

Hooked Online: A Call for Canadian Leadership in Addressing Internet Addiction

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In the 2020 Speech from the Throne, the Government of Canada expressed a commitment to ensuring universal access to high-speed Internet for every Canadian.¹ While there is a wider agreement about the manifold social, educational, and economic benefits of improved internet access, it is equally crucial to consider some of the direct consequences accompanying the expansion of such accessibility. Internet access fundamentally transforms the way we interact with each other and spend our leisure time. Notably, the most popular reasons for which people usually access the internet include social media, entertainment, and pornography.² And this is by design; the most popular websites on the internet are crafted to attract frequent visitors and to keep them hooked.^{3,4} This policy memo contends that these design practices of popular internet companies^a are contributing to a silent pandemic of mass behavior addiction within our communities. In the following sections, I illustrate how business models premised on the attention economy encourage addictive design and engineering practices. Subsequently, I draw on recent research to show how this attention economy transforms into an addiction economy. Finally, I propose three interconnected dimensions requiring immediate attention from the Canadian Federal government to address internet addiction both domestically and globally.

Attention economy: from metrics and features to societal menace

Economist Herbert Simon coined the term "attention economy" in the 1970s contending that human attention, much like shelter or food, is a commodity that can be monetized and traded¹⁰. This concept is glaringly evident in the core business models of internet companies, where success is gauged by key metrics such as the number of daily active users, time spent on the platform, and ad impressions.^{11,12} Every glance, every scroll, every click represents a slice of the pie fiercely sought after in the marketplace of the attention economy. The economic incentive is clear - **the longer users stay hooked, the more revenue companies generate through advertising**. Consequently, internet companies employ addictive design techniques rooted in behavioral psychology and neuroscience^{3,4,13} to showcase thriving user engagement metrics to investors and clients (i.e., advertisers).

^a The term "internet companies" encompasses all entities with a core business model based on the attention economy spanning various internet sectors, including social media, entertainment⁵, gaming⁶ pornography⁷, dating apps⁸, and even online shopping.⁹

Product features, such as infinite scroll on Facebook and Instagram, auto-play on YouTube, or ubiquitous push notifications, are aimed at keeping users hooked and coming back for more. These **products are made sticky** by incorporating occasional unpredictable rewards, social validation incentives, and the removal of natural stopping cues.^{3,14} Furthermore, internet companies employ adaptive algorithms to **hyper-personalize the content**, ensuring users are consistently glued to tailored content and advertisements based on their specific preferences and behaviors.^{4,13} Notably, some product designers and engineers who created these technologies have left their jobs and publicly expressed regret in developing these technologies.^{3,15} While individual testimonials hold value, they alone are insufficient to address the persisting economic model that prioritizes maximizing user time on the platform above all other considerations.

The commercial success mediated through user engagement metrics translates into societal catastrophe as “internet addiction” - characterized by excessive and uncontrolled online activity with prolonged internet use¹⁶ - becomes widespread. Emerging research from psychology and neuroscience conclusively establishes that internet addiction shares many **similarities with other forms of addiction**, such as drug or gambling addiction.¹⁷⁻¹⁹ Excessive internet use activates the same molecular pathways, neural circuits, and other areas of the brain implicated in other forms of addiction.²⁰⁻²² It has been observed to diminish people's ability to focus²³, impair their self-regulation ability²⁴, induce social isolation and loneliness²⁵, and exacerbate various mental health issues including ADHD, depression, and anxiety¹⁷. Of particular concern, children and adolescents appear more susceptible to addictive internet use and its associated consequences, including developmental delays²⁶ and heightened suicidal ideation^{6,27}.

The 2018 Canadian Internet Use Survey (CIUS) revealed that around 1 in 5 Canadians report experiencing sleep disruption and reduced physical activity due to their social media use²⁸, with around **23% youth reporting negative emotion-related outcomes** due to problematic social media use²⁹.

Furthermore, a 2014 meta-analysis indicated that nearly 6 percent of the world's population had become addicted to the internet³⁰. It is reasonable to assume that these numbers have likely increased with the widespread adoption of the internet and smartphones, coupled

with the refinement of addictive capabilities in newer technologies and platforms. Despite warnings from researchers about an “epidemic-like” rise in internet addiction over the years,^{31,32} the global policy response has been slow and inadequate. This policy memo advocates for the Canadian government to proactively regulate the tech industry and hold businesses accountable for incentivizing wrongdoing.

Recommendations:

Recommendation 1: A national framework to recognize and address internet addiction

While there have been past advisories from Health Canada recommending limitations on screen time for children³³, internet addiction is not officially recognized as a disorder in Canada. Taking inspiration from South Korea, the only country with a National Policy for Internet Addiction³⁴, Canada's recently established Ministry of Mental Health and Addictions must develop a comprehensive framework addressing internet addiction as a clinically recognized disorder impacting the mental health and well-being of Canadians. Subsequent steps should involve mobilizing resources to facilitate cross-ministerial actions, including:

- Create a **diagnostic scale for internet addiction** in collaboration with professional bodies such as the Canadian Psychiatric Association.
- Identify high-risk groups (including children, youth, and individuals suffering from mental health conditions) and formulate preventive plans for their care.
- Implement **age-appropriate preventive awareness programs** in education institutions and local communities, explaining the dangers of internet addiction.
- Train practitioners and professionals³⁵ (counselors, researchers, and teachers) to develop effective preventive and intervention plans for individuals affected by internet addiction.
- Develop a range of **treatment and post-treatment plans linked** to hospital care, especially for high-risk individuals with comorbid difficulties such as depression, anxiety, and ADHD.

Recommendation 2: Regulatory measures to hold internet companies accountable

Public discourse on internet de-addiction often places the burden of recovery on individuals, offering tips like practicing self-control, meditation, digital fasts, and adjusting notification settings. However, this discourse overlooks the fact that attention-trading businesses use a range of technological and human resources with a precise goal of breaking that self-control which individuals are advised to practice. The Canadian government must go beyond individual-centric approaches and establish a fiduciary duty³⁶ for internet companies to demonstrate the absence of addictive design practices in their offerings. The following measures can be implemented to achieve this:

- Establish a **new directorate or review board**³⁷ to investigate and regulate the behavioral manipulation experiments conducted by internet companies on their users.
 - require these companies to make their algorithms widely available for public and scholarly scrutiny.
 - mandate internet companies to shift from attention-extracting business models to alternatives such as monthly subscriptions.
 - ban or **limit micro-targeting of advertising**, personalized news feeds, and other behavioral nudges that make platforms addictive.
 - introduce regulations akin to the UK's Age Appropriate Design Code³⁸, mandating internet companies to *default to* prioritizing the safety and well-being of Canadian children in *the design* of their products.
- Similar to the Tobacco industry^b, compel internet companies to feature **mandated warning labels** with clear and graphic information explaining the harms of overusing their product. These labelings can show up as real-time feedback to users in the form of mandated pop-up messages displayed during excessive internet use.
- Incentivize and promote the development and adoption of more humane technology options. For instance, change default browser and search engines on all public Canadian

^b Social media firms are already facing a US federal lawsuit³⁹, alleging that their products, similar to tobacco, are addictive-by-design and can cause various mental health issues with excessive use.

computers to more privacy-respecting, less attention-extracting options like Brave and DuckDuckGo.

Recommendation 3: Global leadership through partnerships and legislations

Given the extensive global influence of powerful internet companies, as also evidenced by their response⁴⁰ to The Online News Act, Canada is strategically better-off to hold these entities accountable through a globally coordinated approach. As a signatory to Digital Nations Charter⁴¹, Canada can assume a leadership role in tackling internet addiction.

- First, Canada can propose the establishment of a multinational task force to study the potential **inclusion of internet addiction as a recognized disorder** within the World Health Organization's International Classification of Diseases⁴² (ICD).
- Second, Canada should foster collaboration with international organizations, universities, and research institutions to establish **a global knowledge base** on the prevalence and impact of internet addiction.
- Third, leveraging its active membership in the Digital Nations collective, Canada can spearhead the development of a **Global Digital Bill of Rights**⁴³. Drawing from landmark legislations such as Europe's GDPR⁴⁴ and Canada's Digital Charter⁴⁵, this proposed legislation would encompass equal digital rights to every human being, including the right for safety against addictive design practices of internet companies.

Conclusion:

Canada stands at a critical juncture in addressing the often overlooked yet widespread menace of internet addiction. By embracing a comprehensive national framework on internet addiction, enforcing regulatory measures on internet companies, and leading a globally coordinated response, Canada can show the way in responsibly navigating the digital landscape. These measures not only safeguard the well-being of the Canadian communities but also positions Canada as a global leader in ensuring universal internet access for everyone without compromising the well-being of our citizens.

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