

Matilda Hellman Research Director, Centre for Research on Addiction, Control and *Governance* (CEACG) Faculty of Social Sciences, University of Helsinki, Finland matilda.hellman@helsinki.fi



Saara Salmivaara Group Coordinator, Centre for Research on Addiction, Control and Governance (CEACG) Faculty of Social Sciences, University of Helsinki, Finland saara.salmivaara@helsinki.fi

Spinning the Story of Addiction in the Brain

Background & Objective

In the 2010s, the human brain has become a crucial part of understanding the phenomenon of addiction.

The objective of this study is to find out how popular scientific progress stories serve and spin the idea of addiction in the brain.

Method

Inductive qualitative text analysis, looking for emplotment elements (temporal and spatial).

We employ:

Research question

What elements in the plot of the popular story of brain-based addiction make it so convincing, appealing and credible?

Material

Collected via the news aggregator Google News (U.S. Edition with default search settings). The search terms were 'addiction AND brain' Total: 589, Of these: 182 about addiction in general or different kinds of addiction problems / Of these:

67 report on new research discoveries. = these 67 items constitute the material

Results

A.Temporal Emplotment = events follow chronologically as a logical whole from discovery to implications for future solutions

Linear progress story

"Before we knew some things about addiction but now, with information on the brain mechanisms, we know more and better"

- Paul Ricœur's narrative theory for approaching our material as 'emplotted' (a plot is created)
- Lubomír Doležel's discursive functions of 'extension' (the brain research referred to) and 'intension' (the ways in which it is "spinned" in the material)

Emplotment = the activity of making a plot. The emplotment of the story of the addicted brain is the process of construing an intelligible whole that governs a succession of events in the narratives.



The Athlete's Way

Vagus Nerve Stimulation Holds **Promise for Treating Addiction**

Vagus nerve stimulation inhibits drug-seeking behavior in lab ats, study finds osted Jan 24, 2017



Insights with structural consequences

"The new information on the brain mechanisms can and will have structural consequences for how we deal with the problems in society"

Superior proof

"A change in our approach to addiction is possible because now we have a better kind of evidence (brain-based) about the state-of-nature"

From describing to solving

"Due to insight into how addiction works in the brain, we have explanations and insight that can help us solve the problems"

B.Spatial Emplotment = mixing and drawing conclusions between contexts and

places, such as laboratory and policy-making settings.

Proportional asymmetry (i)

Small scale technical discovery -> implications for large scale societal problems **Proportional asymmetry (ii)**

Animal models \rightarrow implementation in solving human addiction problems

Proportional asymmetry (iii)

Epistemic expansion = There is a news value in the similarities between the problems (e.g. we might all be addicts, snacks, Facebook etc.) which appear in the same way in the brain.

the brain's neural pathways to reduce addiction and food o

Early findings from Bond University in Australia have scientific

"Tapping", also known as EFT (Emotional Freedom Techniques health issues, but this is the first time that patients brains have Resonance Imaging (FMRI) scenner to show the physical chang

EFT involves "tapping" on certain acupreasure points on the fa

Since the technique was developed in the early 1990s, there have behaviour and emotions with patients suffering from condition weight loss, but never before have FMRI scens been taken befo affects the brain

n this ground breaking research, 15 obese adult patients were



gus nerve stimulation (VNS) therapy invo planting a small device that sends a mild ectric pulse through the vagus nerve. ource: Alita Medical Media/Shutterstock

fIndings could eventually be applied to people who struggle with drug addiction or substance abuse disorders. VNS therapy has already been approved by the FDA as a treatment for certain illnesses, including clinical depression, epilepsy, and inflammation.



Pain, memory problems and nicotine addiction are formidable problems that have quite different consequences. But in terms of what's happening in the brain that causes people to suffer from each, they share a close connection. And now scientists say a new type of drug might he able to help people with all three of these problems.

Estimates suggest 2 million people in the U.S. suffered from an opioid abus disorder in 2015 (the most recent year with data available), about 5 million

Vagus nerve stimulation (VNS) therapy may help addicts overcome substance abuse via the extinction of conditioned drug-seeking behaviors, according to a groundbreaking preclinical study.

Stimulation Reduces Cocain Seeking and Alters Plasticity in the Extinction Network," was published in the January issue of

Learning and Memory.

Although this is an animal study, the researchers believe their

Conclusions

- The study shows that the content and execution of the study or discovery reported on (new brain research), is secondary in the reporting. The spinning of the story exceeds with a symbolic force that seems to get its nourishment from certain spatial and temporal narrative aspects (some of which are listed above).
- These ways of claiming the value of the new research are likely to be similar in other circumstances, such as how the research is claimed to have impact on recovery and prevention of addiction problems.
- Now that these techniques have been identified, more work is needed for furthering knowledge on what they imply from an ethical standpoint and who is involved in spinning the stories. In the next step of our analysis we will map the sources and speakers in the texts.

© A-BRAIN consortium, funded by NEURON ELSA 2018-2021.

REFERENCES: Doležel, Lubomír (1998). Heterocosmica: Fiction and Possible Worlds. Baltimore: Johns Hopkins UP; Doležel, Lubomír (1980). Truth and authenticity in narrative. Poetics Today, 1(3), 7-25; Ricoeur, Paul (1977). The Rule of Metaphor: The creation of meaning in language. Toronto: University of Toronto Press. Ricoeur, Paul (1980). Narrative Time. Critical Inquiry, 7(1), 169-190.

HELSINGIN YLIOPISTO HELSINGFORS UNIVERSITET **UNIVERSITY OF HELSINKI VALTIOTIETEELLINEN TIEDEKUNTA STATSVETENSKAPLIGA FAKULTETEN FACULTY OF SOCIAL SCIENCES**