neuron
Network of European Funding for Neuroscience Research

ELSA 2017

A-BRAIN 2018-2021

University of Helsinki:
Matilda Hellman (PI)
Michael Egerer
Anna Alanko
Petteri Koivula
Saara Salmivaara

CAMH:
Christian Hendershot
Samantha Rundle
Syaron Basnet
Jeffrey Wardell

Montreal
Patricia Conrod
Elroy Boers

BIPS, Bremen
Sarah Forberger
Doris Ochterbeck

Multi-disciplinary, mixed-methods: surveys, focus groups, cultural analysis
sociology, political science, psychology, communication studies, philopsophy

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Main research task

Identify the ethical considerations involved in implementing the brain disease model of addiction (BDMA). Emphasis on social institutions.

Society at large (popular perceptions)

Experts and stakeholders

Treatment

Prevention

OPERATIONALIZATION OF THIS QUESTION:

Expectations, perceptions, beliefs and knowledge on different levels of society and levels and in different settings, among different stakeholders

→ **ethical implications for societal implementation**

Book [work name]
"Society and the addicted brain. Ethical implications of implementing brain-based knowledge" (2021)

Intro consortium

Partners

Group leader	Institution	Country
Matilda Hellman (PI)	University of Helsinki Centre for Research on Addiction, Control and Governance CEACG **Role: inquiring into perceptions and the social and cultural seating, lead in ethical guidelines. Implications for views on agency.**	Finland
Sarah Forberger	Leibniz Institute for Prevention Research and Epidemiology – BIPS **Role: Lead in surveying experts, scientific communities and stakeholders**	Germany
Christian Hendershot	Centre for Addiction and Mental Health and University of Toronto **Role: Lead in developing a measurement instrument; surveying and inquiring into treatment setting and groups involved.**	Canada
Patricia Conrod	Centre de Recherche, CHU Ste-Justine, University of Montreal **Role: Lead in measuring and inquiring into how people involved in youth prevention program (trainers and children) view addiction how it changes over time**	Canada

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4. Ethical guidelines for societal incorporation of the BDMA	Integration and guidelines	Helsinki	Bremen, Toronto, Montreal

Collaboration outcomes

New Recruitment:

3 PhD students, 2 post docs, 1 coordinator

Meeting outcomes

- Kick-off meeting (March 2018):
  - Getting to know others; Clarify work packages and goals; Agreeing on co-operation procedures and conduct
- Work meeting between Helsinki and CAMH (November 2018):
  - Preperation of focus group study

Sharing of data, material:

- BIPS & Montreal
- CAMH & Helsinki: focus group interviews

Interdisciplinary work: constructs, notions, meaning

Intraconsortium training

- M. Egerer: CITI CAN privacy course
- Helsinki supporting CAMH team with qualitative methods
- Expert Workshop: ethical aspects (University of Helsinki)

Personnel exchange

- M. Egerer visited CAMH for data collection (Feb 2019)

Other: Consortium agreement, web page, ethical dimensions workshop + report, book manuscript outline (Lisbon September 2019)

September 2019: All milestones achieved!

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Project Progress: Helsinki

Status of work:

MEDIA STUDY: Data collected; 3 analyses accomplished; 3 manuscripts in preparation; 1 Poster presentation; 3 conference presentations; media attention (Anna Alanko: digital addiction)

FOCUS GROUPS in treatment setting: Data collected, First analysis completed

INTEGRATION AND GUIDELINES: Ethical expert workshop and report ; Book outline; Contact with publisher

Issues:

Low participation of staff in focus groups

Solution:

Focus groups with students in addiction courses

Main achievements:

3 analyses/ manuscripts media study,
Book outline and manuscript,
3 presentations, 1 poster presentation, media attention (digital addiction, Anna Alanko)

Next steps

- Submission of manuscripts WP1
- Data analyses from focus groups WP2
- Writing of book WP4

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Results:

- Research on the addicted brain/ neuroscience = offers a ”missing explanatory piece” in view of the history of addiction concepts / ideas
- The scientific progress of addiction in the brain is in popular culture/ speech pushed ’assymmetrically’ when compared to the actual findings content. (the story is pushed and spinned)
- Micro setting-> macro setting, cf. oipioid crisis
- First raw analysis of clients discussions implies that the ways in which they relate the concepts of agency and stigma could give an explanation to the ways in which brain knowledge is helpful for them as a construct.
- Clients (in outpatient treatment) beliefs in the BDMA suggest it might help them to keep their individual agency in light of a seemingly self-inflicted disorder. (in line with previous claims by advocates of the BDMA, but not in a simple stigma/ not stigma constellation)
- Clients believe that it may be possible to ethically implement technical solutions based on neuroscientific research into treatment and practice, but nothing beyond this

PROGRESS BREMEN

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PROGRESS BREMEN

Status of work:

- Ethical permissions
- Completion of questionnaire validation and incorporation of changes
- Survey completed among scientists, being analysed
- In preparation: stakeholders from the three countries (Canadian prevention program trainers with non-medical background; German experts in how neuroscientific findings are used in courts and legal cases; Finnish researchers and expert organisations/ societies in the field of addiction)

Issues:

- Some of the stakeholders in Canada and Finland part of the main survey of scientists -> discussion about how to proceed in Lisbon
- **Main achievements:**
- 2 poster presentations (ICONE and Addiction)
- 2 publications in preparation
- 1 publication request

Next steps

- Stakeholder identification in collaboration with Canadian and Finish partners
  - Target group identification: Local partners
  - Questionnaire adaption BIPS
  - Distribution to local stakeholders: Local partners

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Results

- Data not yet analysed, but we are likely to be able to show how views on addiction is carried and reproduced in different scientific cultures.
- Also: we will be able to relate this to the societal functions and fields of expertise that these groups represent
- We will be able to support the results from the qualitative work that views on addiction integrate many simultaneous models,and give some clues about the part that the brain model may play in this equation.
- Differences between the brain model and just a medical model? Could they be the same (differences appear in other parts of the project)?
- Stakeholders study: the ways in which notions of addiction are ”carried” in influencial societal groups (representation)

PROGRESS TORONTO

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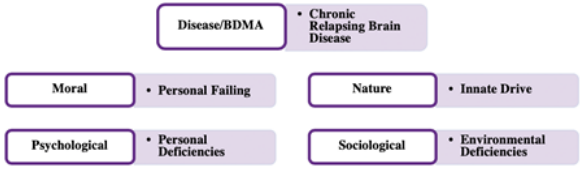
PROJECT PROGRESS: TORONTO 1/3

Completed and Upcoming Projects



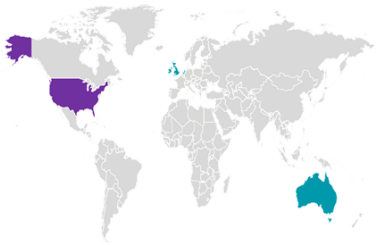
Implications of the Disease Model for Public Stigma
(Rundle et al., in preparation)

Two main objectives:

- (1) determining the level of stigma attributed to individuals with addiction vs. other health conditions
- (2) determining whether there is a difference in acceptance of the disease model of addiction based on geographical region
- N = 872 collected from the US, Canada and Australia

Results

- Mental Health Disorders are less stigmatized than both an addictive and co-occurring addictive and mental health disorder -> stigma “travels” with addiction in any case whatever the construct!
- Participants from the US had greater acceptance of the disease model than Canadians → differences in emphasis on system level? (geographies!)



PROJECT PROGRESS: TORONTO 1/3

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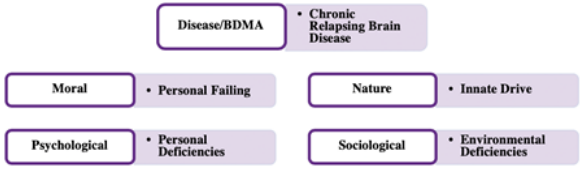

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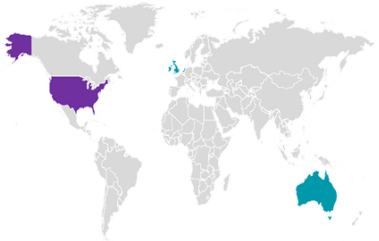
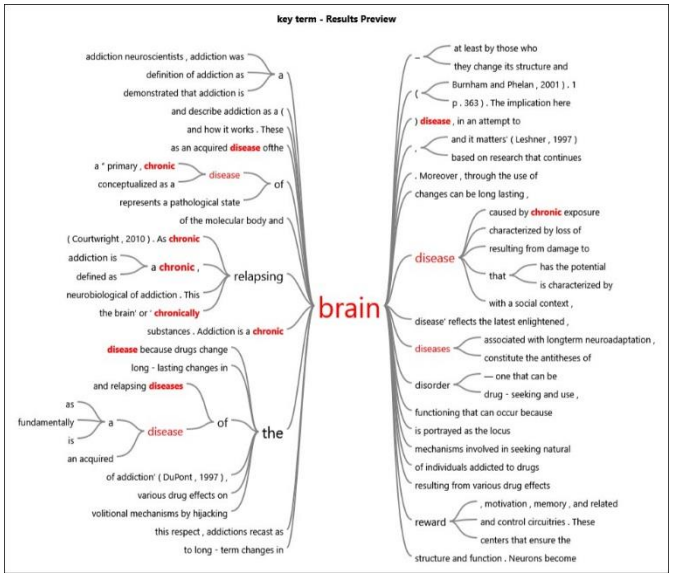


PROJECT PROGRESS: TORONTO 2/3

Content Analysis of Brain disease model of addiction (BDMA) based on review of literature

- **Objective:** Identify and describe key assumptions/tenets of the BDMA
- Systematic review of the BDMA literature
- Thematic coding scheme is used to extract key concepts



Content Analysis – Preliminary results

- 140 out of 170 studies reviewed and coded
- Content analysis revealed key concepts/ideas most commonly observed in BDMA-related literature

Results:

- Data only coded, and not yet analysed, but the significations further our knowledge on the instrumental and "formatted" role for the establishment of the BDMA in the science literature.

- Inductive science communication semiotic analysis will work together with the deductive concept analysis. Likely to shed light on role of use of language in the statements being made (and mapped in the deductive analysis)

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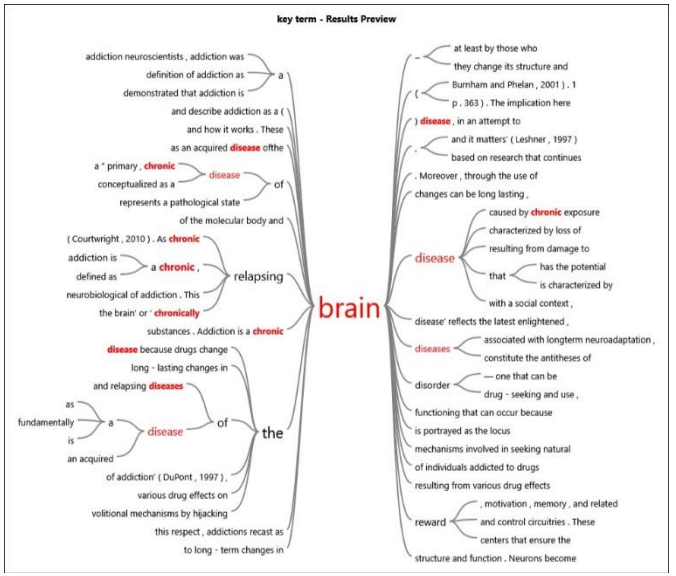

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PROJECT PROGRESS: TORONTO 3/3

Review of assessment instruments for
Measuring addiction beliefs

- Review identified multiple instruments (22)
- Identified limitations of existing instruments
  (1) No "brain" content
  (2) Most measures not developed with attention to psychometric properties

BDMA Measure Development (in progress)

- Utilize results from content analysis to develop a new assessment instrument
- Evaluate psychometric properties in a large sample

Results:

- There is no good tool for measuring this dimension in populations. If we want to make use of neurosceince (as an epistemic construct that guides societies and people) -> the instrument that we are developing is crucial.
- Psychometric properties: need to be integrate, but we also want to spell out how they relate to other constructs that are studied in the project --> not only can we present a tool, through this project we can present the societal, cultural and political contribution of the tool.

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PROJECT PROGRESS: TORONTO 3/3

Other milestones

- Ethics approval for 2 studies completed (August 10th, 2018 & June 18th, 2019)

- **Two trainees engaged**

  Samantha Rundle, Ph.D. Student
  Dr. Syaron Basnet, Post-Doc Fellow

- **Data collection for two projects complete**

  1. Focus group data collection (February, 2019 – preliminary analysis underway)
  2. BDMA and public stigma study (August, 2019; manuscript in preparation)

PROGRESS MONTREAL

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PROJECT PROGRESS: MONTREAL

Progress :

Collection of data on the beliefs, views, opinions and perceptions concerning the concept of addiction among Preventure trainees and members of Canadian scientific community.

In collaboration with the BIPS Leibniz Institute: contributed to the development of the questionnaires that are being used to collect the data.

Possible obstacles : None.

Next steps : measure the beliefs, views, opinions and perceptions concerning the concept of addiction among a large sample of Canadian adolescents, and measure how these beliefs may change or not change as a result of exposure to an intervention targeting personality profiles in order to prevent substance use and abuse.

Contribution: the ´circle´ of the intentional communication of a certain view on addiction for changing people‘s behaviours

Circle = developing program based on evidence, referring to this evidence when exercising influence – and how it impacts the students‘ views

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MAIN ACHIEVEMENTS

Theoretical, scientific, methodological:

- How the addicted brain works as a 'cultural force' in popular representations
- How the BDMA is operationalized and conceptualized in the scientific literature
- How addiction related beliefs have been measured previously
- Development of scale that measures the ways in which people perceive the BDMA
- Focus group protocol for investigating epistemic views
- Report on expert workshop on ethical dimensions, which orients us in the ethical discussion

The greatest achievement is that we are synchronizing the parts into an identification and articulation of ethical considerations for social institutions and societies.

- **Publications finished/in preparation/planned**

Alanko, A. et al. (in progress) Digital addiction in the brain: media analysis

Hellman, M. (in submission). The Discovery of the Addicted Brain: Emplotment of a Popular Internet Mythology

Egerer, M. & Rundle, S. (2019). Addiction services' clients' perspective on the Brain Disease Model of Addiction (BDMA). (Presentation)

Forberger et al. (in preparation) "What do you think about brain-based explanations for addiction: A survey among scientists "

Forberger et al. (in preparation) "Addiction researcher's attitudes on responsibilities of addicted persons, and its implications: An application of Brickman's model of helping and coping"

Koivula P. & Hellman, M. (2019) The ontological politics in (neuro)science based media coverage of opioid crisis - Performing 'addiction' and action-capabilities of 'people with addiction'. Presentation at Contemporary Drug Problems Conference 2019.

Koivula, P. et al. (in preparation) The ontological politics in neuroscience based media coverage of the opioid crisis.

Koivula, P. et al. (in preparation) Knowledge production and performance of action-capabilities of 'people with addiction' in (neuro)scientific 'addiction' accounts.

Koivula, P. (in preparation) Views on 'addiction' and agency by 'clients' of addiction clinic.

Ochterbeck D, Hellman M, Forberger S (2019) Ethical implications of brain-based explanations for addiction: A survey among scientists. (Poster presentation) ICONE Conference, Lisbon.

Ochterbeck D, Hellman M, Forberger S (2019) Scientific communities in addiction research: attributes and attitudes. A multi-methods approach. (Poster presentation) Addictions conference, Lisbon.

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+ 8 publications by Elroy Boers and colleagues (see last slide)

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Parallel publications

Boers, E., Zebregs, S., Hendriks, H., & van den Putte, B. (2018). Is it more feeling or thinking? The influence of affective and cognitive attitudes on adolescents' intention to engage in binge drinking. *Journal of Health Communication*. doi: 10.1080/10810730.2018.1461960.

Boers, E., van den Putte, B., Hendriks, H., & Beentjes, J.W.J. (2018). Vocational community college students' conversations about binge drinking. *Journal of Health Communication*. doi: 10.1080/10810730.2018.1554730.

Boers, E., Beentjes, J.W.J., van den Putte, B., & Hendriks H. (2019). Conversations about binge drinking among vocational community college students: The relation with drinking predictors and the moderating role of conversation partner popularity. *Psychology & Health*. doi :10.1080/08870446.2019.1649673

Boers, E., Afzali, M.H., Newton, N., & Conrod, P. (2019). Association of screen time and depression in adolescence. *JAMA Pediatrics*. doi:10.1001/jamapediatrics.2019.1759.

Boers, E., & Conrod, P. (2019). Is screen time making adolescents more anxious? The influence of screen time on symptoms of anxiety among adolescents. *Canadian Journal of Psychiatry*.

Boers, E., & Conrod, P. (2018). A longitudinal study on the relationship between screen time and adolescent alcohol use. *Preventive Medicine.*

Boers, E., & Conrod, P. (2019). The longitudinal association between screen time and ADHD adolescence (manuscript in preparation for submission)

Boers, E., & Conrod, P. (2018). A longitudinal study on the relationship between SURPS and screen time in adolescence (manuscript prepared for submission).