

Comparison of Impulsivity Trait in Males and Females: Exploring the Sex Difference in Impulsivity

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Abstract : Impulsivity is raising major interest clinically because it is associated with various clinical conditions such as delinquency, antisocial behavior, suicide attempts, aggression, and criminal activity. The evolutionary perspective argued that impulsivity relates to self-regulation and it has predicted that female individuals should have evolved a greater ability to inhibit pre-potent responses. There is supportive evidence showing that female individuals have better performance on cognitive tasks measuring impulsivity such as delay in gratification and delayed discounting mainly in childhood. During adolescence, brain imaging studies using diffusion tensor imaging on white matter architecture indicated contrary to the evolutionary perspective hypothesis, that young adolescent male individuals may be less vulnerable than age-matched female individuals to risk- and reward- related maladaptive behaviors. In adults, the results are mixed presumably owing to hormonal effects on neurobiological mechanisms of reward. Consequently, female individuals were less impulsive than male individuals only during fertile stages of the menstrual cycle. Finally, there is evidence the serotonin (5-HT) system is more involved in the impulsivity of men than in that of women. Overall, there seem to be sex differences in impulsivity but these differences are more pronounced in childhood and they are later subject to maturational and hormonal changes during adolescence and adulthood and their effects on the brain, cognition, and behavior.

Keywords : impulse control, male population, female population, gender differences, reward, neurocognitive tests

Conference Title : ICPPNBCS 2016 : International Conference on Psychology, Psychiatry, Neurological, Behavioral and Cognitive Sciences

Conference Location : Barcelona, Spain

Conference Dates : February 15-16, 2016