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## Abstract

*All too often we are giving young people cut flowers when we should be teaching them to grow their own plants.*

*John W. Gardner*

## Case study : Project STREET WISE

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## Introduction

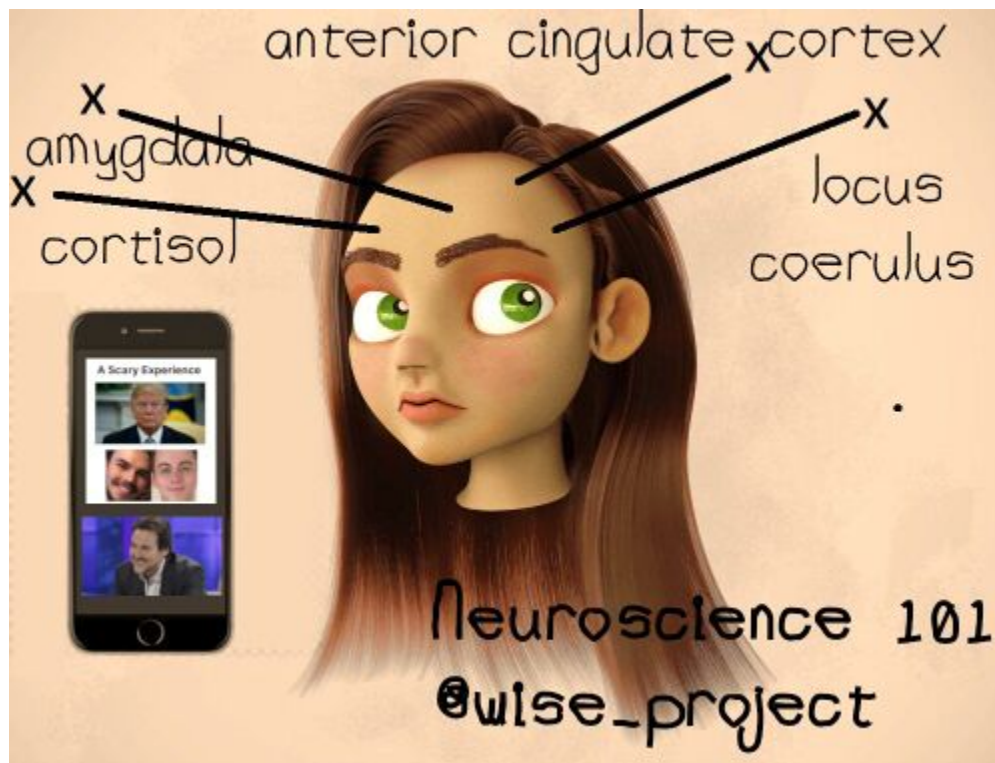
*These days we have Smartphones, Smart cars, Smartboards, Smart everything, but consider this: if the technology is getting smarter, does that mean humans are getting dumber?*

*Rebecca McNutt*

## 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]

## Methods and materials



Artistic illustration of problematic and dissociative smartphone use (P-DSU). Credit: Jack Bortone Lab. (2019)

## Social (offline) and online data collection

Data collection guidelines :

1. Self-dialectical task-switching paradigm/response trials

2. TODO : Get/compile additional (resting state) functional connectivity datasets from <http://humanconnectomeproject.org>

3. Benign humor is better than hostile/negative humor to get significant/positive results. [5][6]

## Research highlights

*Novel sex-dependent brain vulnerabilities associated to problematic smartphone use and persistent mobile-based brain stimulation:*

1. We found additional evidences [7][8] of highly serious sex-dependent vulnerabilities [9][10] affecting high-order executive and cognitive functions, self-regulation, inhibitory control, internal conflict resolving, dialectical self-thinking (reflective pondering), vigilance, arousal, and fear extinction/learning (ie threat appraisal and active avoidance (AA)) suggesting a detrimental effect of persistent mobile-based brain stimulation in the etiology of problematic smartphone use.

## Experimental data

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### Problematic smartphone use and viral infections

Important findings:

**Chronic stress-mediated dopamine (D1R) inhibition associated to problematic smartphone use is positively correlated to NLRP3 inflammasome activation in SARS-CoV pathogenesis:**

*"Additionally, a ubiquitin ligase MARCH7, which is activated downstream of the dopamine D1 receptor DRD1 pathway, mediates the K48-linked polyubiquitination of NLRP3 and inhibits NLRP3 inflammasome activation."*  
[12][13][14][15]

## Discussion

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Our initial findings confirms the severity of problematic smartphone use [7][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

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

## Future directions

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Tonic immobility in a young smartphone user suggesting a primary **stress-mediated dopamine-induced inhibition mechanism** in the pathology of problematic/excessive smartphone use. [11]

Magic is just science that we don't understand yet.

- Arthur C. Clarke

The emerging research and development of chronic/persistent mobile devices is in constant evolution and it becomes very problematic for consumers with limited knowledge and experience in neuroscience to understand the risks for their long-term health associated to chronic smartphone use.

In specific the mobile/smartphone industry is corresponding to the real dark and dangerous web for inexperienced computer users with limited knowledge in neuroscience and current research like ultrasonic neuromodulation and sonogenetics.[16][17][18][19]

## Conclusion

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Our preliminary audit recommends the development of a systematic and independent review of mobile devices (smartphones) to further understand problematic smarhthone 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. 😊

Jack Bortone

March 14 2020

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Regulation and functions of NLRP3 inflammasome during influenza virus infection

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## See also

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- [Project STREET WISE: Official homepage](https://projectstreetwise.org) (<https://projectstreetwise.org>)
  - [Twitter profile](https://twitter.com/wise_project) ([https://twitter.com/wise\\_project](https://twitter.com/wise_project))
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