

SCHOOL FACTORS AND CANNABIS USE IN A LARGE SAMPLE OF ADOLESCENTS

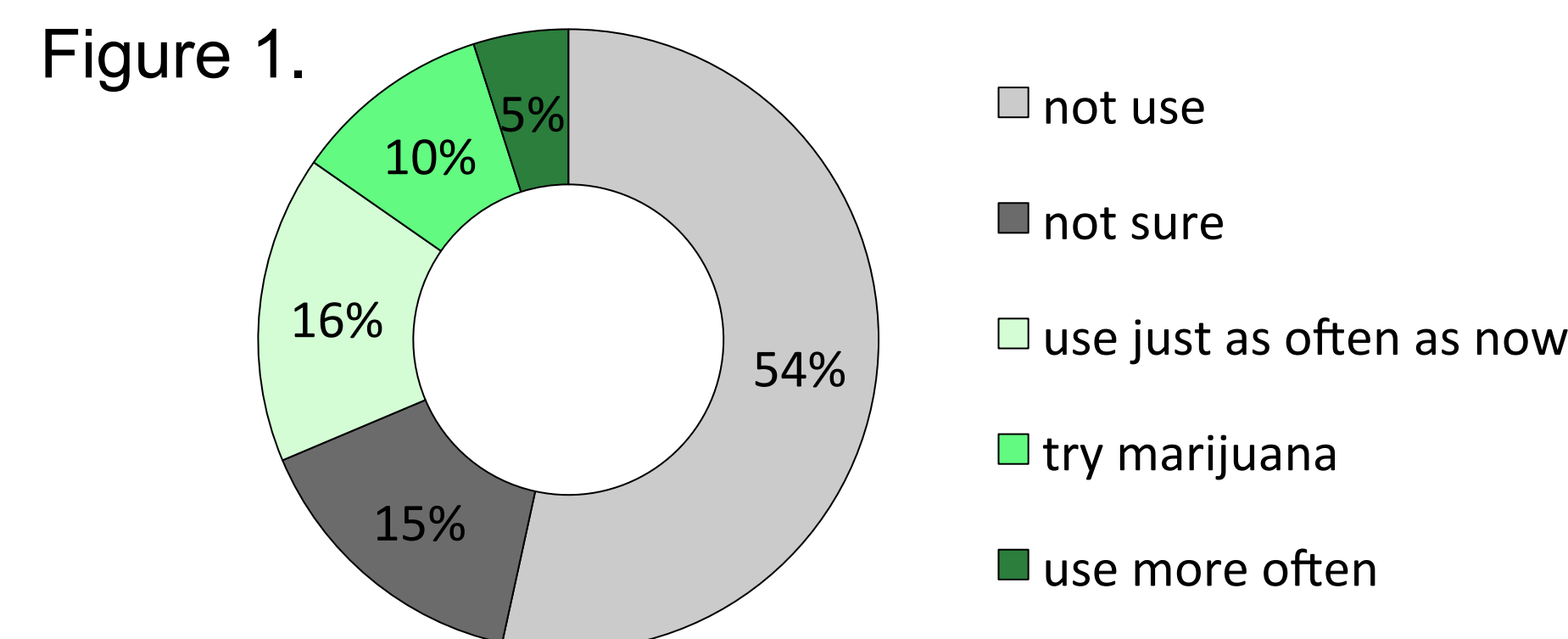
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BACKGROUND

Cannabis Use in Adolescence

- Canada has the highest rates of youth cannabis use across 43 European and North American countries, with 33% of Canadian youth reporting using cannabis prior to 15 years of age and 18% of 15 year olds reporting past month use¹.
- Cannabis use:
 - Negatively affects cognitive functioning including: memory, attention, and psychomotor skills².
 - Resulting in an increased likelihood of fatal car accidents, poor academic performance, and dropping out of school².
 - With adolescent use potentially causing **long lasting cognitive impairment**².
 - Has demonstrated associations with various mental illnesses, including psychotic disorders, personality disorders, anxiety, and depression³.

- Recently, Ontario Grade 9-12 students were asked about their intentions with cannabis after recreational legalization and students endorsed they would (see Figure 1)⁴



The School Environment

- Ontario's Mental Health and Addictions Strategy has identified schools as being important contexts for adolescent mental health promotion, illness prevention, and identification of those at risk⁵.
- Substance use behaviours have depicted some of the highest between school differences, apart from student achievement, with schools accounting for up to 20% of the variance in student substance use⁶.

OBJECTIVE

To explore modifiable school contextual factors that influence the variability in secondary student cannabis use behaviours.

METHODS

Data & Variables

The data for this research comes from the **School Mental Health Survey (SMHS)**, a cross-sectional survey examining the association between the school environment and student mental health.

- Data collection was during the 2014-2015 academic year and includes results from 11994 students nested in 825 classes in 68 secondary schools.

School Variables: Included at the school level (mean aggregate) and individual level (deviation from school mean).

- School Climate:** Combination of 4 subscales: caring and fair staff, clarity of expectations, teacher-student relations, student-student relations.
- Belongingness:** Participants rate on a likert scale from 1 'strongly disagree' to 5 'strongly agree' the following items: 1) I feel close to people at this school, 2) I feel like I belong at this school, and 3) I am happy to be at this school.
- Bullying:** Students are asked how frequently they are bullied physically, verbally, socially, electronically, racially/ethnically, or because of their appearance. Student score each bullying behaviour on a likert scale from 1 'never' to 5 'almost every day.'

Socio-Demographic Variables: Gender, Age, Family Socioeconomic Status

Cannabis Outcome Variable: 0=never use, 1=ever use.

Statistical Procedures

- We conducted **three-level logistic regression** (students, classrooms, schools)
- All predictors were aggregated to create a school contextual effect and then grand mean centered.
- Individual scores were school-mean centered to create a "deviation-variable" i.e. how an individual student is different from the collective student body.

RESULTS

Figure 2. Gender of Respondents

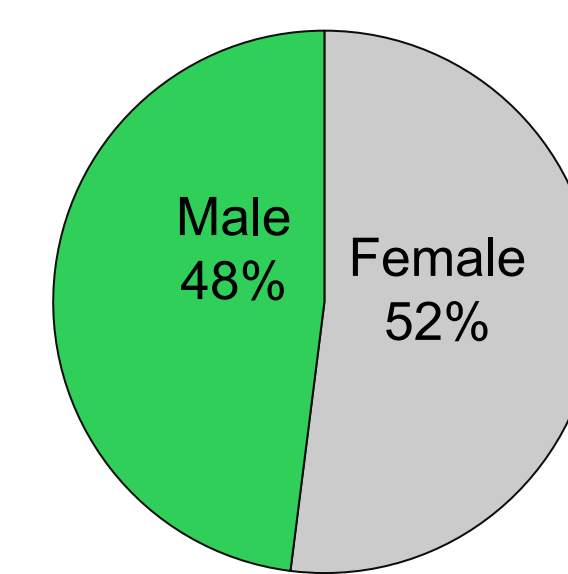


Figure 3. Grade of Respondents

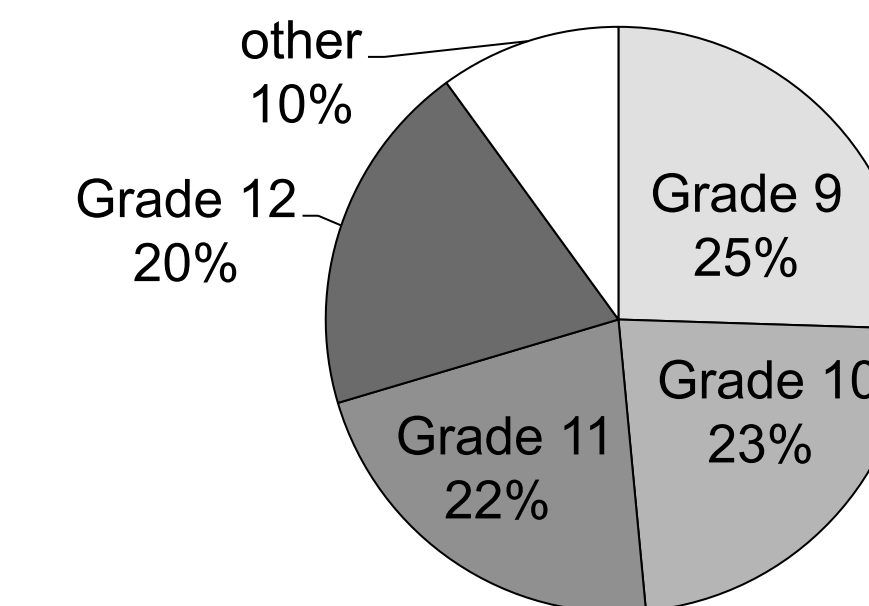
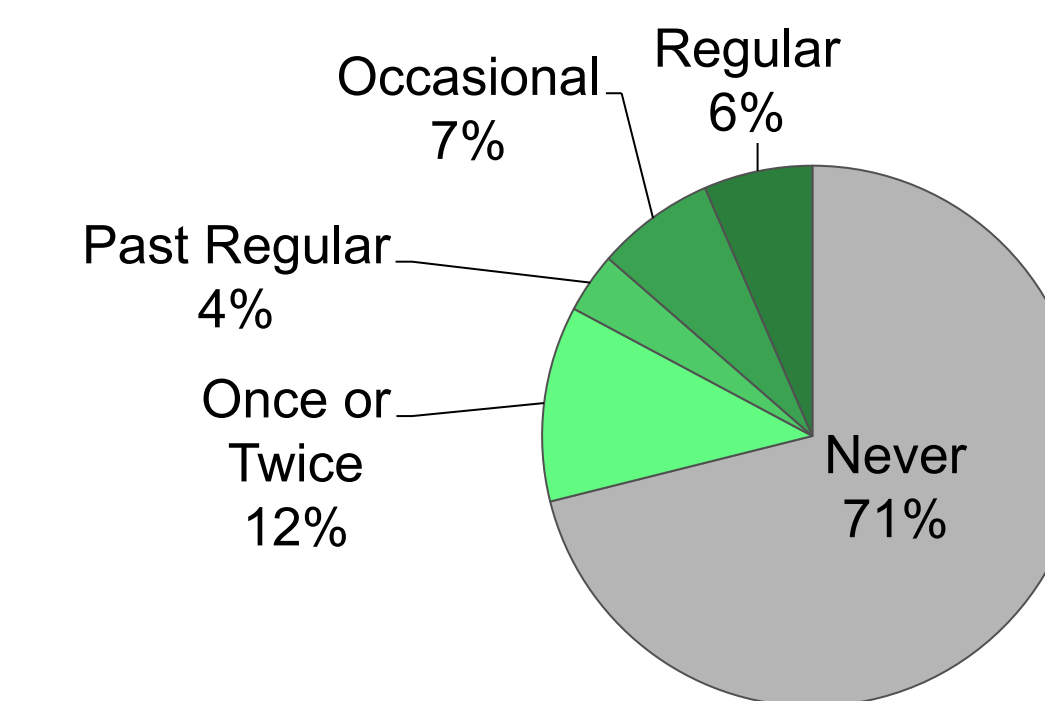


Figure 4. Frequency of Marijuana Use



~15%

of the variance in student cannabis use behaviours is driven by the classroom and school context, after controlling for age, sex and family SES.

Table 1. Results from 3-level Multiple Logistic Regression

| | SCHOOL CLIMATE | BELONGINGNESS | BULLYING | INTEGRATIVE MODEL |
|----------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| School Level | | | | |
| School Climate | 0.77 (0.69, 0.87); p<0.001 | - | - | 0.76 (0.64, 0.91); p=0.003 |
| Belongingness | - | 0.87 (0.67, 1.12); p=0.271 | - | 1.60 (1.17, 2.18); p=0.003 |
| School Bullying | - | - | 1.46 (1.22, 1.75); p<0.001 | 1.37 (1.06, 1.76); p=0.014 |
| Student Level | | | | |
| School Climate | 0.89 (0.88, 0.90); p<0.001 | - | - | 0.91 (0.90, 0.92); p<0.001 |
| Belongingness | - | 0.88 (0.87, 0.90); p<0.001 | - | 0.98 (0.96, 0.99); p=0.017 |
| Bullying | - | - | 1.09 (1.08, 1.1); p<0.001 | 1.05 (1.03, 1.06); p<0.001 |

*Adjusted for age, sex, family SES

KEY FINDINGS

- School Climate:** Positive school climate (at both the school and individual levels) is associated with less cannabis use.
- Belongingness:**
 - Collective belonging is not related to cannabis use in the individual predictor model but is positively associated with cannabis use once accounting for school climate and bullying.
 - Increased perceptions of belongingness for individual students is associated with a reduced odds of using cannabis.
 - Possible Explanations: (1) Higher collective belonging promotes comfort to experiment; (2) Higher collective belonging is associated with parties/get togethers where adolescents engage in occasional substance use; (3) youth who don't feel they belong are more likely to use regularly (potential coping strategy).
- Bullying:** Higher levels of bullying within the school is associated with greater cannabis use, and when an individual feels more victimized than the average student, they are more likely to endorse regular cannabis use.

References
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