

What is Psychology: Mind, Brain & Behavior

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The podcast from Radiolab on the topic of sleep was an engaging discussion involving experts in the field of psychiatry and neurobiology. The three experts are part of a wider scholarship on research into a sleep from the cellular level to the clinical setting. The almost universal observation of sleep in the animal kingdom has led researchers to conclude that sleep is an evolutionarily conserved function and key to survival. For example, Dr. Pack from the University of Pennsylvania described his research into mice models deprived of sleep (Radiolab, 2007). At the cellular level, deprivation of sleep contributed to the incorrect folding of key cellular proteins. These cellular disruptions have been shown to impact physical and mental health adversely. Such research observations are part of a broad empirical effort to understand better sleep and how it functions to maintain well-being. Podcast platforms such as Radiolab are important mediums for researchers to communicate their findings to the public, including on psychologically complex subject matter such as sleep.

The podcast on sleep delved into experts' analyses on sleep gleaned from various settings, taking the audience through an engaging, scientifically sound description of what sleep is for and why it is necessary for human development, learning, and identity. Dr. Julio, a professor of psychiatry from the University of Wisconsin, explained that sleep is a critical function that researchers such as himself feel is responsible for organizing an individual's capacity to learn, develop and engage in society (Radiolab, 2007). Increasingly, the evidence suggests that sleep helps to bridge the gap between biological and psychological influences, to modulate behavioral and process outcomes. For example, time spent during the day learning the guitar triggers novel neural pathway connections that sleep is designed to reconcile. Dr. Julio describes a wave of slow oscillations that pass through the brain at night that soften newly-

formed synaptic connections, reducing the signals that are not important and allowing for cognitive space for aspects considered important. Thus, learning the guitar does not occur overnight; sleep eliminates background signals and connections formed daily to provide the cognitive space to focus on desired behaviors and development.

Similar to the podcast on sleep, the Radiolab episode “When Brains Attack!” is an attempt by the hosts to delve into the complexity of the human brain and its role in shaping identity, development, and behavior. Bringing on guests to discuss their varied experiences helps the audience understand the complex psychological manifestations that can alter lived realities (Radiolab, 2012). The examples of the young child experiencing his voice as not his own and the researcher who went through a complex mental health condition were engaging stories (Radiolab, 2012). They revealed that the functioning the human brain as part of a biopsychosocial reality could be starkly different and unique for every individual. Indeed, the interplay between the brain's biological functioning, the psychological influences of every individual, and the sociocultural context means the experiences of human beings are complex and rich in subjectivity. Furthermore, unlike the young child and researcher's examples, biological alterations to brain architecture can sometimes lead to extraordinary abilities. This was a vastly engaging portion of the second podcast, where an athlete described her experience of overcoming adversity despite the massive risk associated with altering so significantly the structure of the brain.

The two podcasts on Radiolab are excellent examples of advancing public knowledge on the neuroscience, cognitive and behavioral aspects of psychology. Sleep is discussed by experts who describe it as essential for neural development, cognitive functioning, and shaping identity. The second podcast delves into the extraordinary experiences of individuals faced with adversity

that altered the architecture of their brains. The behavioral, cognitive, and sociocultural outcomes of their experiences speak directly to the complexity of psychological concepts and attempts at understanding human beings.

References

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