

## Correlation Between Personality Disorder and Neuroplasticity: Can Deprivation Lead to Advantage and Resourcefulness?

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### ABSTRACT

This paper explores the new hypothesis that neuroplasticity is associated with personality disorder. Specifically, it provides a possible explanation for why some severely deprived individuals develop the ability to positively adapt and adjust. It discusses a case in which a poster that offered teenagers confidential help with unintended pregnancy inadvertently created a demand for help from young people with various biopsychosocial conditions: mental and physical illness, lawlessness, social alienation, economic and their long-term consequences. These individuals were clinically identified as having personality disorders). However, as their demand for confidentiality precluded their use of the abundant clinical and welfare resources of the National Health System that are at the disposal of clinicians within the system, a drop-in centre was set up instead to respond to their demand, funded with public funds for combatting HIV. A lone clinician assisted them, and a unique method evolved to confront and combat their situational and clinical circumstances. It was later noted that these patients who were given this very inexpensive treatment outperformed, in many ways, patients who received the costly and often prolonged standard psychiatric treatment. Only recently did a possible explanation for this phenomenon arise: neuroplasticity. It was found that all of the patients who used the drop-in centre had severely deprived backgrounds. Thus, their brains could have developed the ability to make neural connections, which increases their overall potential to cope in the future competitive world. Therefore, deprivation, although negative, appeared to be an asset in these young 'personality-disordered' patients.

**Keywords:** neuroplasticity, personality disorder, deprivation, intervention, family therapy, self-referral, confidentiality, standard treatment, resourcefulness

The history of neuroplasticity goes back to William James' 1890 book, *The Principles of Psychology*, with the postulation that the brain and its functions are not fixed throughout adulthood. However, this idea was largely neglected until it was scientifically investigated via neuroplasticity and proven to be true. Konorski (1948) and Hebb (1949) defined *neuroplasticity* as the ability of the brain to react, create and make connections between neurons in response to intrinsic or extrinsic stimuli.

It is now accepted that, through neuroplasticity, the brain is consistently rewiring and modifying its connections. It can reorganise itself, both in structure and in how it functions. There are other factors, however, that are thought to play a role in the neurobiological processes underlying the changes in neural networks in the brain. Some of these factors are synapse regulation via phosphorylation, the actions of inflammation and inflammatory

cytokines, proteins such as BCL-2 proteins and neurotrophins, and energy production via mitochondria (Zhang & An, 2007).

Clinically, in neurology, neuroplasticity orchestrates the consequences of brain changes after injury, such as after a stroke or a traumatic brain injury. These changes can either facilitate rehabilitation or cause functional disadvantages. Time is a factor here.

Hara (2015) studied the plasticity of the brain and the restoration of its function in stroke patients, and found that the brain is a highly dynamic system that can change the properties of its neural circuits. With this ability, remarkable spontaneous recovery and rehabilitative training can occur, which can enhance the neuronal plasticity processes. Thus, loss of neurons and certain cortical pathways due to the initial damage can be prevented in the first 48 hours after a stroke. During such time, the brain attempts to keep functioning by using secondary neuronal networks. In the following weeks, as the cortical pathways shift from inhibitory to excitatory, support cells are recruited, and synaptic plasticity and new connections are made. In the next months, the brain remodelling continues through axonal sprouting and further reorganisation around the damage.

### **IMPORTANCE OF NEUROPLASTICITY IN PSYCHIATRY AND PSYCHOLOGY**

Why is neuroplasticity important in psychology and psychiatry? Psychologically, neuroplasticity enables imagination, reasoning, comparison and contrast, and other cognitive functions. Moreover, as already stated, neuroplasticity facilitates the lifelong capacity of the brain to change and rewire itself in response to the stimulation of learning and experience, including of the development and formation of memories. Thus, the brain is the orchestrator of adaptation and adjustment to function. In fact, the structure and functions of the brain play important roles in both physical development and mental health. During puberty, the lining of the brain thins to allow for a surge in neural connections.

However, changes in individuals' experiences can have both positive and negative effects, as stated in the case of the clinical rehabilitation of stroke patients in neurology, with time being a factor. While some individuals are amenable to change, but resistance to change can have far-reaching effects on the overall functioning of the human system as a whole. A personal observation was made: patients who received individual and group psychotherapy for mental illness, namely, depression, lacked the capacity to imagine. If this important capacity is objectively found, through clinical diagnosis, to be a symptom of clinical depression, could the non-formation of neuroplasticity be said to cause clinical depression? Alternatively, could clinical depression be due to insufficient activating stimuli and neural connections in the formative years? For example, Thomson (2023) found, using factor analysis, that early life, family involvement and education may cause clinical depression.

At the sharp end, the aforementioned controversial questions raised by Thomson (2018) provide the more detailed background circumstances in which a way of treatment or intervention resulted from demand. The demand was driven by self-referred adolescents who wanted anonymity in the face of generalised dire straits, such as reactions to abuse, addictions, unlawful behaviours, dropping out of school and homelessness. Unlike the patients who received the standard treatment, these self-referred patients were active participants in a team of two. As the therapist, the system needed to consider all their psychosocial circumstances. In

this system, unlike in the standard treatment, there was no standard diagnostic criteria stamping treatment with the accompanying resources. The unanimity precluded that. Recognising that the adolescents were attracted to the drop-in centre because of its assurance of confidentiality, an agreement was made to never share any information that the adolescents divulged.

The adolescents' encounter with clinicians who diagnosed them with personality disorder alarmed them and prevented their referral even in life-threatening cases. For example, a 16-year-old girl who was diagnosed as gravely 'self-mutilating' was referred to the psychiatrist in charge of the area. The psychiatrist replied, 'I do not treat personality disorders.' Who treats them then?

Official criteria for diagnosing personality disorders are listed in the sixth chapter of the International Classification of Diseases and in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM). 'Personality disorders ... are a class of mental disorders characterized by enduring maladaptive patterns of behavior, cognition, and inner experience, exhibited across many contexts and deviating from those accepted by the individual's culture. These patterns develop early, are inflexible, and are associated with significant distress or disability. The definitions vary by source and remain a matter of controversy.'

More controversial, though, is the fact that the aforementioned adolescents were the most responsive and resourceful of all the patients. They were not merely passive recipients of help or care from the National Health Service. In contrast, mentally ill patients referred via the usual channels (in the United Kingdom, by general practitioners, psychiatrists, psychologists or social workers) are usually passive care recipients. As all the self-referred adolescents could fit the DSM-5 classification of personality disorders, how did they differ?

The self-referred patients who had survived the most deprived and abusive circumstances were like gold for a therapist. Their treatment journey was not straightforward and had the predictable ups and downs. However, they were discharged relatively quickly and often with jobs back to the society that had largely written them off. Unlike depressed patients who could not imagine their lives as having meaning, these patients had the resilience to imagine, believe in and pursue their dreams.

As a family therapist, I gleaned that extreme deprivation actually increased the young people's ability to cope with a multitude of negative experiences, suggesting that their brains can cope with these adverse effects through the actions of neuroplasticity.

Trauma, whether of physical or mental origin, is considered a great risk, as it negatively affects many areas of the brain and puts a strain on the sympathetic nervous system from constant activation. Trauma thus alters the brain's connections such that children who have experienced trauma may be hypervigilant or overly aroused.

However, why did some clinicians consider the adolescents' 'personality disorders' untreatable, and why did other clinicians become excited every time a new referral came to them for help? The latter's excitement could have stemmed from their anticipation of what they could achieve

and how, by working with their patients, their patients' lives could be turned around in a short time. All that was necessary was for them to work with these patients; listen to their stories and accounts of where they had been, what had shaped them, where they were in the present and what they could realistically achieve in the future; and in light of those, help them with the process.

I was therefore thrilled to learn about the relatively new findings on neural development and connectivity in puberty. I wanted to learn from experience why these self-referred patients were so resilient, resourceful and involved in their treatment.

These adolescents were streetwise—their neural connections were free from the constraints of school curricula, parental demands or cultural conformity. They must have unwittingly developed neural connections that made them fit not only for survival but for thriving emotionally, socially and economically. These findings contradict several descriptions of personality disorders. For example, according to the DSM, 'Personality disorders are a group of 10 mental health conditions that involve long-lasting, disruptive patterns of thinking, behavior, mood and relating to others. People with personality disorders often don't realize their thoughts and behaviors are problematic.' Samuels (2011) described personality disorders as complex mental health problems that afflict as many as 10% of the general population. Frankenburg et al. (2004) associated personality disorders with substantial health and medical conditions that have high costs to society.

There is no agreement yet on the definition, causes and treatment of personality disorders. However, their identified causes are genetic factors, brain changes, childhood trauma, verbal abuse and cultural factors.

Moreover, there has been no mention of the discovered positive characteristics of people with personality disorders, such as their talents, resourcefulness and resilience.

Can deprivation indeed lead to advantage and resourcefulness? I firmly believe so. Conversely, however, can privilege lead to neural deprivation and disadvantage? Clearly, there is work to be done.

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