

## **Internet Addiction**

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### **1. INTRODUCTION**

With the introduction of new technologies, computer and internet use have become an unavoidable necessity in our daily lives. Internet was originally designed to facilitate communication and research. However the dramatic increase in use of internet in recent years has led to its pathologic use. In the past decade, research has increased suggesting that excessive Internet use can lead to the development of a behavioral addiction. Internet addiction (IA) has been considered as a serious threat to mental health and the excessive use of the Internet has been linked to a variety of negative psychosocial consequences [1]. Although in DSM-V, there is not a category such as internet addiction, internet gaming addiction has been included in the appendix of the DSM-V, with a goal of encouraging [2]. Recently, there has been increasing interest in investigating the neurobiological mechanisms of IA using neuroimaging. Neuroimaging studies offer an advantage because with this method, it is possible to distinguish particular brain areas that are involved in the development of addiction. Understanding the neural basis of poor impulse control in IA is important for understanding the neurobiological mechanisms of this syndrome, because IA is growing both in prevalence and within the public consciousness as a potentially problematic disorder.

### **2. RESULTS AND DISCUSSION**

Altered activity in brain areas associated with reward, motivation, memory, and cognitive control has been associated with addiction. These neuroimaging studies have revealed lower gray matter density [3], reduced orbitofrontal cortical thickness [4], abnormal white matter fractional anisotropy (FA) [5], impaired brain activity [6,7], and decreased functional connectivity [8] in individuals with IA. Most of the previous literatures have studied IA individuals only under resting state, verified structural and functional abnormalities in the OFC, dorsolateral PFC, ACC, and PCC. Those regions may play crucial roles in salience attribution, inhibitory control, and decision making. The neuroimaging findings suggested that the IA shared the similar neurobiological mechanisms of substance addiction and behavioral addiction [9].

### **3. CONCLUSION**

In conclusion, understanding the neuronal correlates associated with the development of Internet and playing online games addiction, will promote future research and development of addiction treatment approaches. In terms of clinical practice, increasing our knowledge about the pathogenesis of Internet and gaming addiction is essential for the development of effective treatments. These include psychopharmacological approaches that target Internet and gaming addiction specifically on the level of biochemistry and neurocircuitry, as well as psychological strategies, that aim to modify learned maladaptive cognitive and behavioral patterns. Longitudinal design and multiple imaging techniques with behavioral measurements should be necessary to improve our understanding of IA.

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