# WHAT CAN WE LEARN FROM NEUROSCIENCE IN UNDERSTANDING LEADERSHIP BEHAVIOUR

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# WHAT IS NEUROSCIENCE

Neuroscience is the scientific study of the nervous system

- Traditionally, neuroscience has been seen as a branch of biology
- Currently it is an interdisciplinary science in fields such as medicine, cognitive science, genetics, physics and psychology

# NEUROPSYCHOLOGY

Neuropsychology studies the structure and function of the brain as they relate to specific psychological processes and behaviours.

- Neuropsychology is a relative new discipline in the field of psychology
- It is a experimental field of psychology to understand how the brain correlates with the mind

# NEUROLEADERSHIP

Neuroleadership refers to the application of findings from neuroscience and neuropsychology to the field of leadership

# NEUROLEADERSHIP AS AN ALTERNATIVE

- Traditionally Leadership is studied from a behaviour perspective
- Neuroleadership explores the processes within the brain that underlies or influences human decisions, behaviours, and interactions in the workplace and beyond

# THE RESEARCH OBJECTIVE OF NEUROLEADERSHIP

- To improve leadership by taking into account the physiology of the mind and the brain
- Studying leadership through the lens of neuroscience provides a fresh new and alternative approach to understanding Leadership behaviour and it is largely untapped at this stage

# THE RESEARCH MODEL

- The difference between traditional leadership studies and neuroleadership studies, is the tools that are used
- Using fMRi, social cognitive neuroscience experiments seek to identify the brain region or regions involved in a process of interest - essentially, where the brain “lights up”when engaging in a specified social psychological process

# THE RESEARCH MODEL

Typical fMRi experiments require the research subject to watch through video goggles and respond to tasks by pressing buttons on a small computer keypad.

# APPLICATION: DECISION MAKING AND PROBLEM SOLVING

- Neurosciences helps leadership theorists to maximize unconscious processes to better facilitate breakthrough thinking. More specifically, it helps theorists to have a better understanding of the role of dopamine (interest) and norepinephrine (alertness) in mental performance

# APPLICATION: EMOTIONAL REGULATION

Neuroscience helps theorists to understand the complex dynamic between the prefrontal cortex and the limbic system and how limbic system arousal impacts thinking and performance

# APPLICATION: COLLABORATING WITH AND INFLUENCE OTHERS

Traditional research focus strongly on differences in the actions or behaviours of effective versus ineffective leaders and how those behaviours influence teams or followers.

The driving force of social neuroscience research is the simple principal that the brain is deeply social and how belongingness becomes a primary motivational need

# APPLICATION: FACILITATING CHANGE

Neuroscience can assist theorists to understand the brain's approach-avoidance response as well as understanding the importance of goals and goal setting on brain function

# THE BENEFIT OF NEUROLEADERSHIP

A different understanding of how leaders for example:

- solves problems and take decisions trough understanding the brain's algorithm when processing information;
- Facilitate breakthrough thinking;
- React to stress and unpleasant emotional experiences;
- Can ensure belongingness of staff;
- Manage change through better exploring the threat/opportunity impact

# CURRENT APPLICATIONS OF NEUROLEADERSHIP

- Performance management
- Diversity and inclusion
- Learning and change
- Coaching

# IMPACT ON LEADERSHIP ASSESSMENT

Main stream of leadership assessments are behaviour based, e.g. competency based interviews; AC's and personality assessments

It focus on *how* the leader behave, interacts, take decisions, plan and organise, etc. but seldom on *why* the particular behaviour may occur – what drives it

# IMPACT ON LEADERSHIP ASSESSMENT

Available neuropsychological assessments mainly focus on cognitive functioning and clinical assessments for certain conditions, e.g. Autism, Asperger disorder and learning disabilities with distinct neuropsychological profiles

Assessments for cognitive function will typical be used to build a comprehensive clinical cognitive profile by assessing constructs such as verbal skills, spatial and sequential perception, ability to form mental concepts, motor output, attention and concentration

# IMPACT ON LEADERSHIP ASSESSMENT

Currently we see a low focus in the field of Industrial and organisational Psychology assessments, except where the assessment is deep cognitive and/or to identify certain neurological fallouts, e.g. post accident, certain medical incidents. The purpose of the assessment will be to assess a persons employability and will in all probability have a forensic impact

# WHAT CAN WE LEARN FROM NEUROLEADERSHIP

- There are more and more indications that behaviours are imbed in the physiology of the human being
- To fully understand leadership behaviour, we will need to start taking note of this link
- As we have more evidence, we need to ask ourselves if pure behaviour assessments are enough, and can't neuropsychology assessments tell us more about the why's of leadership behaviour

# WHAT CAN WE LEARN FROM NEUROLEADERSHIP

- At a minimum we need to start including in our assessment models a bigger focus on the assessment of the Social skills of the leader as we already know that the brain is deeply social
- We need to assess if the leaders can demonstrate the leadership behaviour to understand and foster the social qualities of status, constancy, autonomy, relatedness and fairness that people desire in order to feel secure and comfortable in collaborating with others

# IN CONCLUSION

Neuroscience is very rapidly beginning to understand the anatomy and physiology side of leadership and leadership behaviour

It is time for leadership theorists to take a neuroscientist to lunch