

# GAMBLING RESEARCH

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## Dr. Daniel McGrath Examining the Impact of Cannabis Legalization on Gambling Behaviour

It was in October 2018 that Canada became the second country in the world after Uruguay to legalize the non-medical use of cannabis for adults. As some predicted, the self-reported use of cannabis amongst Canadians 15 or older grew from 14.0% pre-legalization to 20.0% by the end of 2020.<sup>1</sup> These figures represent a cannabis-using population of nearly 6.2 million people in Canada. These users are of particular interest to Dr. Daniel McGrath who has been using data collected from the Institute's national project (ANP) dataset to investigate the impact of cannabis legalization on gambling behaviour and gambling-related harm in Canada.

According to McGrath, the existing academic literature about cannabis and gambling has been synthesized in a recent systematic literature review conducted by Punia et al.<sup>2</sup> They divided the literature into two main categories: (1) the broader relationships between cannabis and gambling, and; (2) the acute effects (i.e., those that usually occur rapidly) of cannabis while gambling. The research team concluded that cannabis use is relatively common in gamblers, more strongly linked to problematic gambling, and its co-occurrence with gambling is associated with other substance

use disorders. Surprisingly, they found no direct experimental studies examining the acute effects of cannabis on gambling behaviour. There were, however, several lab-based studies that examined the acute effects of cannabis on decision-making and risk-taking. Generally, acute use of cannabis leads to poor decision-making and increased risk-taking behaviour. Notably, poor performance on financial decision-making tasks may provide some insight into how cannabis taken acutely could affect gambling behaviour. "In short," says McGrath, "there's still a lot to learn about the relationship between cannabis use and gambling," and data he is analyzing from the ANP dataset is beginning to reveal these relationships.

The ANP data McGrath used for his study was collected by Leger Opinion who contacted their registered pool of online panelists and selected for interviews those who reported gambling at least

The primary aim of the Alberta Gambling Research Institute, a consortium of the Universities of Alberta, Calgary, and Lethbridge, is to support academic research related to gambling.

### MISSION

To facilitate evidence-based broad research that informs gambling public policy and educates Albertans and the wider audience about the effects of gambling.

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once per month. The baseline (N=10,199) data collection took place from August-October, 2018 and follow-up (N=4,707) occurred from August-November, 2019. This meant that data collection happened at times before and after Canada's cannabis legalization date of October 18, 2018. As part of the recruitment process, gamblers were oversampled which resulted in a high number of problem and pathological gamblers being included in the survey at baseline. Questions asked included those about frequency of use, amount used, method of administration, and attitudes toward legalization.

McGrath's preliminary analyses of the survey data has focused on the two broad themes of cannabis users vs. non-users and predictors of cannabis use.

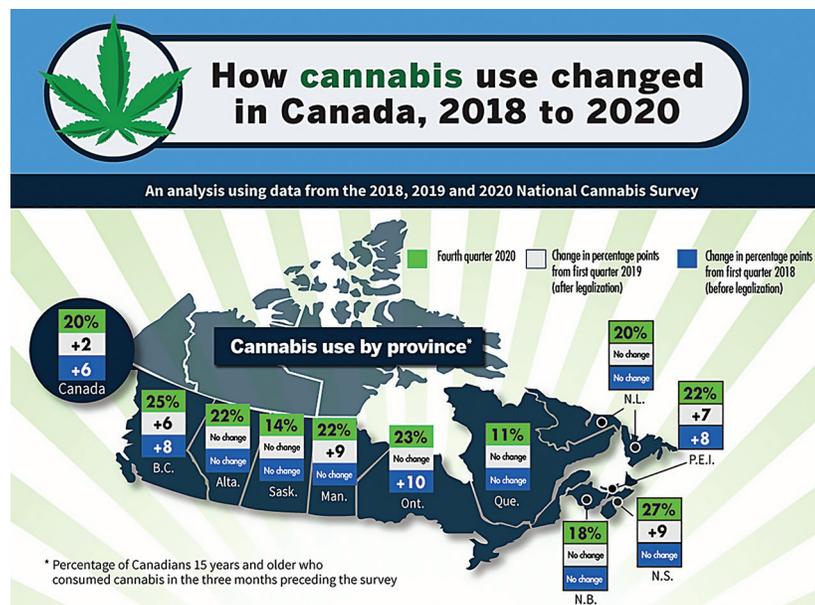
"In other words," says McGrath, "I wanted to identify some possible variables or reasons for why somebody would switch from not using cannabis to using cannabis after cannabis was legalized." His findings indicate that cannabis use amongst survey participants increased from 21% at baseline to 26% at follow-up after legalization.<sup>3</sup> "We know that gamblers report higher cannabis use and other substance use in general but there's still a lot to learn about the link between cannabis and gambling," he says. One of those unknowns is how the acute use of cannabis specifically affects gambling behaviour.

According to McGrath, "the ANP dataset allows us to examine some of these relationships in significantly more detail than we could otherwise." In terms of gambling, findings indicate that cannabis users had significantly higher PGSI scores as well as more time spent gambling than non-users. They were also more likely to endorse more concerning types of gambling such as EGMs and online gambling and it was found that cannabis use was associated with being male, being younger, as well as smoking and other substance use. McGrath's regression analysis identified a number of potential predictors of switching from non-cannabis use to cannabis use - specifically things like age as well as substance use and being male.

Ultimately, McGrath's findings provide some initial glimpses into what could actually predict switching

from cannabis use to non-use. "However," says McGrath, "more longitudinal research is needed before we can make any firm conclusions given the recency of cannabis legalization in Canada."

For additional information see the [video](#) and [presentation](#) from Institute Conference 2021. Dr. Daniel McGrath is an Associate Professor in the Department of Psychology at the University of Calgary and is a Senior Research Fellow with the Alberta Gambling Research Institute. His research is primarily focused on the co-morbid relationship between commonly used substances (e.g., tobacco, alcohol) and gambling behaviour, attentional biases in gambling disorder, and the role of personality in addiction.



Source: Statistics Canada, [How cannabis use changed in Canada, 2018 to 2020](#), April 21, 2021. Reproduced and distributed on an "as is" basis with the permission of Statistics Canada.

- 1 Figures are for the past three-months use and come from Health Canada's [Canada Cannabis Survey, 2020](#).
- 2 Punia, K., DeVillier, M., MacKillop, J. & Balodis, I. M. (2021). Understanding the overlap between cannabis use and gambling behaviour: A systematic review of empirical findings and consideration of policy implications. *Current Addiction Reports*, 8, 35-56. <https://doi.org/10.1007/s40429-020-00323-x>
- 3 Note also that twelve per cent of baseline non-cannabis users later reported cannabis use and about the same number of people who were cannabis users switched to being non-users at the follow-up.

## Dr. Carrie Shaw Appointed as Senior Researcher at CERG



Congratulations to Dr. Carrie Shaw on her new appointment at the Centre of Excellence in Responsible Gaming (CERG), University of Gibraltar. Dr. Shaw joined the CERG on August 1<sup>st</sup>, 2021 filling the role of the Centre's Senior Researcher. She will continue in her official role as the ANP project manager until mid-November 2021, after which she plans to continue working in collaboration with the ANP team to see the project through to its successful completion. "I value every relationship that I have developed during my time in association with AGRI generally, and with the ANP team specifically," says Shaw. She believes that her connection with AGRI will continue as she plans to maintain existing relationships and research collaborations. "The CERG aspires to global engagement," says Shaw, "and we hope that AGRI will be part of our active multidisciplinary and interdisciplinary collaborations."

### ABOUT CERG

**CERG is a relatively new research institute established in 2021. Its overarching aims include the identification of the etiological factors of addictive disorders in order contribute to the development and implementation of evidence-based prevention and treatments. The CERG's pure research will serve this wider interest of understanding the mechanisms of the development and maintenance of addiction processes by focusing specifically on gambling, video game use (gaming) and the cross-connection between these activities. It will also investigate the nature of risks for, and harms related to, gambling and gaming behaviour. In addition to these lines of pure research, the CERG also aims to evaluate existing interventions and to translate results into efficacious educational programmes and other intervention initiatives that will contribute to the minimization of gambling and gaming related harms. For more information: <https://www.unigib.edu.gi/research/centre-of-excellence-in-responsible-gaming/>**

## Investigating Publishing Practices in Gambling Research: An Interview with Graduate Student David Baxter

**You're currently pursuing a Master's degree in Political Science at the University of Alberta. What areas of gambling research have you been investigating to date?**

With my background as a librarian and my experience working at Greo, I was interested in studying how gambling research is published and disseminated. The Department of Political Science is a good home for this research because much of how gambling research is published has to do with who funds it, and how gambling research is funded is a very political topic in the gambling research community right now. My specific focus is gambling research published as "grey literature", which refers to research published as government reports or institute reports and other things like that, rather than the "primary literature" of academic journals and books.

My main collaborators are my supervisor, AGRI Research Chair Dr. Fiona Nicoll, and Dr. Murat Akçayir at University of Alberta, and Dr. Mark Johnson at University of Sydney. Together we are working on a book called *Academic Integrity and Disciplinarity in Gambling Research*, which will be out within the next year. I have also continued to work on projects with Dr. Margo Hilbrecht at Greo.

**You were previously employed with Greo (formerly Gambling Research Exchange Ontario) as an Information Specialist. Have you been able to apply this knowledge and experience to your Master's research?**

The knowledge, experience, and professional network I developed at Greo all inform my Master's research. By managing and developing the library of gambling research for Greo's Evidence Centre, I gained a lot of familiarity with how gambling research is funded and published in different jurisdictions. Systematic searching of grey literature usually requires a fair bit of domain knowledge, so having three years of experience allowed me to collect my dataset of grey gambling publications rather expediently.

My research also includes a qualitative component where I am interviewing gambling researchers who have published both academic and grey literature. My work at Greo helped me know who's who and to invite a good variety of participants. The real surprise was that we expected to hear back from maybe five or ten people willing to participate, but I've actually done over twenty interviews. I think this demonstrates that this is an issue of broad interest to gambling researchers as well as my familiarity to participants from my work at Greo sending out Research Snapshot summaries of researchers' articles.



**Your recent academic publications have involved large-scale analyses of the academic literature related to gambling. What were the major themes and trends that you identified?**

My first mapping review looked at 10 years of gambling journal articles (2008-2017) from Canada, Australia, and New Zealand and how they aligned with the *Conceptual Framework of Harmful Gambling* (1423 journal articles). We found that most gambling publications pertain to the psychological aspects of individual gamblers, particularly judgment and decision-making, and comorbid disorders. This is perhaps not surprising but we thought it was valuable to provide empirical bibliometric evidence. When we look at the comparative results, the dominance of psychological research was much stronger in Canada than in Australia and New Zealand. This could be due to Canada's historical focus on problem gambling with things like the Canadian Problem Gambling Index and the Ontario Problem Gambling Research Centre, whereas for example, New Zealand has taken a public health approach to gambling services and research since 2003.

More recently, we were interested in how the grey literature fit into this picture, so we did a pilot study comparing the top research topics of five years of gambling journal articles and grey literature (2013-2018) from five countries (1292 journal articles and 360 grey reports). We found some similarities but also some important differences. Journal articles tended to focus on children and young adult gambling, as well as what about people makes them gamble (individual characteristics, impulsivity, and gambling motivations). The grey research reports were most often about the whole population, including prevalence studies and gambling assessment tools, and were generally more concerned with gambling harm, harm minimization, and health and well-being rather than problem gambling. This suggests that grey literature represents a sizable and unique body of gambling research, and we look forward to presenting a more detailed analysis of 25 years' worth of gambling research in our forthcoming book.

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**Your thesis research involves interviewing gambling researchers. What types of questions did you ask them? What are your anticipated research findings?**

I mentioned that I used my professional network from Greo to connect with most of the participants, but Dr. Nicoll also helped me make some connections, particularly with Indigenous participants. We conducted in-depth interviews that asked participants about their contributions to academic and grey gambling research, their opinions on the relative quality of grey literature, and grey literature motivation and compensation. I have just finished transcribing the interviews and plan on doing thematic analysis using qualitative data analysis software.

There have been some very interesting preliminary results and a common theme was that primary and grey research both vary greatly in quality. While many participants found they were on par with each other overall, some held that journal articles had higher quality standards, while others reported the opposite. These differences mainly had to do with the particulars of the peer review process (many grey literature reports

are peer-reviewed) and the funder's involvement in the research process. Many researchers cited career challenges with producing grey literature because their universities do not recognize it as a "publication" equivalent to a journal article. I also learned about many creative solutions that gambling researchers are using to demonstrate the impact of their work and disseminate it in different ways. I am really looking forward to digging into these data and presenting them at the AGRI conference in 2022.

**Have your current investigations identified any gaps with respect to the gambling research landscape? If so, what are they?**

My interviews with gambling researchers – to be anonymized and published the [Greo Dataverse](#) – have shown me that gambling and gambling research both raise specific political issues. There are important discussions about gambling happening amongst gambling researchers in journal editorials

and commentaries, but since most gambling researchers and gambling journals are based in medical and scientific traditions, these political arguments can be dismissed as “opinion” and the discussion can be stalled. For example, van Schalkwyk et al.’s recent article<sup>1</sup> is a well-supported piece of political research, but the journal considers it a “Viewpoint”. In the future, I think it would benefit the field to see more political science-based gambling research approaches to researching gambling. In fact, according to a report by Leonard & Violo<sup>2</sup>, I am the first AGRI Graduate Scholarship recipient from the discipline of political science, but I hope I am not the last!

**David Baxter is an Institute-funded Master’s student studying Political Science at the University of Alberta. He holds an undergraduate degree in Biology with a Biodiversity Specialization, and a Master’s in Library and Information Science. His career has included seven years working in natural history museums prior to becoming involved with gambling research in 2017 when he joined GREO in the role of Information Specialist. He currently leads GreyNet’s grey literature Education & Training Committee and is involved in curating a website of educational resources on grey literature called GreyLitGuides.com.**

<sup>1</sup> van Schalkwyk, M. C. I., Petticrew, M., Cassidy, R., Adams, P., McKee, M., Reynolds, J., & Orford, J. (2021). A public health approach to gambling regulation: Countering powerful influences. *The Lancet. Public Health*, 6(8), e614-e619.

[https://doi.org/10.1016/S2468-2667\(21\)00098-0](https://doi.org/10.1016/S2468-2667(21)00098-0)

<sup>2</sup> Leonard, C., & Violo, V. (2021). Gender equality in gambling student funding: A brief report. *Critical Gambling Studies*, 2(1), 68-75.

<https://doi.org/10.29173/cgs59>

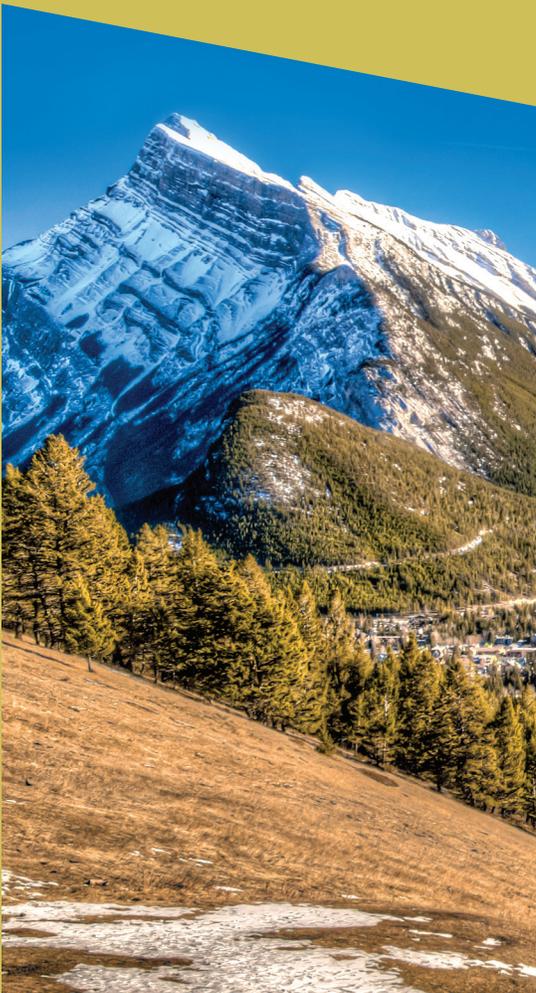
## New ANP Journal Article Published

*Christensen, D. R., Nicoll, F., Williams, R. J., Shaw, C. A., el-Guebaly, N., Hodgins, D. C., McGrath, D. C., Smith, G. J., Belanger Y. D., & Stevens, R. M. G. (2021). Responsible gambling in Canada: An analysis of the RG Check patron surveys. Journal of Gambling Studies. Epub ahead of print.*  
<http://doi.org/10.1007/s10899-021-10052-z>

**ABSTRACT:** This study analyzed the Responsible Gambling Check patron survey data from Canadian casinos and racinos collected from 2011-2019 (18,580 patrons and 75 venues). The results indicated increasing awareness and use over time of harm minimization tools among more frequent patrons. Despite these promising trends, it is concerning that a substantial percentage of gamblers are still unaware of the harm minimization tools available. Further, the actual impact of this awareness on responsible gambling behaviour is largely unknown. We suggest greater efforts are needed nation-wide to promote the awareness, utilization, and evaluation of these harm minimization tools.

# AGRI Conference 2022 @ The Banff Centre

Plans are in place for the Institute’s annual conference to be held “in-person” at The Banff Centre, in Banff, Alberta, Canada from **April 7-9, 2022**. Additional details will be posted on the website as they become available.



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