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How can we study Addiction Research?
A conceptual coverage analysis based on Web of Science categorization and beyond

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Introduction

Addiction is a **major public health challenge** with health and social impacts. *(Wang et al., 2021)*

Science mapping provides a robust framework for **identifying thematic domains** and **visualising the conceptual structure** of research fields. *(van Eck & Waltman, 2017)*

However, the coverage of addiction research by a **Web of Science (Core) Category has not been quantitatively assessed.**

Objective

RESEARCH QUESTION 1: To what extent does a Core represent the **conceptual structure** of **addiction research**?

RESEARCH QUESTION 2: Which additional thematic domains are identified through an expanded keyword-based retrieval strategy, which in the title and abstract (NP), author keywords (KW), funding agency (FB), and address (AB)?
How do these domains **complement the conceptual coverage** of the field?

Methodology

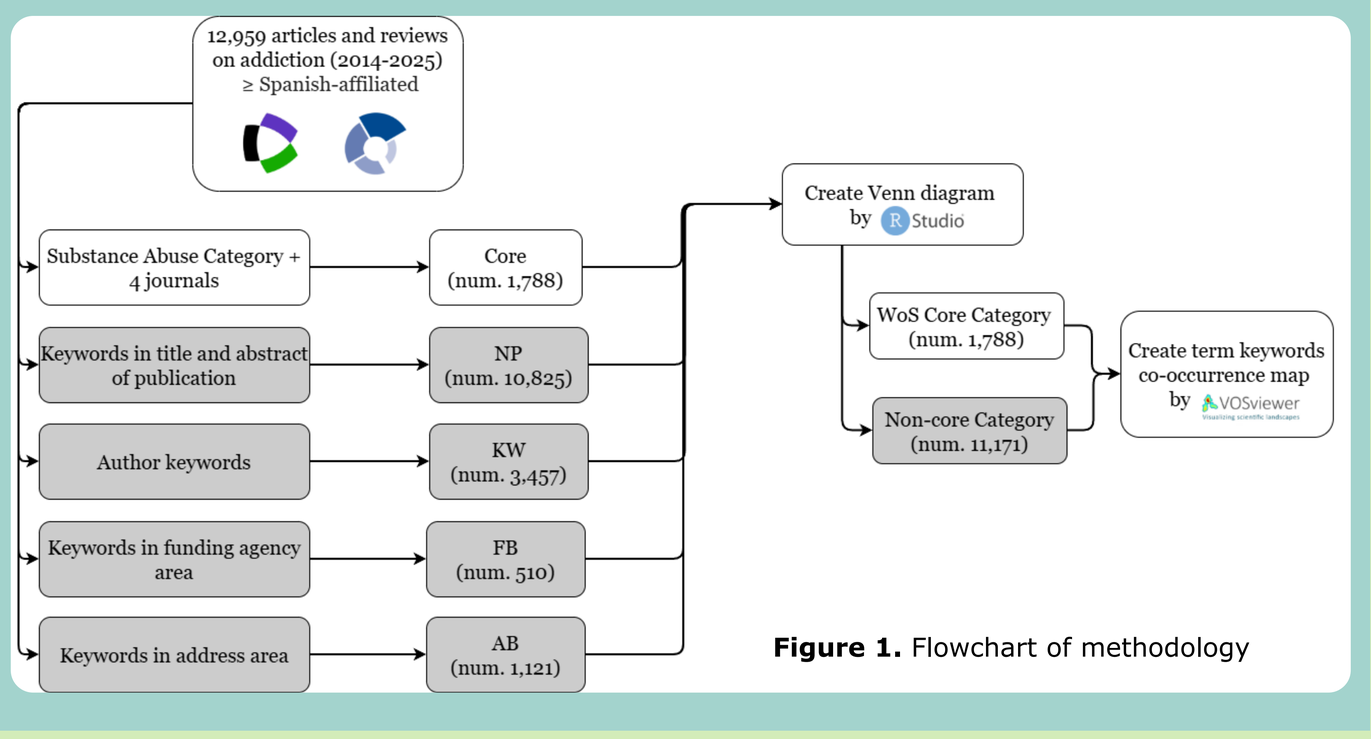

Figure 1. Flowchart of methodology

Results

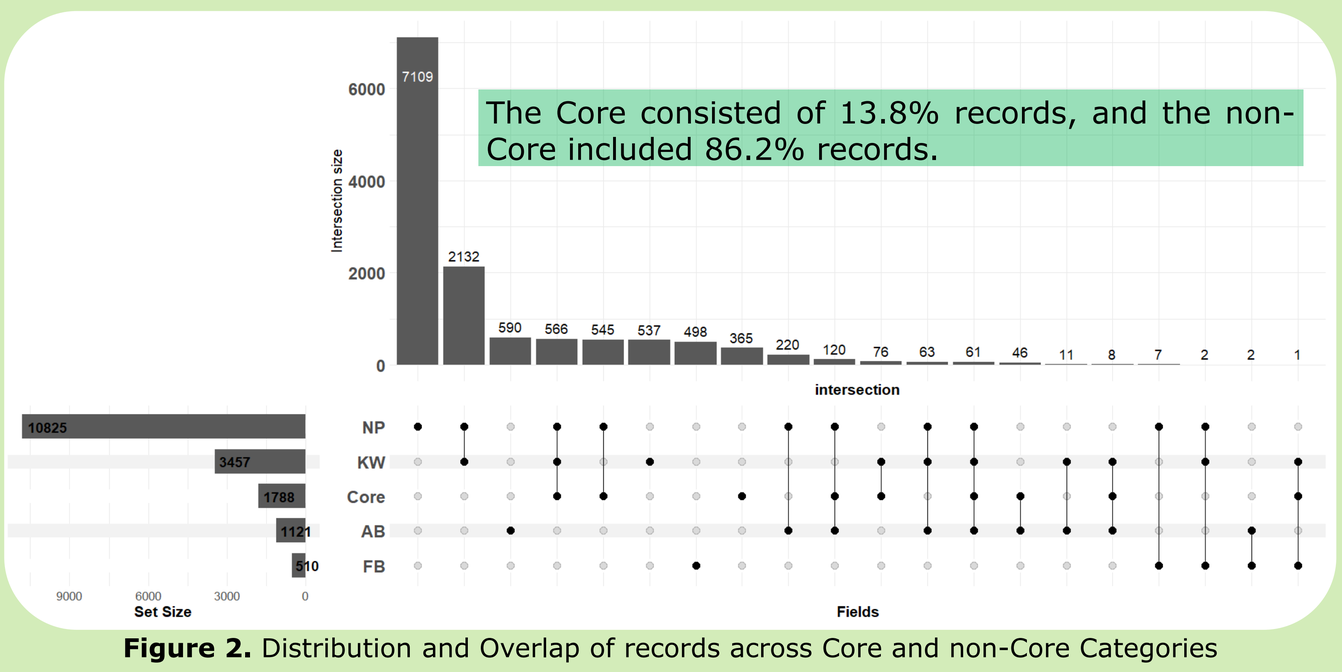

Figure 2. Distribution and Overlap of records across Core and non-Core Categories

NP: contributed the largest number of additional WoS categories (208)

WoS Subject Category	num. journals
Public, Environmental & Occupational Health	827
Psychiatry	741
Medicine, General & Internal	668
Psychology, Multidisciplinary	412
Multidisciplinary Sciences	394
Neurosciences	331
Nutrition & Dietetics	330
Pharmacology & Pharmacy	330
Environmental Sciences	310
Oncology	300

KW (157)

WoS Subject Category	num. journals
Psychiatry	314
Public, Environmental & Occupational Health	258
Psychology, Multidisciplinary	251
Medicine, General & Internal	138
Neurosciences	124
Pharmacology & Pharmacy	114
Environmental Sciences	105
Psychology, Clinical	96
Nutrition & Dietetics	78
Respiratory System	63

FB (140)

WoS Subject Category	num. journals
Cardiac & Cardiovascular Systems	105
Multidisciplinary Sciences	45
Cell Biology	36
Peripheral Vascular Disease	26
Biochemistry & Molecular Biology	25
Medicine, Research & Experimental	21
Genetics & Heredity	20
Endocrinology & Metabolism	17
Hematology	16
Clinical Neurology	14
Neurosciences	14

AB (78)

WoS Subject Category	num. journals
Medicine, General & Internal	98
Psychiatry	63
Gastroenterology & Hepatology	52
Neurosciences	46
Environmental Sciences	45
Multidisciplinary Sciences	40
Pharmacology & Pharmacy	31
Oncology	22
Biochemistry & Molecular Biology	20
Chemistry, Multidisciplinary	17

Table 1. Predominant WoS categories in the non-Core Category fields

The Core keyword map comprised 13 clusters (2,024 items), highlighting **behavioural addiction** (gambling disorder, emotion regulation) closely related to **treatment** (CBT, treatment conditions), alongside **preclinical** (memory, mouse, ethanol, receptor), **clinical neuroscience** (deficit, health control, cerebellum) clusters, **E-cigarette and marketing** (European country, e-cigarette, brand and advertising), and **HIV/HCV prevention and treatment among high-risk populations** (PWID, HCV, HIV, HIV infection, HCV infection, HROU, MSM, migrants, HCV treatment, reinfection) (Figure 3).

The non-Core keyword map included 19 clusters (10,282 items), encompassed diverse thematic domains, and was dominated by **history/implant** cluster closely linked to the **cocaine cluster**, encompassing psychoactive substances (MDMA, ethanol, cocaine, morphine), pharmacological agents (cannabidiol), experimental models (mouse, rat, animal model, social defeat), neuroscience (neuron, brain, activation, receptor), and also including **behavioural addictions** (problematic internet use - PIU), **wastewater-based drug monitoring** (compound, metabolite and WBE – wastewater-based epidemiology) (Figure 4).

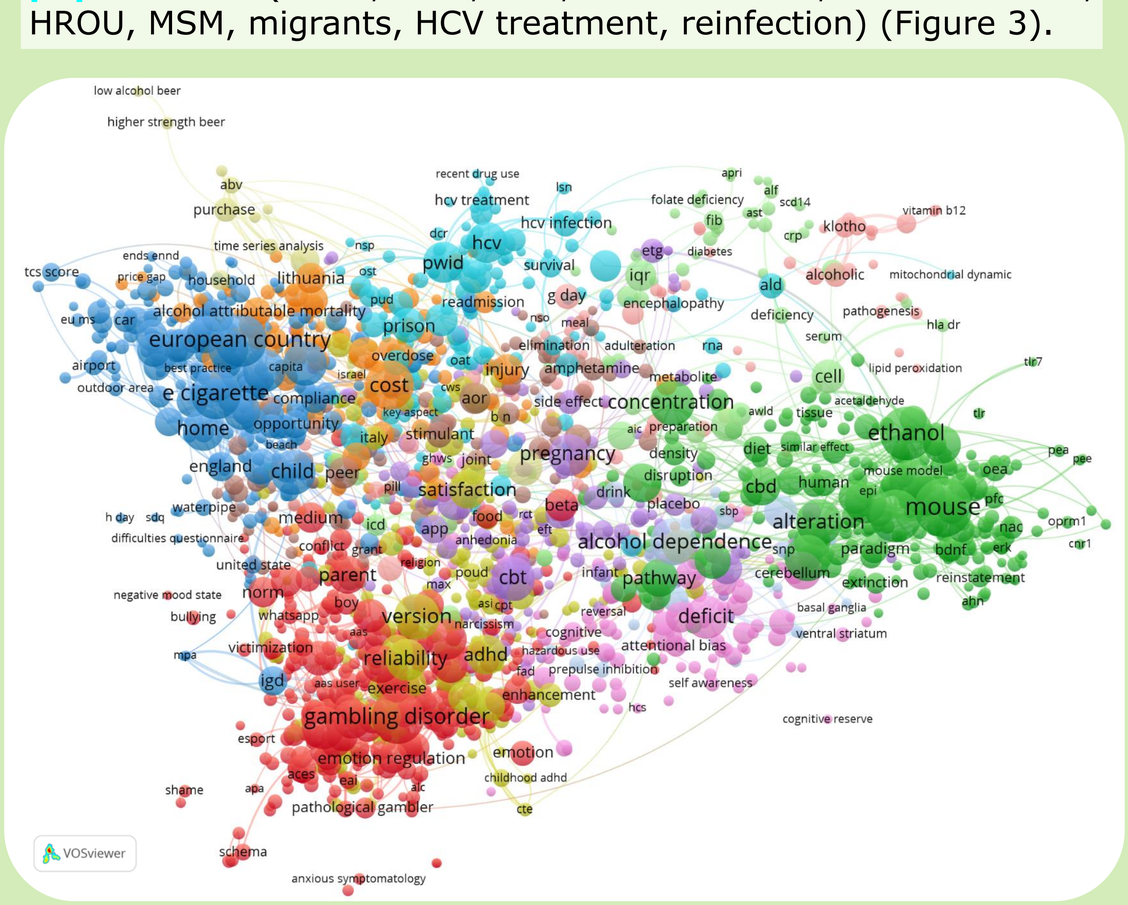

Figure 3. Core term keywords co-occurrence map

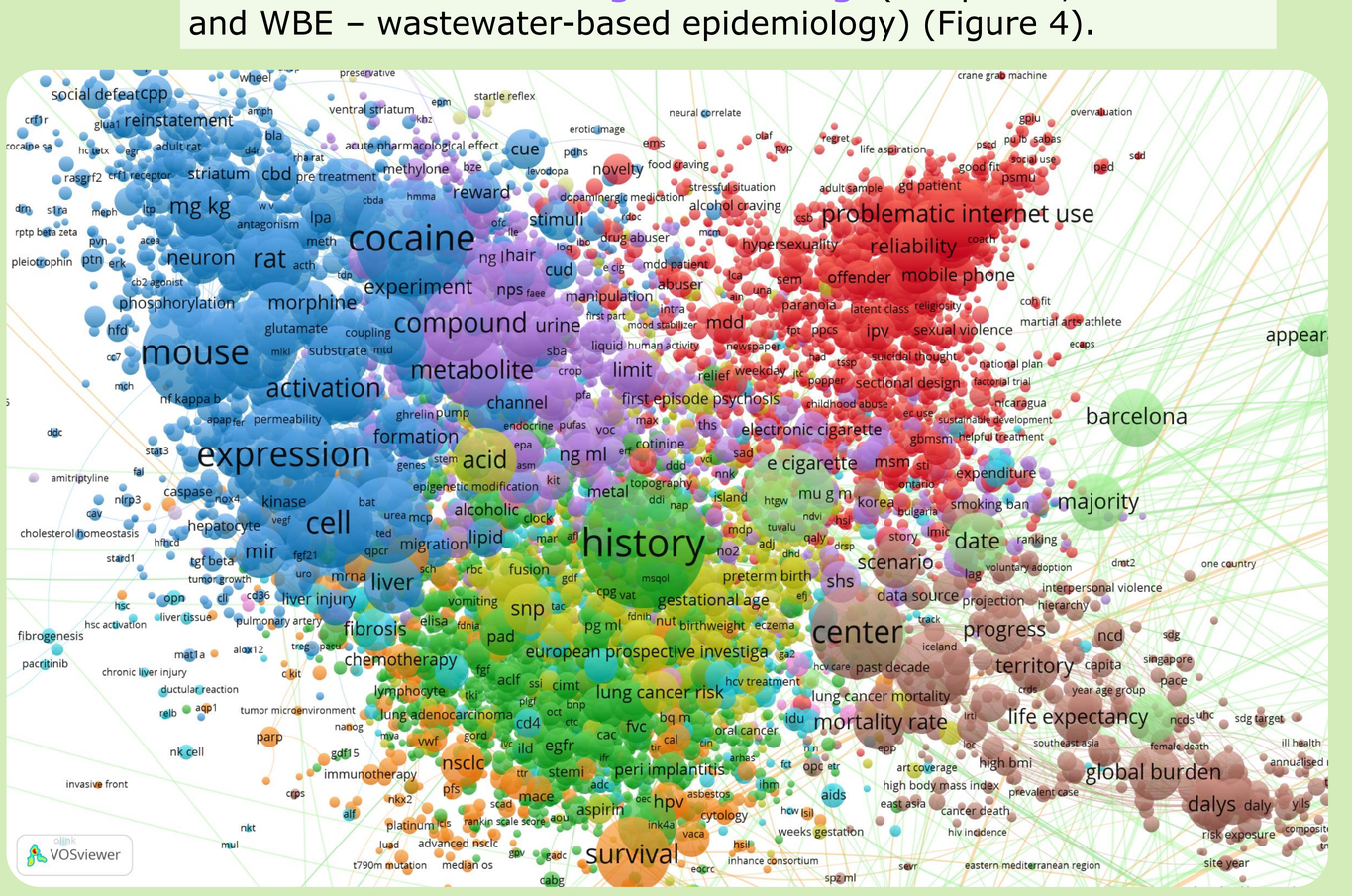

Figure 4. Non-Core term keywords co-occurrence map

Conclusion

- ❖ Non-Core contained six times more records than the Core and highlighted addictional WoS categories (PEOH, Psychiatry, CCS, and MGI).
- ❖ Non-Core also revealed clusters related to Behavioural Addictions, Clinical Psychology, and Experimental Addiction Neuroscience, which associated with Psychiatry, Psychology, Clinical or Pharmacology & Pharmacy.
- ❖ Non-Core represents a substantial additional layer of addiction-related research beyond the Core.

References

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