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Case study : Project STREET WISE

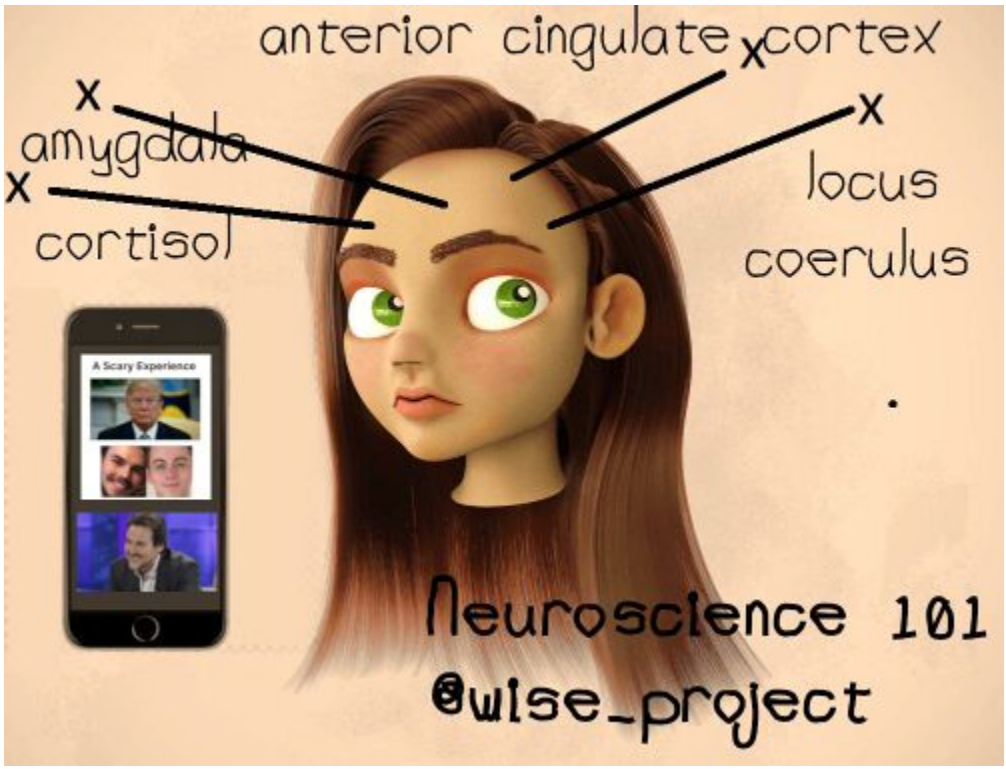
Introduction

Significance of problematic smartphone use 

Problematic smartphone use [1] is a highly serious and emerging public health emergency [2] most severely affecting

the central nervous system (CNS) of adolescents and young adults with excessive/abusive smartphone use patterns. [3][4]

Method



Artistic illustration of problematic smartphone use (PSU). Credit: Jack Bortone Lab

Offline and online (Twitter) data collection

1. Most of this observational research study data has been handwritten into a notebook (with a handwriting stylo) when finding something valuable to write and think about. Online research is usually based from NCBI (https://www.ncbi.nlm.nih.gov/) via startpage.com (https://startpage.com).

2. Our Twitter (https://twitter.com/wise_project) profile is mainly used for data collection and reporting of related research news.

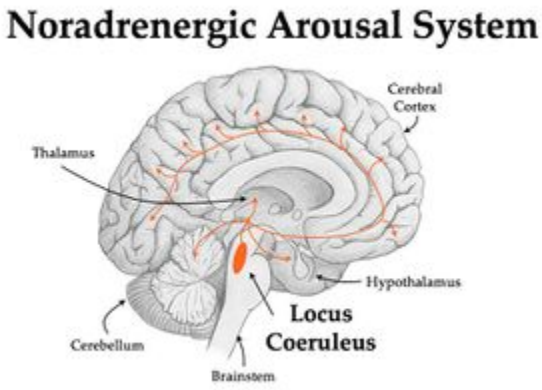
3. The web browsing client used for data mining is modified Firefox ("superhornet revision A1") engine running on a Linux desktop computer. (AMD).

Results

Novel sex-dependent neurological vulnerabilities associated to problematic smartphone use (PSU)

1. We found reliable evidences [5][6] of sex-dependent vulnerabilities [7][8][9] in the etiology of problematic smartphone use.

2. The cortico-striatal area of the human brain may be vulnerable to stress-induced noradrenergic modulation when exposed to ultrasounds.



The human noradrenergic system.

Problematic smartphone use patterns are positively connected to persistent stress-induced amygdala and dopaminergic impairments with and without peritraumatic history in PSUD

1. As reported by E. Konofagou et al [10][9], chronic neuromodulation of the (basolateral) amygdala (BLA) may differentially affect the severity of problematic smartphone use patterns and enhance contextual fear conditioning. [11][12]

Experimental dataset

- Tonic immobility in a young smartphone user suggesting a dopamine-dependent inhibitory mecanism associated to the etiology of problematic smartphone use. [13]
- Stress induced dopamine dysregulation is mediated by the amygdala in the pathology of problematic smartphone use and depends on persistent mobile device usage patterns and frequency. [13][12]
- Write something here...

Discussion

Our initial findings confirms the severity of problematic smartphone use [5][3][4].

In addition the discovery of novel stress-mediated vulnerabilities of the developing human brain and noradrenergic system periodically exposed to persistent and recurrent mobile-based brain stimulation (PMBS) in the etiology of problematic smartphone use motivated our initial perspectives and ideas on the self-adaptive and evolutive nature of

applied human neurosecurity and intelligence (https://open-neurosecurity.org).

Limitations and future directions

For technical reasons the scope of our report has been limited to (middle-age) female smartphone users living in Québec region (St-Jerome).

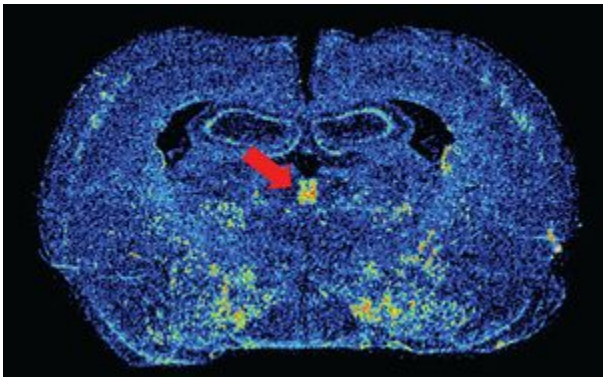
The emerging research and development of chronic mobile devices is in constant evolution and it may become extremely problematic for consumers with limited time and scientific knowledge to properly obtain safe consumer choices from wireless internet providers. In particular the mobile/wireless industry is certainly corresponding to the real dark and dangerous web for inexperienced computer users with limited knowledge in science and technology.

Tonic immobility in a young smartphone user suggesting a primary **D2R-like inhibitory mecanism** in associated to the etiology of PSU.

Conclusion

Our preliminary audit recommends the development of a systematic and independent review of mobile devices (smartphones) to further understand problematic smartphone use connected to chronic neuroplastic changes and impairments in stress-dependent brain circuits of adolescents with excessive smartphone use patterns.

Finally our experimental findings helped us to understand the primary role of stress-mediated noradrenergic modulation on the developing and self-adaptive human brain associated to the etiology and pathogenesis of problematic smartphone use.



Stress induced dopamine dysregulation is mediated by the amygdala in the pathology of problematic smartphone use and depends on persistent mobile device usage patterns and frequency.

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> J. Bortone (2020) *Project STREET WISE : A preliminary study exploring the effects and functions of mobile-based brain stimulation on the behavior and cognitive system of chronic smartphone users living in St-Jerome, Quebec.* Applied Human Neurosecurity Journal (https://open-neurosecurity.org)

See also

- Project STREET WISE: Official homepage (https://projectstreetwise.org)
- Twitter profile (https://twitter.com/wise_project)
- Soundcloud profile (https://soundcloud.com/wise_project)
- Applied Human Neurosecurity Journal (https://open-neurosecurity.org)