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# Predictors of drug type and sexualized use in men who have sex with men (MSM) and transgender people in France

Alain Léobon, PhD, & Eugénie Samson-Daoust, MSc

## Background

**Chemsex:** Use of psychoactive drugs in a sexual context.

- Recent mediatic attention



- Healthcare professionals are helpless: "There is an explosion of chemsex in France" (Charente Libre)

- Drugs involved: wide range of substances ≠ poppers or cannabis (Léobon, Dussault, & Otis, 2018; Maxwell, Shahmanesh, & Gafos, 2019; Scholz-Hehn et al., 2022)
- Quantitative data is lacking in France

## Objective

Investigate predictors of sexualized use of uncommon drugs by comparing 3 groups, in a sample of MSM and trans people.

## Methods

Net Gay Barometer, 2018: 10,853 online French participants → 3,563 drug users (32.8%)

**Common drugs:** cannabis, poppers, Viagra

- Group 1:** Exclusive users of common drugs → n=1,796 (50.4%) [reference group]

**Uncommon drugs:** cocaine, amphetamines, MDMA, methamphetamine, cathinones, GHB/GBL, opioids, etc.

- Group 2:** At least one uncommon drug in the past year, no sexual context → n=887 (24.3%)
- Group 3:** At least one uncommon drug in the past year, in a sexual context at least once → n=880 (24.1%)

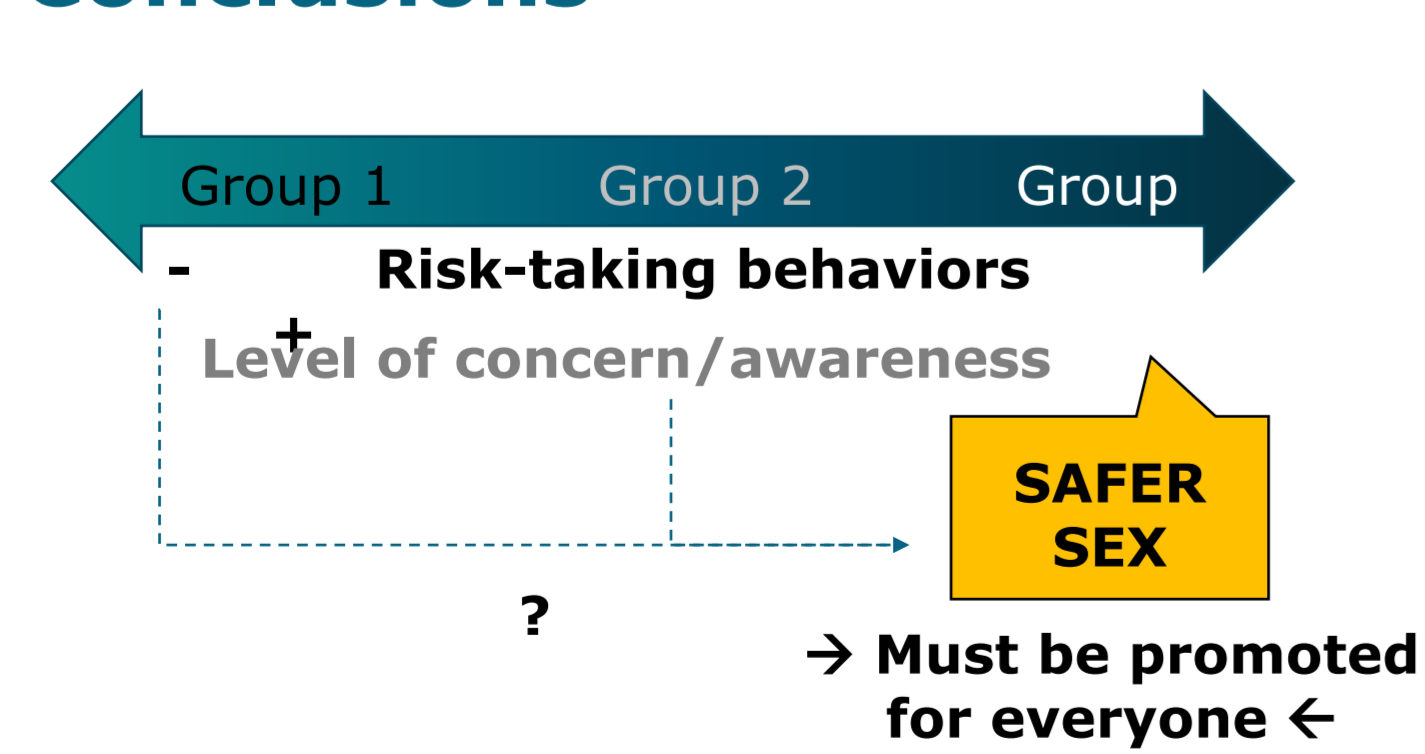
## Results

Multivariate regression model (Table 1) explained 50,9% (Cox and Snell's R<sup>2</sup>) of variance between groups.

Controlling for sociodemographic variables:

- Professional status:**
  - Group 2 → + self-employed (aOR=1.69);
  - Group 3 → - retired (aOR=0.18) or - full-time student (aOR=0.59)
- Residence in Paris region:**
  - Group 2 & 3 → + Paris region (aOR=1.59-2.02)
- Residence area:**
  - Group 3 → - suburban (aOR=0.68) or - rural (aOR=0.46)
- Birth country:**
  - Group 3 → + born outside of France (aOR=1.84)
- Website of origin:**
  - Group 2 → - general MSM dating websites (aOR=0.71)
- Gender identity:**
  - Group 2 → + non-binary people (aOR=2.21);
  - Group 3 → + trans women (aOR=4.54)
- Sexual orientation:**
  - Group 2 → + other than gay or bisexual orientation (aOR=1.62)
  - Group 3 → - bisexual orientation (aOR=0.48)

## Conclusions



## References

Léobon, A., Dussault, É., & Otis, J. (2018). « Chemsex » chez des hommes français ayant des relations sexuelles avec des hommes. *Drogues, Santé et Société*, 17(2), 53–75. <https://doi.org/10.7202/1062116ar>

Maxwell, S., Shahmanesh, M., & Gafos, M. (2019). Chemsex behaviours among men who have sex with men: A systematic review of the literature. *International Journal of Drug Policy*, 63, 74–89. <https://doi.org/10.1016/j.drugpo.2018.11.014>

Scholz-Hehn, A. D., Millin, S., Schulte, B., Reimer, J., Buth, S., & Schäfer, I. (2022). Substance Use and Chemsex in MSM - A Latent Class Analysis. *Journal of Drug Issues*, 52(1), 83–96. <https://doi.org/10.1177/00220426211040564>

**Table 1. Multinomial logistic regression model of sexualized and non-sexualized context of uncommon drug use compared with exclusive use of common drugs (Net Gay Barometer 2018)**

|   | Total (N=3563)  | χ <sup>2</sup> | Group 1: Users of common drugs exclusively (N=1796) | Group 2: Users of uncommon drugs outside of a sexual context (N=887) | Group 3: Users of uncommon drugs in a sexual context (N=880) |
|---|-----------------|----------------|---|--|--|
|   | Freq. or M (SD) | p              | Freq. or M (SD) aOR                                 | Freq. or M (SD) aOR (95%CI)  | Freq. or M (SD) aOR (95%CI)                                  |
| <b>Poly-drug use (2+ on the same occasion)</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 37.0%           |                | 18.5%   | 45.7%  | 66.0%  |
| No  | 63.0%           |                | 81.5%   | 54.3%  | 34.0%  |
|   |                 |                |   | 2.544 (2.016-3.211)***   | 4.144 (3.158-5.437)***                                       |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Addiction concerns: Drug use</b>   | N=3552          | <0.001         | N=1794  | N=886  | N=872  |
| Very concerned  | 3.1%            |                | 1.1%  | 4.0%   | 6.5%   |
| Quite concerned   | 8.4%            |                | 4.0%  | 12.1%  | 13.5%  |
| Not very concerned  | 13.5%           |                | 8.6%  | 18.7%  | 18.3%  |
| Not concerned at all  | 23.3%           |                | 19.9%   | 24.5%  | 28.9%  |
| Did not experience this issue   | 51.7%           |                | 66.4%   | 40.7%  | 32.7%  |
|   |                 |                |   | 4.857 (2.177-10.836)***  | 6.778 (2.855-16.095)***                                      |
|   |                 |                |   | 3.753 (2.418-5.826)***   | 2.693 (1.607-4.511)***                                       |
|   |                 |                |   | 2.498 (1.796-3.475)***   | 2.557 (1.704-3.838)***                                       |
|   |                 |                |   | 1.550 (1.197-2.007)**  | 2.169 (1.580-2.977)***                                       |
|   |                 |                |   | 1.000  | 1.000  |
| <b>5+ alcoholic drinks on the same occasion</b>   | N=3561          | <0.001         | N=1794  | N=887  | N=880  |
| Everyday or almost everyday   | 2.1%            |                | 1.3%  | 2.6%   | 3.1%   |
| Several times a week  | 15.5%           |                | 11.5%   | 23.0%  | 16.1%  |
| Once a week   | 24.2%           |                | 21.0%   | 32.0%  | 23.1%  |
| Once a month  | 23.6%           |                | 26.0%   | 20.9%  | 21.4%  |
| Less than once a month  | 21.8%           |                | 25.5%   | 14.3%  | 21.8%  |
| Never   | 12.7%           |                | 14.6%   | 7.2%   | 14.5%  |
|   |                 |                |   | 3.372 (1.440-7.897)**  | 2.113 (0.778-5.745)  |
|   |                 |                |   | 3.336 (2.129-5.227)***   | 2.257 (1.347-3.781)**  |
|   |                 |                |   | 2.533 (1.657-3.872)***   | 2.288 (1.425-3.672)**  |
|   |                 |                |   | 1.531 (0.998-2.346)  | 1.914 (1.204-3.043)**  |
|   |                 |                |   | 1.240 (0.808-1.903)  | 1.343 (0.855-2.108)  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Mean frequency of mixed marginal sex practices (breeding, group sex, gangbang as a bottom) with casual male partners</b> | N=3265          | <0.001         | N=1581  | N=815  | N=869  |
|   | 4.02 (3.67)     |                | 3.21 (3.28)   | 2.69 (2.78)  | 6.75 (3.67)  |
|   |                 |                |   | 0.940 (0.896-0.986)*   | 1.164 (1.106-1.225)***                                       |
| <b>Barebacking in a drug use context at least 1x</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 22.9%           |                | 11.4%   | 13.1%  | 56.4%  |
| No  | 77.1%           |                | 88.6%   | 86.9%  | 43.6%  |
|   |                 |                |   | 0.997 (0.683-1.453)  | 3.642 (2.406-5.513)***                                       |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Injected drugs</b>   | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 4.7%            |                | 0.6%  | 1.8%   | 16.1%  |
| No  | 95.3%           |                | 99.4%   | 98.2%  | 83.9%  |
|   |                 |                |   | 2.483 (0.993-6.212)  | 10.214 (4.265-24.459)***                                     |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Sexual health concerns: Risky sexual behaviors</b>   | N=3550          | <0.001         | N=1793  | N=885  | N=872  |
| Very concerned  | 5.8%            |                | 4.6%  | 6.8%   | 7.3%   |
| Quite concerned   | 18.2%           |                | 17.2%   | 18.3%  | 20.0%  |
| Not very concerned  | 13.2%           |                | 10.1%   | 17.6%  | 14.9%  |
| Not concerned at all  | 21.4%           |                | 17.2%   | 16.2%  | 35.6%  |
| Did not experience this issue   | 41.4%           |                | 50.9%   | 41.1%  | 22.2%  |
|   |                 |                |   | 1.583 (1.006-2.489)*   | 0.888 (0.500-1.575)  |
|   |                 |                |   | 1.203 (0.893-1.621)  | 1.017 (0.694-1.492)  |
|   |                 |                |   | 2.411 (1.741-3.338)***   | 1.550 (1.015-2.366)*   |
|   |                 |                |   | 1.243 (0.914-1.692)  | 1.372 (0.960-1.959)  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Mean frequency of hard marginal sex practices (fisting, BDSM, urophilia, scatophilia) with casual male partners</b>      | N=3265          | <0.001         | N=1581  | N=815  | N=869  |
|   | 2.05 (2.61)     |                | 1.54 (2.25)   | 1.28 (1.96)  | 3.70 (3.00)  |
|   |                 |                |   | 0.940 (0.883-1.001)  | 1.132 (1.068-1.199)***                                       |
| <b>Sex in exchange for money, drugs, goods or services</b>  | N=3561          | <0.001         | N=1795  | N=886  | N=880  |
| Often   | 2.6%            |                | 1.6%  | 1.1%   | 6.1%   |
| Sometimes   | 5.3%            |                | 3.8%  | 3.7%   | 9.9%   |
| Rarely  | 6.7%            |                | 5.3%  | 6.3%   | 10.0%  |
| No  | 85.4%           |                | 89.3%   | 88.8%  | 74.0%  |
|   |                 |                |   | 1.130 (0.435-2.937)  | 4.021 (1.653-9.780)**  |
|   |                 |                |   | 1.853 (0.992-3.461)  | 4.706 (2.445-9.059)***                                       |
|   |                 |                |   | 1.693 (1.056-2.716)*   | 1.994 (1.167-3.409)*   |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Frequency of exchanges on mobile dating applications</b>   | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Many times a day  | 26.6%           |                | 23.1%   | 25.3%  | 35.1%  |
| Many times a week   | 27.8%           |                | 25.7%   | 27.6%  | 32.2%  |
| Many times a month  | 9.9%            |                | 10.5%   | 9.0%   | 9.5%   |
| Less than 1x/month or irregularly   | 10.4%           |                | 9.6%  | 15.1%  | 7.5%   |
| Does not use apps   | 25.3%           |                | 31.1%   | 23.0%  | 15.7%  |
|   |                 |                |   | 1.210 (0.874-1.674)  | 1.507 (1.002-2.266)*   |
|   |                 |                |   | 1.268 (0.933-1.723)  | 2.220 (1.500-3.285)***                                       |
|   |                 |                |   | 0.836 (0.557-1.256)  | 1.491 (0.882-2.521)  |
|   |                 |                |   | 1.505 (1.029-2.200)**  | 2.159 (1.268-3.677)**  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Psychosocial concerns: Accepting sexual orientation</b>  | N=3552          | <0.001         | N=1794  | N=886  | N=872  |
| Very concerned  | 3.2%            |                | 4.2%  | 2.9%   | 1.4%   |
| Quite concerned   | 7.2%            |                | 8.7%  | 6.2%   | 5.3%   |
| Not very concerned  | 6.8%            |                | 7.6%  | 7.4%   | 4.4%   |
| Not concerned at all  | 10.2%           |                | 11.5%   | 9.7%   | 7.9%   |
| Did not experience this issue   | 72.7%           |                | 68.1%   | 73.7%  | 81.1%  |
|   |                 |                |   | 0.570 (0.317-1.025)  | 0.369 (0.140-0.975)*   |
|   |                 |                |   | 0.533 (0.352-0.806)**  | 0.543 (0.315-0.936)*   |
|   |                 |                |   | 0.695 (0.461-1.049)  | 0.551 (0.309-0.982)*   |
|   |                 |                |   | 0.592 (0.416-0.843)**  | 0.656 (0.417-1.031)  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Condomless anal penetration with casual male partners</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Always  | 9.1%            |                | 7.0%  | 4.6%   | 18.1%  |
| Often   | 15.3%           |                | 10.2%   | 9.2%   | 31.8%  |
| Sometimes   | 15.2%           |                | 13.5%   | 14.0%  | 19.8%  |
| Rarely  | 14.7%           |                | 14.8%   | 16.6%  | 12.5%  |
| Never or not applicable   | 45.7%           |                | 54.5%   | 55.6%  | 17.8%  |
|   |                 |                |   | 0.607 (0.350-1.053)  | 0.495 (0.262-0.938)*   |
|   |                 |                |   | 0.814 (0.518-1.280)  | 1.080 (0.630-1.852)  |
|   |                 |                |   | 0.765 (0.520-1.126)  | 1.011 (0.617-1.655)  |
|   |                 |                |   | 0.784 (0.554-1.108)  | 1.472 (0.932-2.323)  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Total number of STDs (excluding HIV et HCV)</b>  | N=3557          | <0.001         | N=1794  | N=886  | N=877  |
|   | 0.79 (1.95)     |                | 0.43 (1.28)   | 0.70 (2.05)  | 1.62 (2.63)  |
|   |                 |                |   | 1.146 (1.054-1.245)**  | 1.156 (1.063-1.256)**  |
| <b>Developing feelings, friendships or emotional relationships with 1+ partners in the context of paid sex</b>              | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Very often or often   | 0.9%            |                | 0.7%  | 0.3%   | 1.8%   |
| Sometimes   | 1.9%            |                | 1.2%  | 1.1%   | 3.9%   |
| Rarely  | 2.7%            |                | 2.2%  | 1.5%   | 5.1%   |
| Never or not applicable   | 94.5%           |                | 95.9%   | 97.1%  | 89.2%  |
|   |                 |                |   | 0.476 (0.105-2.171)  | 1.533 (0.461-5.098)  |
|   |                 |                |   | 0.680 (0.249-1.855)  | 1.568 (0.641-3.834)  |
|   |                 |                |   | 0.524 (0.234-1.175)  | 0.342 (0.156-0.750)**  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Negative impact of drug use</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 31.9%           |                | 20.8%   | 33.3%  | 53.2%  |
| No  | 68.1%           |                | 79.2%   | 66.7%  | 46.8%  |
|   |                 |                |   | 0.981 (0.759-1.267)  | 1.661 (1.247-2.212)**  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Barebacking practice</b>   | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Exclusively as a couple   | 21.4%           |                | 22.6%   | 24.0%  | 16.3%  |
| Non-exclusively   | 18.1%           |                | 14.0%   | 12.6%  | 32.0%  |
| Only with casual male partners  | 21.1%           |                | 17.3%   | 17.6%  | 32.6%  |
| No barebacking  | 39.3%           |                | 46.1%   | 45.8%  | 19.1%  |
|   |                 |                |   | 1.261 (0.925-1.719)  | 0.973 (0.630-1.503)  |
|   |                 |                |   | 1.105 (0.724-1.687)  | 0.522 (0.302-0.902)*   |
|   |                 |                |   | 1.364 (0.914-2.036)  | 0.576 (0.337-0.985)*   |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Mean number of known HIV risk reduction strategies</b>   | N=3550          | <0.001         | N=1789  | N=887  | N=874  |
|   | 7.02 (2.67)     |                | 6.56 (2.64)   | 6.76 (2.67)  | 8.23 (2.33)  |
|   |                 |                |   | 0.986 (0.943-1.031)  | 1.095 (1.033-1.162)**  |
| <b>Hepatitis C</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 2.8%            |                | 0.9%  | 1.5%   | 8.2%   |
| No  | 97.2%           |                | 99.1%   | 98.5%  | 91.8%  |
|   |                 |                |   | 3.402 (1.357-8.528)**  | 3.209 (1.403-7.339)**  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Number of casual male partners</b>   | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
|   | 21.37 (41.77)   |                | 13.22 (28.14)                                       | 15.34 (32.03)  | 44.11 (61.10)  |
|   |                 |                |   | 1.003 (0.998-1.007)  | 1.005 (1.002-1.009)**  |
| <b>Regularly attending sexually charged meeting spaces (outdoor places, saunas, sex clubs, peep shows, swingers clubs)</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 22.4%           |                | 19.9%   | 12.9%  | 37.3%  |
| No  | 77.6%           |                | 80.1%   | 87.1%  | 62.7%  |
|   |                 |                |   | 0.760 (0.563-1.025)  | 1.276 (0.941-1.730)  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Global satisfaction with physical appearance</b>   | N=3554          | <0.001         | N=1794  | N=886  | N=874  |
| Yes   | 68.7%           |                | 63.6%   | 73.7%  | 73.9%  |
| No  | 31.3%           |                | 36.4%   | 26.3%  | 26.1%  |
|   |                 |                |   | 1.427 (1.121-1.816)**  | 1.256 (0.928-1.698)  |
|   |                 |                |   | 1.000  | 1.000  |
| <b>Positive impact of drug use</b>  | N=3563          | <0.001         | N=1796  | N=887  | N=880  |
| Yes   | 57.4%           |                |   |  |  |