, employing several traditional and important autonomic measurements, such as Electrodermal Activity (AED) techniques. In 1990, Prof. Gomez-Amor managed to consolidate a research line on *Psychophysiology of Individual Differences: Menstrual Cycle and Physical Exercise*. Jesús always showed a clear interest in using care and rigor in these studies, as well as in the methodological details. His laboratory studies extended to applied topics and social effects of messages. Later, he initiated a fruitful research collaboration with the Psychobiology of Stress group at the University of Valencia, especially contributing his expertise on the menstrual cycle, and he also participated in developing the neuroendocrine and autonomic measures previously employed.

For those of us who were lucky enough to work with him, it is clear that Psychophysiology was his research pas-

sion. This special issue, in a certain way, follows and collects some studies from the main research lines in which he was immersed. For all these reasons, we wish to express our gratitude to the contributors to this special issue, titled "Brain and Behavior: a neuroscientific approach". The monograph consists of eight articles, all of them focusing on topics from the research lines Jesús investigated. Below, we will briefly outline the main contributions of the articles included.

The work by Henrique Sequeira, P. Deren and B. Maitte entitled "*The Early days of Electrodermal activity*" takes us on a wonderful historical journey until reaching the current concept of one of the most important neurophysiological indices of emotional and cognitive functions, AED. Today, AED is one of the most useful indicators of physiological activity due to its high sensitivity to any content with specific meaning for an individual. For more than a century, this measure was used as a tentative neural index to measure cognitive and emotional functions in healthy and pathological individuals. However, over the years, its extensive use in animals (Sequeira et al., 1995) and its widespread use among neuromarkers in the field of Neuroscience sparked the authors' interest in elucidating and understanding the first stages of the AED technique.

In the article authored by Francisca González, Juan Ramón Ordoñana, and Jesús Gómez Amor entitled "*A psychophysiological approach to fear appeals. Autonomic, subjective and behavioral responses to health promotion messages*", a study was designed to analyze the psychophysiological, subjective, and behavioral responses to fear appeals. Throughout history, the use of threatening messages directed to the population has been a means to induce adherence to recommended behaviors. However, the effectiveness and efficacy of this strategy remains controversial (Fishbein & Ajzen, 2010; Ooms et al., 2017). Many theoretical models have been proposed in recent decades to address the question of why this communication strategy sometimes fails and other times seems to be successful, seeking a model that provides a theoretical framework that fosters research and serves as the ba-

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sis for a large number of empirical studies (Chen et al., 2019; Keller et al., 2017).

The article by Laura Espín, Alicia Salvador, and Jesús Gómez Amor, "*Autonomic, Hormonal and Subjective responses to a modified version of the TSST: a pilot study*", is an example of collaboration in the research on the Psychobiology of Stress and its effects. The authors present the results of a pilot study evaluating the heart rate, AED, cortisol, and affective responses to a modified version of a widely used laboratory stressor, the Trier Social Stress Test (TSST, Kirschbaum et al., 1993). To date, several variations of the TSST protocol have been used with inconsistent results. This paper aims to recognize the key contribution of Prof. Jesús Gomez Amor, at conceptual and methodological levels, to improving the assessment of the sympathetic system during the TSST. For this purpose, this study made adaptations in the protocol in order to add AED measures and highlight the importance of sexual differences in the evaluation of the psychophysiological response in experimental situations, taking into account the different phases of the menstrual cycle. In all these aspects, Jesús's contribution was essential.

The article by Marcos Mirete, Sergio Molina, Carolina Villada, Vanesa Hidalgo and Alicia Salvador entitled "*Subclinical social anxiety in healthy young adults: Cortisol and subjective anxiety in response to acute stress*" focuses on determining the cortisol response and subjective anxiety in young people with social anxiety who were presented with an acute psychosocial stressor, the Maastricht Acute Stress Test (MAST; Smeets et al., 2012). Social anxiety is one of the most prevalent subclinical psychopathological manifestations in adolescents and young adults. It is characterized by intense fear and/or avoidance of situations where an individual is fearful of a negative social evaluation (Inglés et al., 2008; van Peer et al., 2010). Regarding the studies carried out, there is considerable inconsistency in the results obtained, and it is therefore important to obtain more evidence in order to draw more decisive conclusions about the response pattern to psychophysiological stress in individuals with social anxiety.

The work by Alejandro Lozano-García, Judit Catalán, Kevin Hampel, Vicente Villanueva, Esperanza González-Bono and Irene Cano-López entitled "*Cardiovascular response to stress in patients with drug-resistant epilepsy: preliminary data*" studied the cardiovascular response to a cognitive stressor and a neuropsychological evaluation in patients with epilepsy, exploring the relationships between cardiovascular response and cognitive performance depending on the hemisphere responsible for epilepsy. The work opens up a new field because few studies have been carried out with this type of population, and it highlights the possible clinical implications from a preventive perspective, providing novel information for future research with this population.

The paper by María del Pino Sánchez López, Francisco Román Lapuente and María José García Rubio entitled "*Verbal fluency in school-aged Spanish children: analysis of clustering and switching organizational strategies, employing different semantic categories and letters*" focuses on investigating the use of organizational strategies, grouping, and change in semantic and phonological fluency in healthy Spanish children divided into two age groups. The authors evaluate what types of strategies modulate verbal fluency performance in these two age groups.

The article by Juan Pedro Sánchez Navarro, Jose M. Martínez Selva, Vladimir Kosonogov, Eduvigis Carrillo-Verdejo, Sara Pineda and Ginesa Torrente entitled "*Threat cues and attentional bias in blood-injection-injury phobia and snake phobia*" evaluates the electrocortical activity in subjects with specific phobias. Some types of phobias, such as blood-injury-injection phobia (BII), are known to differ from other specific phobias in the reactions provoked by the phobic stimulus at both peripheral and central levels (Sánchez-Navarro et al., 2018; Sarlo, et al., 2011). The authors address the cognitive and emotional mechanisms underlying these types of phobias, highlighting their clinical relevance for future research.

Finally, the paper by Alba Fernández, Susana Cid-Fernández, and Fernando Díaz entitled "*Transcranial direct current stimulation (tDCS). An effective tool for improving episodic memory in young people?*" examines the complex task of transcranial stimulation by direct electrical current, applied in healthy young people during the coding phase of an episodic memory task, on the hit rate and reaction time measured in the immediate and delayed recall phases of the task. The authors show the potential usefulness of the protocol and propose its use with healthy older participants or patients with mild cognitive impairment.

We hope readers enjoy the different topics addressed in each of the articles, all within the extensive field of Neuroscience. Today we can state that Neuroscience offers fundamental support to Psychology to better understand the complexity of mental functioning, trying to unravel the way the brain's activity is related to the psyche and behavior, and revolutionizing the way we understand our behaviors. Moreover, Neuroscience helps to understand how we learn to live in a healthy way, how our brain stores information, and which biological processes facilitate this learning. In this field, the contributions of Jesús Gomez Amor played a very important role, and his way of working with dedication and generosity in cooperation with other researchers was an example to all of us that we will hold in our memories and hearts with gratitude.

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