FACTORS ASSOCIATED WITH HIV SEXUAL RISK MANAGEMENT AMONG HIV-NEGATIVE MEN WHO HAVE SEX WITH MEN LIVING IN QUEBEC AND WHO USE INTERNET TO FIND SEXUAL PARTNERS

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Abstract

Objectives: Describe factors associated with a HIV seroconversion risk behaviour: unprotected anal intercourse with HIV-positive or HIV-unknown casual partners (UAI(+/?)), among HIV-negative MSM who live in Quebec and use Internet to find sexual partners.

Methods: We use data from Net Gay Baromètre 2008, a online quantitative survey which took place on Quebec' dating websites from December 2007 to May 2008. 3 718 MSM participated in this survey of whom 2 345 were HIV-negative. Bivariate analysis (χ^2; t test) and hierarchical regression were performed with SPSS v.16.0 for Macintosh.

Results: 14.7% of HIV-negative respondents have declared an UAI(+/?) in the past 12 months. Multivariate analysis show that homosexual identity, number of casual partners, marginal sexual practices, drug use, engagement in a couple relationship and history of a STI in the past 12 months were significant predictors associated with UAI(+/?) among those respondents. Bivariate analysis show that those predictors were more often declared among respondents who live in Montreal region, are seeking sensations, are seeking partners in sex venues and are regularly seeking partners on dating websites.

Conclusions: This group of predictors and associated factors shows various sexual scenarios. Those sexual scenarios seem to be more frequent in certain spaces like Internet, which influence the management of sexual risks. Initiatives to prevent HIV seroconversion adapted to the reality of MSM who live in Quebec and use Internet to find sexual partners are proposed.

Background

1-According to epidemiologic data, MSM are a particular group at risk for HIV and other STI, who are growing up in Quebec (Quebec, 2010).

2- Numerous studies have found that seeking partner in dating websites was associated with higher sexual risk behaviors, but association between sexual risk behavior and Internet remain unclear (Liau, et al. 2006; Lombardo, 2009).

Based on an ecological model, the purpose of this study was to identify and describe factors associated with UAI(+/-) among HIV negative MSM who live in Quebec and use Internet to find sexual partner.

Methods

Data collection: We use data from Net Gay Baromètre 2008: a online quantitative survey which took place on Quebec' dating websites from December 2007 to May 2008. Questionnaire had 242 questions about lifestyle and sexual behavior in the past 12 months (Leobon, 2008). For the purpose of this study, we kept data about:
- sociodemographic, psychological and sociosexual profile;
- places in which respondents sought partners; and
- sexual risk.

Analysis: Bivariate analysis (χ^2; t test) and hierarchical regression in 5 steps were performed with SPSS v.16.0 for Macintosh. Results of those analysis are presented in the last column.

References

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Lombardo, A. P. 2009. « Sex and Cyberspace: The Internet in the Sexual Lives of Men Who Have Sex With Men ». Thèse de doctorat, Toronto, Université de Toronto, 244 p.

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Net Gay Baromètre 2008 respondents

Overall: 3 718 MSM participated in this survey of whom 2 345 were HIV-negative.

Sample: For the purpose of this study, we select HIV-negative respondents who have declared:
- seeking partners in dating websites occasionally or regularly; and
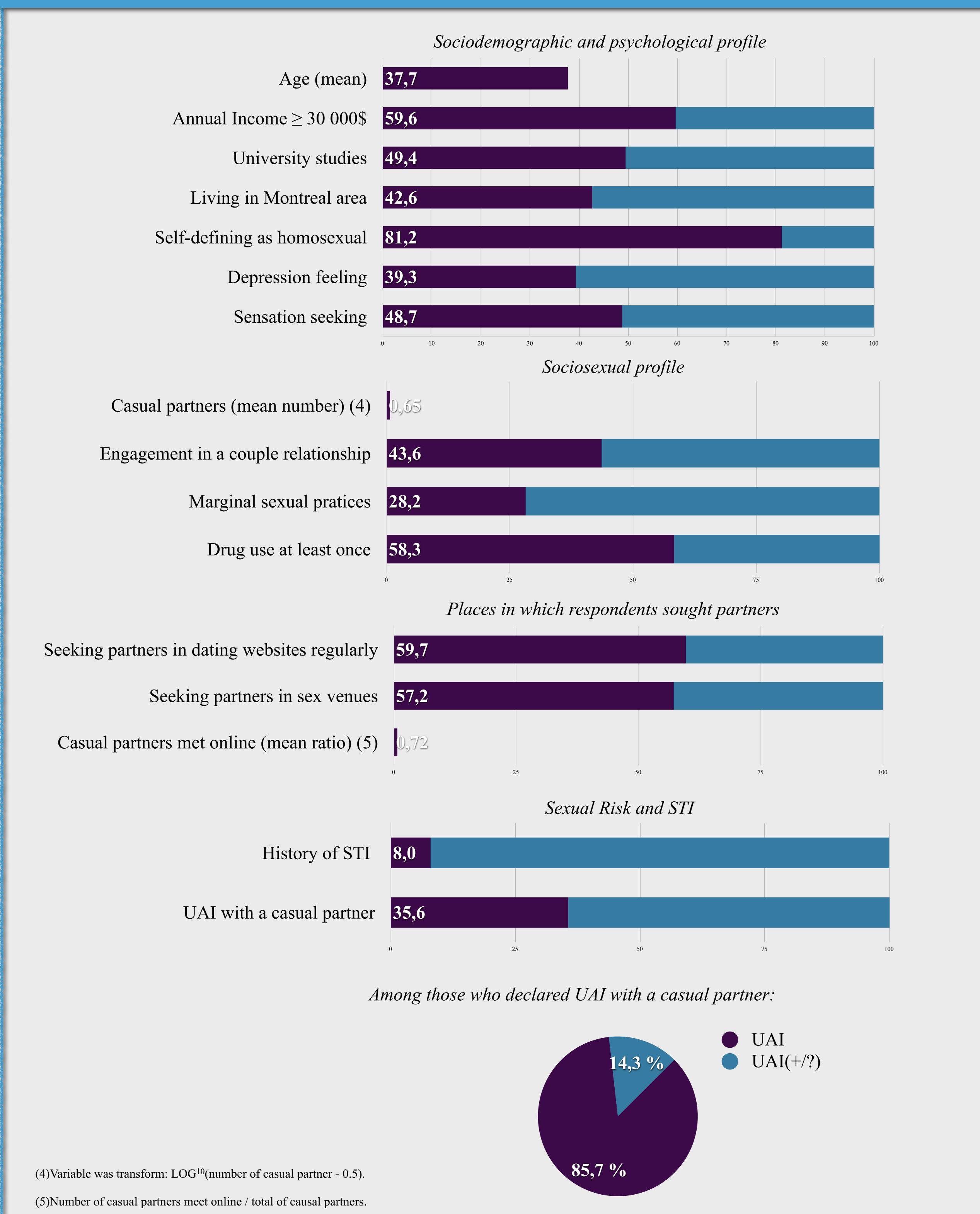- sexual relationship with at least one casual partner (n=1794).

Overall respondents profile (n=3 718)

In the past 12 months...	n	%
Age (mean)		*37.17 ans*
University studies	1259	33.9 %
Annual Income ≥ 30 000 $	2074	56 %
Living in Montreal area	2119	57.8 %
Ethnic minority	285	7.7 %
Sexual orientation		
Homosexual	3012	81.1 %
Bisexual	598	16.1 %
Heterosexual	19	0.5 %
Refuse to define hiself	48	1.3 %
Other	39	1.0 %
Seeking partners in dating website		
Never	333	10.2 %
Occasionnaly	1291	39.4 %
Regularly	1653	50.4 %
Seeking partners in sex venues (1)	1604	43.1 %
Casual partners		
None	860	23.1 %
At least one	2858	76.9 %
Marginal sexual practices (2)	816	28.6 %
Engagement in a couple relationship	1549	46.2 %
Drug use at least once	1789	55.7 %
Unprotected anal intercourse at least once (UAI)	1105	39.3 %
HIV status		
HIV-	2345	73.9 %
HIV+	152	4.8 %
HIV-unknow	676	21.3 %
History of STI (3)	221	7.0 %

(1) Sex venues considered were sexclubs, batthouses and outdoor sex venues.

(2) By marginal, we mean these practices were engaged by 25% or fewer of the total sample (i.e gang bang as a bottom, watersports, fist fucking, sadomasóchism and scatophilia).

(3) At least one STI in the last 12 months.

Results: HIV-negative respondents (n=1794)

Sociodemographic and psychological profile

Sociosexual profile

Places in which respondents sought partners

Sexual Risk and STI

Among those who declared UAI with a casual partner:

UAI — 85,7 %
UAI(+/?) — 14,3 %

(4)Variable was transform: $\log_{10}$(number of casual partner - 0.5).

(5)Number of casual partners meet online / total of causal partners.

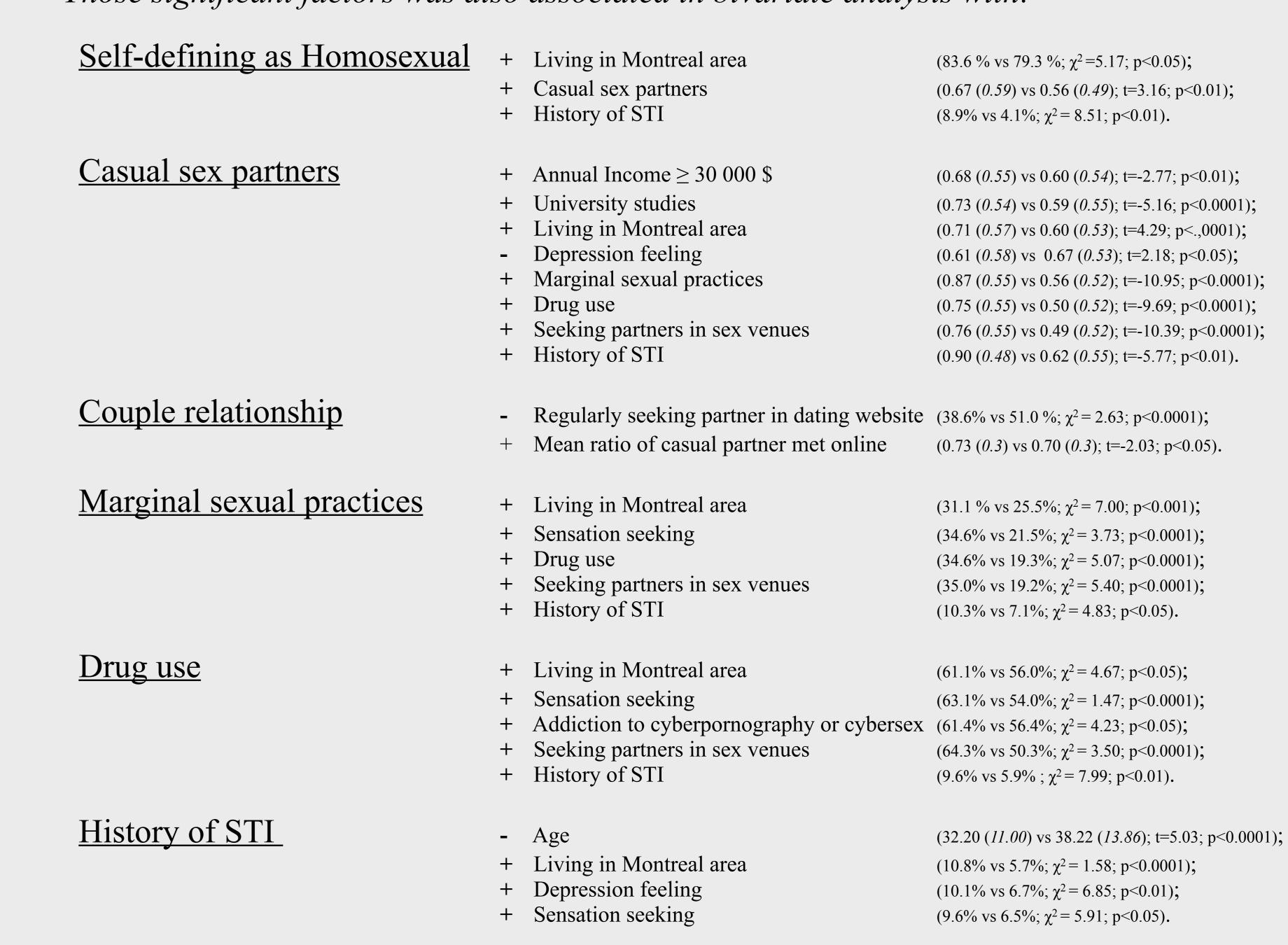### Factors associated with UAI with a HIV-positive or a HIV-unknow casual sexual partner (UAI+/?) — Final model

Factors (in the last 12 months)		n (%)	Unadjusted OR OR (IC=95%)	Adjusted OR OR (IC=95%)
Individual variables				
Age	M (*sd*)	37,2 (*13.5*)	0.99 (0.98-1.00)	-
Annual income ≥ 30 000$		145 (13.7)	0.86 (0.66-1.13)	-
University studies		126 (14.0)	0.93 (0.72-1.22)	-
Living in Montreal area		115 (15.1)	1.16 (0.89-1.52)	-
Self-defining as homosexual		227 (15.6)	**1.82 (1.23-2.71) *****	**1.79 (1.15-2.77) ****
Depression feelings		113 (16.5)	1.28 (0.98-1.68)	-
Sensation seeking		136 (16.1)	1.27 (0.97-1.66)	-
Addiction to online chat		124 (15.7)	1.21 (0.93-1.57)	-
Addiction to cyberpornography or cybersex		97 (14.3)	0.98 (0.75-1.29)	-
Sociosexual variables				
Casual sex partners	M (*sd*)	0.65 (0.55)	**2.86 (2.22-3.67) *****	**2.29 (1.73-3.02) ****
Engagement in couple relationship		156 (15.4)	0.82 (0.62-1.07)	**0.73 (0.55-0.98) *****
Marginal sexual practice		117 (23.1)	**2.51 (1.90-3.32) *****	**1.73 (1.28-2.36) *****
Drug use at least once		183 (17.5)	**1.90 (1.42-2.53) *****	**1.36 (1.00-1.87) ****
Environmental variables				
Seeking partners in dating websites regularly		151 (14.1)	0.94 (0.72-1.23)	-
Seeking partner in sex venues		169 (16.6)	**1.53 (1.16-2.01) ****	-
Casual partner met online (mean ratio)	M (*sd*)	0.69 (0.3)	0.77 (0.53-1.13)	-
STI variable				
History of STI		53 (36.8)	**4.10 (2.83-5.93) *****	**3.23 (2.14-4.87) *****
Constant				*0.047*
R^2 Model				142.80 ***
% correct classification				85.8 %

* p<0.05   **p<0.01   *** p<0,0001

Those significant factors was also associated in bivariate analysis with:

Self-defining as Homosexual
- + Living in Montreal area (83.6 % vs 79.3 %; χ^2=5.17; p<0.05);
- + Casual sex partners (0.67 (0.59) vs 0.56 (0.49); t=3.16; p<0.01);
- + History of STI (8.9% vs 4.1%; χ^2=8.51; p<0.01).

Casual sex partners
- + Annual Income ≥ 30 000 $ (0.68 (0.55) vs 0.60 (0.54); t=-2.77; p<0.01);
- + University studies (0.73 (0.54) vs 0.59 (0.55); t=-5.16; p<0.0001);
- + Living in Montreal area (0.71 (0.57) vs 0.60 (0.53); t=4.29; p<.0001);
- - Depression feeling (0.61 (0.58) vs 0.67 (0.53); t=2.18; p<0.05);
- + Marginal sexual practices (0.87 (0.55) vs 0.56 (0.52); t=-10.95; p<0.0001);
- + Drug use (0.75 (0.55) vs 0.50 (0.52); t=-9.69; p<0.0001);
- + Seeking partners in sex venues (0.76 (0.53) vs 0.49 (0.52); t=-10.39; p<0.0001);
- + History of STI (0.90 (0.48) vs 0.62 (0.55); t=-5.77; p<0.01).

Couple relationship
- - Regularly seeking partner in dating website (38.6% vs 51.0 %; χ^2 = 2.63; p<0.0001);
- + Mean ratio of casual partner met online (0.73 (0.3) vs 0.70 (0.3); t=-2.03; p<0.05).

Marginal sexual practices
- + Living in Montreal area (31.1 % vs 25.5%; χ^2 = 7.00; p<0.001);
- + Sensation seeking (34.6% vs 21.5%; χ^2 = 3.73; p<0.0001);
- + Drug use (34.6% vs 19.3%; χ^2 = 5.07; p<0.0001);
- + Seeking partners in sex venues (35.0% vs 19.2%; χ^2 = 5.40; p<0.0001);
- + History of STI (10.3% vs 7.1%; χ^2 = 4.83; p<0.05).

Drug use
- + Living in Montreal area (61.1% vs 56.0%; χ^2 = 4.67; p<0.05);
- + Sensation seeking (63.1% vs 54.0%; χ^2 = 1.47; p<0.0001);
- + Addiction to cyberpornography or cybersex (61.4% vs 56.4%; χ^2 = 4.23; p<0.05);
- + Seeking partners in sex venues (64.3% vs 50.3%; χ^2 = 3.50; p<0.0001);
- + History of STI (9.6% vs 5.9% ; χ^2 = 7.99; p<0.01).

History of STI
- - Age (33.20 (11.00) vs 38.22 (13.86); t=5.03; p<0.0001);
- + Living in Montreal area (10.8% vs 5.7%; χ^2 = 1.58; p<0.0001);
- + Depression feeling (10.1% vs 6.7%; χ^2 = 6.85; p<0.01);
- + Sensation seeking (9.6% vs 6.5%; χ^2 = 5.91; p<0.05).

Conclusion

In conclusion, Multivariate analysis show that homosexual identity, number of casual partners, marginal sexual practices, drug use, engagement in a couple relationship and history of a STI in the past 12 months were significant predictors associated with UAI(+/?) among those respondents. Bivariate analysis show that those predictors were more often declared among respondents who live in Montreal region, are seeking sensations, are seeking partners in sex venues and are regularly seeking partners on dating websites. This group of predictors and associated factors shows various sexual scenarios. Those sexual scenarios seem to be more frequent in certain spaces like Internet, which influence the management of sexual risks.

Prevention initiatives: Those results underline the importance to develop initiatives online to prevent HIV and other STI transmission in respect of values and norms of the gay dating websites where prevention is done. Those results also suggest to present different sexual scenarios in prevention initiatives. Condom and risk reduction strategies, drug use and sexual risk management with casual partners among MSM who are engaged in a couple relationship should be address in prevention messages.

Limits: This study have two important limits. First, like the majority of online studies, the sample was not representative of all MSM in Quebec. Therefore, the results can not be generalized. Second, because of the design of the study, HIV status was auto-declared by respondents. So, it's possible that a minority HIV-negative respondents was, in facts, HIV-positive without knowing their status.