Sex, Gender & Cannabis Hub

Bulletin Methodology

SEX, GENDER AND SEX AND GENDER BASED ANALYSIS+ (SGBA+)

Sex and gender science is important in all health research and is critical to fully understanding cannabis use [1, 2]. Examining all components of sex and gender and measuring, analyzing and reporting on them increases precision in prevention, research and treatment [3]. It is also necessary to apply a sex and gender based plus analysis (SGBA+) to all evidence regarding cannabis to determine how it may or may not take into account sex and gender. SGBA+ is also applied to policies, programs or communications to assess how they differentially affect men, women, boys, girls and gender-diverse individuals, and how they intersect with characteristics such as race, age, ability, income and sexual orientation, among other factors. Sex refers to the biologically based factors and characteristics of individuals such as the anatomy, physiology, genetics and hormones that influence the physiological responses of individuals to cannabis.

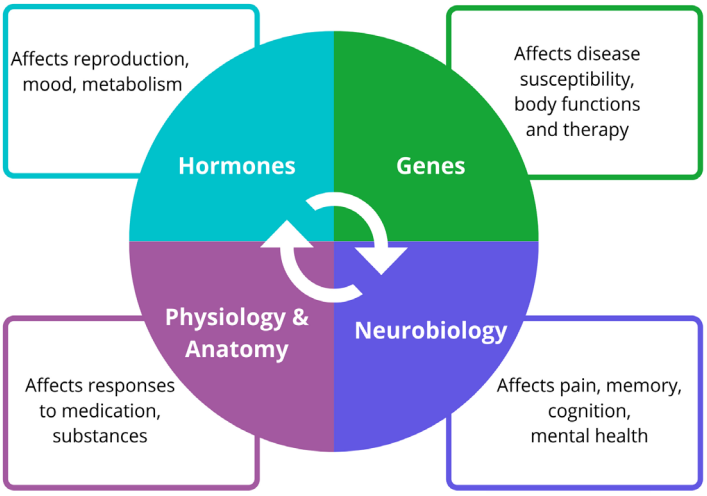

Figure 1. Sex related factors. These factors include reproductive characteristics, physiological processes, susceptibility to substances, and impacts on all body systems. Adapted with permission from "Sex and Gender Interactions on the Use and Impact of Recreational Cannabis" by L. Greaves & N. Hemsing, 2020, International Journal of Environmental Research and Public Health, 2020. 17(2) [3].

Gender refers to the norms, roles, relations and identities that influence individual and group behaviour and responses. Sex and gender often interact, and also intersect with other social and biological factors to affect cannabis use.

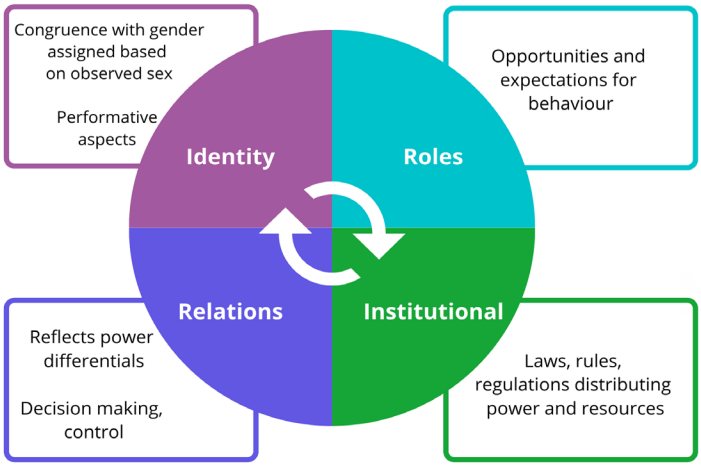

Figure 2. Gender related factors. These factors include culturally driven influences on relationships, opportunities, access to power, resources, decision making, autonomy, and identity. Adapted with permission from "Sex and Gender Interactions on the Use and Impact of Recreational Cannabis" by L. Greaves & N. Hemsing, 2020, International Journal of Environmental Research and Public Health, 2020. 17(2) [3].

DATA INCLUDED IN THE BULLETINS

The bulletins on the Sex, Gender and Cannabis Hub report on secondary analyses of surveys and other data sources. A key survey of interest is the International Cannabis Policy Study (ICPS)* [4]. The ICPS is an annual survey conducted online in both Canada and the United States. The ICPS findings presented in the Sex, Gender and Cannabis Hub apply to Canadian respondents only (in Wave 1, *n* = 10,057).

In Wave 1, respondents aged 16-65 completed web-based surveys between August 27 and October 7, 2018. Respondents were recruited through the Nielsen Consumer Insights Global Panel and their partners' panels. Email invitations containing a unique survey link were sent to a random sample of known eligible panelists based on sex and country of residence. Surveys were conducted in English or French, with a median survey time of 19.9 minutes. Respondents provided consent prior to completing the survey and received remuneration in accordance with their panel's typical incentive structure (e.g., points-based or monetary rewards, chances to win prizes).

**The ICPS was reviewed by and received ethics approval through a University of Waterloo Research Ethics Committee (ORE# 31330). A full description of the study methods and participation rates can be found in the International Cannabis Policy Study: Technical Report – Wave 1 (2018) [5]. Full item wording for the ICPS surveys is available at www.cannabisproject.ca/methods.*

DATA ANALYSIS

A total of 28,471 respondents completed Wave 1 of the survey in 2018. After removing respondents with invalid responses to data quality questions, ineligible country of residence, smartphone use, or residence in District of Columbia (due to inadequate sample size) (n = 1,302), 27,169 respondents were retained in the analytic sample, including 10,057 respondents from Canada.

Post-stratification sample weights were constructed based on the Canadian and US Census estimates. Respondents from Canada were classified into age-by-sex-by-province and education groups. Correspondingly grouped population count and proportion estimates were obtained from Statistics Canada [6, 7]. A ranking algorithm was applied to the full analytic sample (n = 27,169) to compute weights that were calibrated to these groupings.

The overall association between sex and each cannabis related behaviour was tested as part of the SGBA+. For the variables that had a significant association with sex, we then tested whether there was a significant difference between men and women who engaged in that behaviour. For example, if sex was significantly associated with frequency of cannabis use, we followed up by testing whether there was a significant difference between male and female respondents who used daily, weekly, monthly, etc.

SEX AND GENDER IN WAVE 1 OF THE ICPS

Respondents were asked their sex (*Female, Male*) and In Wave 1, gender identity, using the following responses *Female, Male, Transgender, Do not identify as female, male or transgender, Other, Don't know, Refuse to answer*).

Using sex in Wave 1, there were 5,845 females and 4,212 males. With regard to gender identity, 5,781 participants answered female, 4,178 male, 23 transgender, 13 did not identify as female, male or transgender, 19 as other and 43 as unstated (don´t know and refuse to answer). Using a sex and gender sensitivity analysis, we compared differences for several key variables (cannabis use status, age of initiation, average number of days of cannabis use per year). The same patterns of significant differences between females and males or lack thereof were observed when using sex and gender identity. Nearly all respondents (98.5%) reported a match between sex and gender. Due to the small number of respondents selecting transgender, other, or unstated, and given the similar patterns of significance between the two variables, the sex variable was used to analyze differences between men and women.

REFERENCES

1. Cooper, Z.D. and R.M. Craft, *Sex-dependent effects of cannabis and cannabinoids: a translational perspective*. Neuropsychopharmacology, 2018. **43**(1): p. 34-51.
2. Greaves, L., *Missing in Action: Sex and Gender in Substance Use Research*. International Journal of Environmental Research and Public Health, 2020. **17**(7).
3. Greaves, L. and N. Hemsing, *Sex and Gender Interactions on the Use and Impact of Recreational Cannabis*. International Journal of Environmental Research and Public Health, 2020. **17**(2).
4. Hammond, D., et al., *International Cannabis Policy Study Wave 1 Survey* 2018. Retrieved April 30, 2021. Available at: http://cannabisproject.ca/methods/.
5. Goodman, S. and D. Hammond, I*nternational Cannabis Policy Study: Technical Report – Wave 1 (2018).* 2019, University of Waterloo. Retrieved April 30, 2021. Available at: http://cannabisproject.ca/methods/.
6. Statistics Canada, *Table 17-10-0005-01 Population estimates on July 1st, by age and sex*. 2019: Available at: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501.
7. Statistics Canada, *2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016242*. Available at: https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-.