Behavioural addictions research past & present: A bibliographic review

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Abstract

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"... there is no basis for linking the word 'addiction' to drug habits. Nor is there a basis for assuming that the most severe addictions necessarily involve drugs."

B.K. Alexander & R. F. Schweighofer (1988)

Introduction

The phrase "behavioural addiction" appears in academic articles in the early 1990s following …'s seminal editorial. However, the notion that someone can be addicted to "activities" and not substances appears earlier (e.g., Alexander & Schweighofer, 1988), and parallels between compulsive gambling and substance addictions go back to at least … ().

Immediately following …'s editorial, Jaffe [1990; (1)] made the argument that the term "addiction" was being used too liberally—it was being applied to many non-drug-related behaviours and there was a risk of "*trivializing dependence*". These concerns did little to stem the expanding definition of the term. Since Jaffe's 1990 article the net of addiction has been cast wider and wider, capturing increasingly more repetitive or compulsive behaviour patterns. These include… and even fortune telling (2,3).

Fears that the term addiction will lose its seriousness or weight remain heightened today (4). These may be justified—individuals who experience addictions to opioid-based drugs or alcohol can suffer serious, life-threatening harm and withdrawal episodes. Assigning the same label to describe their experience and someone who has a largely inconsequential difficulty controlling their spending or screen use could indeed trivialise the condition. Yet, there is increasing evidence that people are compulsively engaging with behaviours like gambling (), gaming (), smart phones (), and exercise () in a way that resembles substance addictions. Neuroscientific studies have indicated that the neurobiology underlying substance and behavioural addictions may also be similar (see …).

Buoyed by this evidence, clinicians and researchers have lobbied for increased recognition of behavioural addictions as official mental health diagnoses. Success in this endeavour was most notable in 2013 when the American Psychological Association included *Gambling Disorder* as a behavioural addiction in the fifth edition of the Diagnostic & Statistical Manual of mental disorders (DSM-5) under the rubric of . More recently in 2018,

While the addition of Gambling Disorder to the DSM-5 appears to have been widely accepted as a positive step forward, the addition of Gaming Disorder to the ICD-11 has been met with contention.

Such concerns are not unique to the addiction field. "Psychiatrization" and "concept creep" have been used to describe the seemingly ever-widening definitions mental health disor-

ders, abuse, and trauma, as well as the "medicalisation" of these in the form of over-diagnosis and treatment (Haslam, 2016; Haslam et al., 2021).

Whilst others have expressed concern about this issue in the behvioural addictions field (e.g., 4), there has been no attempt to systematically investigate this trend and "take stock" of research in the field. The number of novel addictions formally investigated remains unclear. As does the extent to which each purported addiction has been studied relative to the more established gambling and gaming disorders. The aim of this bibliographic review was, therefore, to determine:

[1] the total number of different behavioural addictions formally studied in peer-reviewed articles

[2] the number of such articles focused on each proposed addiction

Methods

An important assumption that underlay the methods used here was that

Search & selection process

The review was divided into two phases. The first aimed to identify all potential behavioural addictions that *may* have been formally studied in peer-reviewed articles. This was achieved via internet-based searches of terms such as "new behavioural addiction" and "novel behavioural addictions", as well as scans of academic blogs (e.g., https://drmarkgriffiths.wordpress.com/). Terms for these novel addictions were collated and combined with diagnostic terms for more established behavioural addictions. For example, *Gambling Disorder* from the DSMs-5 (5), *Pathological Gambling* from DSM-IV, and *Gaming Disorder* from ICD-11 (6).

In Phase 2, the terms derived from Phase 1 were used in searches of the PubMed database. PubMed was selected for two reasons. First, it indexes more than 30,000 different journals/outlets, including most journals that publish behavioural addiction research (e.g., *Addiction*, *Journal of Behavioural Addictions*, *Additive Behaviours*). Second, search results and article data can be automatically downloaded using the `rentrez` R package, allowing for efficient extraction of data on a large scale—in this case, all articles ever published on behavioural addictions in the database.

Search strings for each behavioural addiction were first trialled and refined using the PubMed "Advanced search" function online. Once a string was finalised, all results returned using it were screened for relevance at title and abstract level. To be included in the review, an article was required to:

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The title and PMID (PubMed ID) of irrelevant articles were noted and later removed (see Data extraction section below).

Data extraction

Once

d trialed a PubMed search string to try and identify relevant papers on each behavioural addiction (e.g., "social-network-use disorder" OR "social media addiction"). After trialing and refining each search string on the PubMed site, I used `rentrez` to pull the results from the search string for every "addiction" I could find, individually screening the results for duplicates or irrelevant articles (e.g., errata).

I used a combination of personal knowledge of this area, results from PubMed searches for other addictions, and Google searches for phrases akin to "bizarre addictions" (a very systematic approach) to identify the different types of "addiction" to search for.

Search & selection process

Data analysis

### Number of behavioural addiction articles on PubMed
Up to end of 2022

Behavioural addiction	N	%
Gambling	3372	32.45
Internet	2154	20.73

Gaming	1401	13.48
Behavioural Addictions	1320	12.70
Smart Phone	753	7.25
Exercise	351	3.38
Work	262	2.52
Sex	255	2.45
Social Media	245	2.36
Shopping	67	0.64
Pornography	61	0.59
Study	33	0.32
Tanning	29	0.28
Cybersex	26	0.25
Hair Pulling	13	0.13
Running	10	0.10
Love	9	0.09
Selfie	8	0.08
Extreme Sport	6	0.06
Fortune Telling	3	0.03
Youtube	2	0.02
Crime	2	0.02
Dance	2	0.02
Joyriding	2	0.02
Polysurgical	2	0.02
Death	1	0.01
Near Death	1	0.01

Results
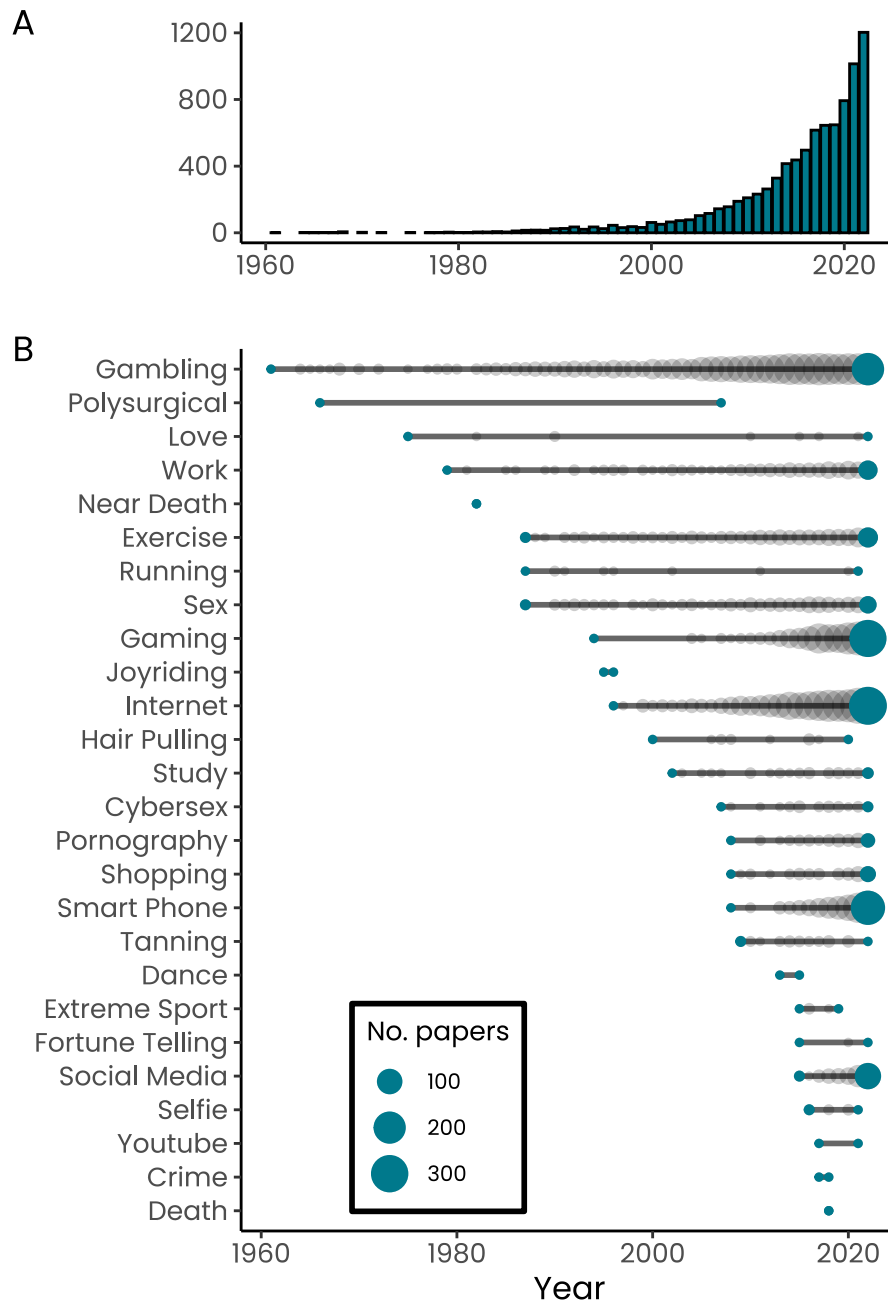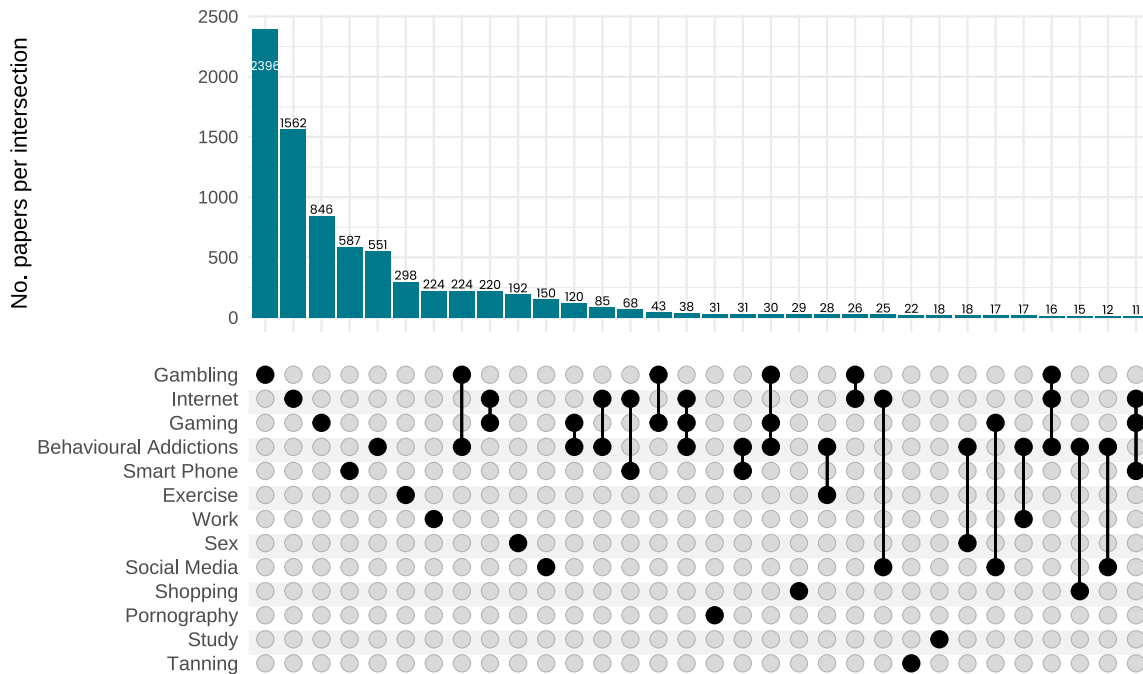
Discussion

"I found myself saying to our driver: 'Green, did you know that I am an addict'? He is of the old school so that he did not turn his head. 'No, sir, I did not know that'. 'I am addicted to at least one good experment a day—sometimes I can arrange it by telephone. When I cannot, the world goes out of focus, becomes unreal'. Possibly somewhat dissapointed, but cearly relieved: 'I see, sir'."

E. H. Land in *Addiction as Necessity and Opportunity* (1971).

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