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SUBSTANCE USE PREVENTION AMONG ADOLESCENTS AT THE COMMUNITY LEVEL IN CHILE, AND ITS RELATIONSHIP WITH SUBSTANCE USE PREVALENCE AND RISK AND PROTECTIVE FACTORS

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ABSTRACT

Background: Substance use in adolescence can cause serious harm to physical and mental health, with important social consequences and negative impact on development. Chile has a high prevalence of alcohol and cannabis use in adolescents. Effective prevention interventions are lacking in Latin America.

Objective: To assess changes in the prevalence of alcohol and cannabis use among adolescents and the factors associated with substance use during the implementation of a community prevention action at the municipal level in Chile.

Methods: A prevention process based on the Icelandic model was studied in six municipalities of the Metropolitan Region in Chile, with a non-experimental design, using quantitative and qualitative methods in a naturalistic setting, within of a non controlled real prevention process in action. Part of the prevention program was a self-administered survey on substance use and risk factors of tenth grade students in the participating municipalities for local agents (i.e. schools and municipalities) to have local data to work with. The survey was conducted in 2018 and 2020. The prevalence of substance use and of risk and protection factors were compared between 2018 and 2020. The magnitude of prevention in the municipalities was studied with the Alcohol Prevention Magnitude Measure (APMM), comparing changes between 2019 and the end of 2020. Six focus groups were held in 2020 with prevention managers from municipalities, schools, and parents to explore the barriers and strengths of the implementation of the prevention model. Recordings were transcribed and subject to thematic analysis.

Results: 7538 students were surveyed in 2018 and 5528 students in 2020 in 100 schools. Between 2018 and 2020, significant decreases were observed in lifetime alcohol use (from 79.9% to 70.0%), alcohol use in the past month (45.6% to 33.4%), and lifetime use of cannabis (28.7% to 18.8%). Risk factors such as: staying out of house after 10 pm, alcohol use in friends, drunkenness in friends, and cannabis use in friends were significantly reduced; but the prevalence of perceived poor parenting, symptoms of anxiety and depression, and low parental rejection of alcohol consumption increased.

A significant increase in the magnitude of prevention on the municipal level was observed with the APMM.

Based on the focus groups, the strengths of the prevention model were the following: it articulates and helps to organize existing prevention objectives and actions, encourages

community participation, and is flexible. The difficulties were: the adaptation of a foreign model, lack of concrete practical tools, and the need for resources.

<u>Conclusions:</u> A reduction in alcohol and cannabis use was observed in adolescents in municipalities which adapted and implemented a community prevention model based on the Icelandic model. However, the decrease of substance use may also have been influenced by other determinants such as the reduction in social activities that occurred during the pandemic. There were factors that the prevention model targets, but that did not show significant changes, such as parenting and extracurricular and sports activities. Progress in prevention was observed in the municipalities, measured by the APMM. Communities appreciate how the model articulates new and existing prevention strategies along with its flexibility, but the lack of structured strategies is a challenge. Further longitudinal research needs to show whether improvements of substance use prevalence can be sustained after the pandemic normalization of social interactions between adolescents.

RESUMEN EN ESPAÑOL

Antecedentes: El consumo de sustancias en la adolescencia puede causar graves daños a la salud física y mental con importantes consecuencias sociales y afectar el normal desarrollo. Chile tiene altas prevalencias de consumo de alcohol y marihuana en adolescentes. Faltan intervenciones de prevención efectivas en América Latina.

Objetivo: Evaluar los cambios en la prevalencia del consumo de alcohol y marihuana en adolescentes y los factores asociados al consumo de sustancias durante la implementación de un modelo de prevención comunitaria a nivel municipal en Chile.

Métodos: Se estudió la experiencia de un proceso de prevención real en acción en seis comunas de la Región Metropolitana en Chile, basado en el modelo de prevención islandés. Se usó un diseño no experimental, con métodos cuantitativos y cualitativos. Parte de la estrategia de prevención fue una encuesta autoadministrada sobre consumo de sustancias y factores de riesgo en estudiantes de segundo año de enseñanza media de las municipalidades participantes para entregar datos locales con los cuales trabajar. Se comparó la prevalencia de consumo y de factores de riesgo y protección entre 2018 y 2020. Se estudió la magnitud de prevención en las comunas con el instrumento Alcohol Prevention Magnitude Measure (APMM), comparando cambios entre 2019 y fines de 2020. También se realizaron 6 grupos focales en 2020 con encargados de prevención de las municipalidades, colegios y apoderados para explorar las barreras y fortalezas de la implementación del modelo de prevención. Las grabaciones fueron transcritas y sujetas a análisis temático.

Resultados: 7538 escolares fueron encuestados el año 2018 en 117 colegios, y 5528 escolares el año 2020 en 96 colegios. Entre 2018 y 2020 disminuyó significativamente el consumo de alcohol en la vida (de 79.9% a 70.0%), consumo de alcohol en el último mes (45.6% a 33.4%), y consumo de marihuana en la vida (28.7% a 18.8%). Disminuyeron significativamente factores de riesgo como: estar fuera de casa después de las 10 de la noche, consumo de alcohol en amigos, embriaguez en amigos, y consumo de marihuana en amigos. Sin embargo, aumentó la prevalencia de una mala parentalidad percibida, síntomas de ansiedad y depresión, y bajo rechazo parental de consumo de alcohol.

Un aumento significativo en el puntaje de magnitud de prevención a nivel municipal fue observado con el instrumento APMM.

A partir de los grupos focales, las fortalezas del modelo de prevención fueron las siguientes: articula y ordena objetivos y acciones preventivas ya existentes, fomenta la participación de la comunidad, y es flexible. Las dificultades fueron: la adaptación de un modelo extranjero, falta de herramientas prácticas concretas, y necesidad de recursos.

Conclusiones: Se observó una reducción en el consumo de alcohol y marihuana en adolescentes en comunas que adaptaron e implementaron un modelo de prevención comunitaria basado en el modelo islandés. Sin embargo, la reducción del consumo también puede haber estado influenciada por otros determinantes como la reducción de actividades sociales ocurrida durante la pandemia. Hubo factores propios del modelo de prevención que no mostraron cambios importantes, como la parentalidad y las actividades extracurriculares y deportivas. Se observó un avance en la prevención en las comunas, medida por el APMM. Las comunidades valoran cómo el modelo articula estrategias preventivas nuevas y existentes, y su flexibilidad, pero la falta de estrategias estructuradas es una dificultad. A futuro, nuevas investigaciones de diseño longitudinal pueden ayudar a esclarecer si la mejoría en el consumo de sustancias se sostiene después de la pandemia y la normalización de la interacción social entre adolescentes.

1. INTRODUCTION

Alcohol and cannabis use is an important issue for public health in Chile and worldwide, due to its high prevalence and its consequences. There is a high vulnerability during adolescence for substance use and the concomitant consequences. In order to develop prevention strategies for substance use in adolescents, it is necessary to address risk and protective factors associated to substance use on different levels, including the level of societies, the community level, the level of family and relationships, and the individual level. Most research in prevention of substance use comes from high-income countries, and Chile lacks research on prevention.

Iceland has implemented community prevention and achieved substantial substance use reductions among adolescents in recent decades. The process was led by the Icelandic Centre for Social Research and Analysis (ICSRA), which has proposed a model of community prevention called Planet Youth. Since 2018, six municipalities in Chile have started to implement the Icelandic prevention model, Planet Youth.

The aim of this research was to analyze whether community prevention at the municipal level was associated with changes in the prevalence of risk and protective factors, and with changes in alcohol and cannabis use prevalence among adolescents enrolled in schools of the six municipalities adopting the Icelandic model in Chile. The prevalence rates of cannabis and alcohol use at baseline in 2018 were compared with 2020 after initiating the implementation process for the prevention model in the municipalities. The risk and protective factors associated with substance use were identified in these municipalities, and their prevalence was also compared between 2018 and 2020. To assess the prevention activities in the municipalities, an adapted version of the Swedish instrument Alcohol Prevention Magnitude Measure was applied. The implementation process in the municipalities was explored qualitatively with focus groups including prevention practitioners, community, and school members.

It was hypothesized that the prevalence of cannabis and alcohol use decreased in the six municipalities, and that changes in risk and protective factors were associated with changes before and after with the prevention activities developed by the municipalities.

During the development of this research, in 2020 the global COVID-19 pandemic began to affect everyday activities in Chile. This implied changes in the way of carrying out prevention and in the activities carried out by students, with the consequent impact on the implementation of the Planet Youth prevention model, and on substance consumption by adolescents. For this reason, it was incorporated into the objectives to consider how the pandemic impacted adolescent substance use. Its potential implications for the results of this study are discussed.

This research evaluates and informs about a unique prevention process in Chile and provides initial results of the adaptation and implementation of the Icelandic model in Latin America. The potential implications are considerations for the political approach to community prevention, and lessons for municipal-scale prevention work. The research also helped identify the risk and protective factors most relevant for different municipalities in Chile, and can contribute to a better understanding of the complex process by which adolescents get involved in alcohol and cannabis use.

The research project presents a review of empirical background and theoretical models of substance use in adolescents and prevention. Methods are described, including the design, participants, procedures, instruments, and analyses. Quantitative and qualitative results are presented and discussed, compared with the broader literature, and the potential implications are highlighted; perspectives for future research and challenges in preventing substance use among adolescents are discussed.

2. BACKGROUND

2.1 Epidemiology of Alcohol and Cannabis use

According to the study Economic and Social Cost of Alcohol Consumption in Chile of 2017 (Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol & Pontificia Universidad Católica de Chile, 2018), 13% of all deaths are attributable to alcohol, and the years of life lost are 16.4%. Worldwide, alcohol use is the seventh highest burden of disease for disability-adjusted life years (Stanaway et al., 2018). Alcohol causes a high health and social burden. In Chile, the economic burden of alcohol is five times the value of taxes returned to the state, and alcohol related diseases correspond to 5.48% of the national health budget.

The National Service of Drugs and Alcohol in Chile (SENDA) shows that 31% of secondary students (8th to 12th grade) have used alcohol in the last month, and 57% have used alcohol in the last year. Among students who have used alcohol in the last month, 62% drank five or more standard drink units at one time (Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol, 2018). In low- and middle-income countries, the prevalence of alcohol use during the past month among young adolescents is about 25% (Ma et al., 2018).

Cannabis is the most used illicit drug in Chile (Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol, 2018) as well as the world (United Nations Office on Drugs and Crime, 2020). Cannabis use has been associated with several adverse health outcomes (Libuy et al., 2018; Volkow et al., 2014), such as cognitive impairment, psychosis risk, suicide risk, and mood disorders. Cannabis use in adolescents has also been associated to the use of other drugs (Degenhardt et al., 2016), difficulty in achieving life goals (Silins et al., 2014), worse educational outcomes in adolescents (Meier et al., 2015; Stiby et al., 2015), and higher risk of involvement in the legal or criminal justice system and road traffic accidents (Hall & Lynskey, 2016).

The Americas is the region with the highest cannabis use with a one-year prevalence of 8.8% in people between 15 and 64 years old (United Nations Office on Drugs and Crime, 2020). The United States, Bolivia, Chile and Uruguay have seen an increase in cannabis use in recent years (United Nations Office on Drugs and Crime, 2020). From 2000 to 2017 the prevalence of cannabis use among Chilean secondary students doubled (Castillo-Carniglia, 2015; Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol, 2018). The past-year prevalence of cannabis use in adolescents in Chile was 14.8% in 2001, rising to 34.9% in 2015 and 30.9% in 2017 (Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol, 2018). Worldwide, 5.6% of adolescents between 15 and 16 years old have used cannabis during the past year (United Nations Office on Drugs and Crime, 2020).

The high prevalence of alcohol and cannabis use in Chilean adolescents implies high relevance and priority for this public health issue. For the National Health Strategy of Chile, the Health Goals for the decade of 2011-2020 were to reduce the prevalence of hazardous alcohol use, and to reduce the prevalence of illicit substance use in 15 to 24 year-olds. A priority for the Ministry of Health in Chile is the treatment of problematic substance use in adolescents, and it has been added to the program of Explicit Guarantees in Health since 2007, which implies obligatory coverage by private and public insurances.

2.2 Characteristics of adolescent substance use

Adolescence is the period of life in which substances most often are used for the first time (Degenhardt et al., 2008; Merikangas et al., 2010). At this age there is a greater inclination towards experimentation, higher risk of substance use disorders, more severe effects, and higher sensitivity to neurotoxicity (Jordan & Andersen, 2017; Levine et al., 2017; Spear, 2018; Volkow et al., 2016). The neurobiology underlying substance use disorders has a critical development during adolescence. The prefrontal cortex and other regions involved in judgment and self-regulation tend to reach maturity after the age of 21 years (Volkow et al., 2016). Risk taking, novelty seeking, and high sensitivity to peer pressure are traits of adolescent behaviors which increase the probability of drug use (Koob & Volkow, 2016).

The earlier substance use is initiated, the higher the subsequent risk is to develop a substance use disorder and the worse the long-term outcomes turn out (Chen et al., 2005; Hingson et al., 2006; Volkow et al., 2014). Starting the use of one substance increases the probability of starting the use of other substances (Degenhardt et al., 2016). About 50% of the individuals who start alcohol use before the age of 14 years will have alcohol dependence at the age of 25 years (Hingson et al., 2006). For cannabis, a fivefold risk of addiction in adolescents compared to general populations has been reported (Volkow et al., 2014).

2.3 Risk and protective factors of substance use

Several factors have been related to substance use in adolescents, some as increasing risk and others as decreasing risk. These factors can be organized on different levels according to a socio-ecological model: the individual level, with characteristics of the subjects and the individual context; the relationship level, which involves relationships with peers, relatives, or significant others; the community level, comprising places where individuals interact in the community such as schools and neighborhoods; and the societal level, the broadest level covering social and cultural norms, health, economics, educational and social policies (CAPT SAMHSA, 2017). The socioecological model also allows us to understand the interaction and relation between different levels considering factors such as substance availability, or impulsivity in individuals (for example) affecting drinking patterns (Gruenewald et al., 2014).

In the following section, factors related to the substance use in adolescents are described. The family history of substance use, perceptions and opinions in the family about substance use, and background of abuse and neglect in childhood (Chadi et al., 2018; Whitesell et al., 2013), are variables associated to substance use. On the other hand, authoritative parenting is protective, while lack of parental involvement increases the risk of substance use in adolescents (Calafat et al., 2014; Chadi et al., 2018). Peers and relatives have high influence on which is considered normative, healthy and acceptable for adolescents (Chadi et al., 2018; Hemovich et al., 2011), so they ultimately affect substance use behaviors.

Parental monitoring, parental modelling, parent–child relationship quality, parental support, communication and parental involvement are protective factors for alcohol misuse, whereas parental provision of alcohol, favorable parental attitudes towards alcohol use and parental drinking increase the risk of alcohol misuse in adolescents (Ryan et al., 2010; Yap et al., 2017).

Authoritative, authoritarian, and indulgent parenting styles had protective effects against multiple drug use compared to neglectful parenting in a study from Brazil (Valente et al., 2017). Authoritative parenting was also protective against the use of alcohol in adolescents from Brazil (Zuquetto et al., 2019). A further study from four Latin American countries (Chile, Mexico, Spain and Peru) showed that parental monitoring and affection is related to constructive leisure time activities and substance use prevention (Belintxon et al., 2020).

Authoritative parenting is protective against substance use in adolescents (Calafat et al., 2014; DeVore & Ginsburg, 2005; Garcia et al., 2020). Authoritative parenting may include warmth, support, firm norms, open communication, supervision, flexible authority, negotiation, and explaining decisions involving children (Calafat et al., 2014; DeVore & Ginsburg, 2005; Garcia et al., 2020).

Parental practices could moderate the effect of friends on substance use in adolescents (Boyd-Ball et al., 2014; Jeff Kiesner et al., 2010).

Furthermore, in the context of social and legal changes on cannabis regulation, parents and health care teams are facing new challenges with adolescents about how to discuss and set up rules around its consumption (Chadi et al., 2018; Hsiao & Walker, 2016). Low parental rejection of marijuana use has been associated with an increase in consumption in Chilean adolescents (Libuy et al., 2020).

Childhood adversity has long-term effects on the development of substance use disorders. Trauma in the past, economic problems and early exposure to substance use in the family or environment should be considered in prevention strategies (Chadi et al., 2018; Gonçalves et al., 2016; LeTendre & Reed, 2017). Individual factors such as perceived availability or perceived

harm, and relationship factors such as friends who use cannabis are more important than nationwide factors, like economic wealth and substance prices (Kraus et al., 2018; Piontek et al., 2013; Ter Bogt et al., 2006).

Surveys are conducted in order to assess the prevalence of substance use and related factors among adolescents in Europe by the European School Survey Project on Alcohol and Other Drugs (ESPAD) and in the United States by Monitoring the Future (MTF). In Chile, every two years SENDA carries out the school-based national survey known as Encuesta Nacional en Población Escolar (ENPE), which is nationally representative. However, the data were infrequently linked with community prevention approaches, and it is common that international research about factors associated to substance use receive more attention than the local data.

The COVID-19 pandemic and related lockdown policies have disrupted the lives and relationships between individuals, families, and entire communities, especially affecting adolescents' mental health (Fegert et al., 2020; Pierce et al., 2020; Shi et al., 2020). It has also affected the way in which mental health problems are addressed and prevented (Holmes et al., 2020; Pierce et al., 2020). An increase of anxiety and depression symptoms has been described in adolescents (Racine et al., 2021), which can interact with substance use (Pelham et al., 2021). Social distancing can lead to a decrease of substance use in adolescents (Miech et al., 2021).

2.4 Prevention of substance use

Recent evidence allows us to address substance use disorders as a chronic acquired disease. Like other chronic diseases, preventive interventions should be a priority (Volkow et al., 2016). Effective treatments are available for substance use disorders. However, greater impact could be achieved with prevention in children and adolescents. Preventing substance use can change adolescents' life trajectories (EMCDDA, 2019; UNODC & WHO, 2018). However, Chile lacks research on the translation of international evidence to the local reality.

The majority of research in prevention of substance use comes from high-income countries in North America, Europe and Oceania. The majority of studies on effectiveness assess the impact

of well-budgeted interventions in little controlled settings, with few studies of real-life interventions. Overall, research is inconclusive regarding the active ingredients of prevention and how strategies should be implemented in differently resourced settings.

To plan prevention in adolescents, it is necessary to identify the main risk and protective factors associated with substance use (Cleveland et al., 2008; Harrop & Catalano, 2016). Identifying these factors allows us to know which of them are potentially modifiable, and then design preventive strategies with a higher probability of effectiveness (Hawkins et al., 2002, 2008). We can also prioritize the factors with higher impact, especially when community resources are limited.

Risk and protective factors can vary from one locality to other. Therefore, the identification of these factors helps to focus on the most important factors. Parenting style, substance use in parents and peers, school factors, and risk perception are relevant psychosocial factors (Chadi et al., 2018; Harrop & Catalano, 2016). The response of the community to substance use in adolescents, and the reciprocal influence between adolescents, peers and parents affect the progression of substance use across time (Guttmannova et al., 2019). Early community interventions can therefore reduce the progression of this problem in the future.

In this context, it is important and necessary to find preventive strategies for the use of alcohol and cannabis among Chilean adolescents based on identifying predictors, risk and protective factors on the individual level, relationship level, school and community levels in real world settings and close to people. Following this, prevention must be developed according to the specific needs of a given community. The municipal level in Chile may be an appropriate setting to complement national activities that may not always fit the particular, current and contingent circumstances of the communities.

Prevention can be applied at different levels. Universal prevention is targeted to the whole population irrespective of risk level. Selective prevention targets at-risk populations which are not experiencing harms yet. Indicated prevention targets high-risk individuals showing early danger signs. An example of a universal prevention program is Life Skill Training (Botvin &

Griffin, 2004; Velasco et al., 2017), often implemented at the school level in order to reach broad coverage in the general population. For selective prevention there are programs such as Familias Unidas (Jacobs et al., 2016) and Communities that care (Jonkman et al., 2009), implemented in vulnerable or socially adverse groups or communities. One program for indicated prevention is for example InShape (Werch et al., 2008), based on physical activity.

Several preventive interventions have been designed and aimed at different levels such as family-based, school-based, or individual interventions, and have been assessed in randomized controlled trials. However, lesser attention has been gave to community-based interventions. Due to the size of the targeted population and limitations in the design, there is a shortage of randomized controlled trials for universal, environmental, multi-component and/or community-based preventive interventions (Stockings et al., 2018). The best way to demonstrate evidence of effectivity is with randomized control trials, but for a wider intervention in general population it is more difficult to design well controlled studies. Meanwhile, very controlled interventions at an individual level comprising a single component with very well selected subjects can fit better in randomized controlled trials and then reach larger effect size, but these interventions can also be far from reality and harder to implement in a real world population. Extremely controlled interventions could have less external validity and make it harder to translate that evidence to other settings (other countries, cultures, socioeconomical level or geographical regions). In some cases, it is even very difficult to implement very well designed interventions with high documented evidence (I. Koning & Ter Bogt, 2015).

In a Cochrane review (Gilligan et al., 2019) authors conclude that there are no clear benefits of family-based prevention programs in preventing alcohol use or problem drinking in school-aged children up to 18 years of age. Another review (MacArthur et al., 2012) shows that universal school-based interventions were beneficial for alcohol use prevention, and may be effective in preventing illicit drug use in adolescents up to 18 years of age. Meanwhile, results were less certain for the effects of multiple risk behavior interventions for cannabis use prevention, and the authors conclude that there is no strong evidence of benefits for family- or individual-level interventions across the risk behaviors studied.

A systematic review of primary substance use prevention for children and youths concluded that the most research has been conducted on the program Life Skills Training (LST), and it has robust evidence to support its effectiveness. On the other hand, Drug Abuse Resistance Education (DARE), described as one of the most widely implemented substance abuse prevention program in the world had no statistically significant impact on substance use among youth in 92% of the studies revised (Tremblay et al., 2020).

The borders of universal, selective or indicated prevention can overlap in a real practice context, and without a doubt are not exclusive approaches, but are instead complementary. The World Health Organization standards of prevention and the standards of treatment of substance use disorders highlight that interventions and policies should be multidimensional and multilevel (EMCDDA, 2019; UNODC & WHO, 2018).

Combined interventions, for example, on parent and adolescents done separately but simultaneously can reach better results than interventions only in adolescents or only in parents in prevention of alcohol use (I. M. Koning et al., 2011, 2012; Newton et al., 2017).

The approach of environmental factors in promotion and prevention has been important for health in general (Stokols et al., 2003), and to extend the use of this approach to prevent substance use in adolescents could add better results to this issue. Therefore, it is recommendable to increase the use of community-based intervention for prevention in adolescents. The risk and protective factors can vary from one locality to other, so identifying local factors helps to focus on the most important ones. Identifying regional and updated factors can guide prevention interventions and public health policies.

Examples of other programs including multi-component interventions at several levels are: 1. The Strategic Prevention Framework (SPF), a five-phase model with multi-component community-based approach, promoting cultural competency and sustainability of community-based prevention efforts (Anderson-Carpenter et al., 2016). 2. The Partnerships for Success (PFS) program, created linkages between health care providers, treatment and prevention services providers, government agencies, and nonprofit organizations to deliver multiple sets of

services (e.g., prevention education, community activities, screening) (Morgan-Lopez et al., 2019). 3. Communities Mobilizing for Change on Alcohol. A community-organizing intervention designed to reduce alcohol access, use, and consequences among underage youths (Komro et al., 2017; Livingston et al., 2018). 4. Steps Towards Alcohol Misuse Prevention Programme (STAMPP). A classroom-based alcohol education intervention, coupled with a brief alcohol intervention for parents/caregivers (McKay et al., 2018). 5. Adding a parenting component, Families Preparing the New Generation, to a classroom-based drug abuse prevention intervention, keepin'it REAL (Marsiglia, Ayers, Robbins, et al., 2019).

Offering alternative activities to consumption that are free of alcohol and drugs in which people get involved, participate, are motivated and enjoy them, would act as reinforcing activities that decrease the probability of substance use (Acuff et al., 2019). According to behavioral economics theory, reinforcing alternatives that compete with substance use increase the opportunity cost of substance use, decreasing consumption; contrariwise, people with few alternatives to substance use are less likely to change their consumption successfully (Bickel et al., 2014). It can thus be understood that in social contexts where there are fewer attractive free consumption activities for people, such as healthy recreational activities, sports activities, open public spaces, green areas or others, there may be more probability of substance use. In addition, differences between rural or urban populations should be considered, since differences in substance use related to cultural and sociodemographic aspects have been described between these populations (Brooks et al., 2017).

Iceland has established a community prevention model for adolescent substance use based on the assessment of specific risk and protective factors with local surveys. This community prevention model focuses on the environment, culture and the promotion of health in adolescents, informed by local risk and protective factors. Implementation requires collaboration between academia and municipal authorities.

2.5 The Icelandic Model

Iceland has engaged in a process of community prevention of adolescent substance use in the last two decades, addressing local risk and protective factors with current data within their own context. In the late 1990s, Iceland was among the countries with the highest prevalence of substance use in adolescents in Europe, and they managed to reach a significant reduction with this prevention plan (Sigfúsdóttir et al., 2009). In 1997, 38% of the Icelandic adolescents who were in tenth grade had been drunk in the last month, which decreased to 20% in 2007. Similarly, daily tobacco use decreased from 21% to 10%, and adolescent reports of having used cannabis during their life decreased from 13% to 7% in the same period of time (Sigfusdottir et al., 2008).

The Icelandic Centre for Social Research and Analysis (ICSRA) was founded in 1999 in collaboration with the Icelandic Ministry of Education, Science and Culture, and municipalities of Iceland. ICSRA periodically carried out a survey called "Youth in Iceland", which assessed substance use (similar to MTF and ESPAD), exploring protective factors such as parental support, monitoring and communication, school wellness, and participation in extracurricular activities like organized sport activities, along with risk factors such as unsupervised free time, party life-style, and substance use in peers. This survey also included items related to self-esteem, family life, neighborhood characteristics, attitudes towards school, leisure time activities, religiosity, parenting, group of peers, significant relationships, anxiety, depressive symptoms, suicidal behaviors, and others (Alfgeir L. Kristjansson et al., 2013; Alfgeir Logi Kristjansson et al., 2013). The results of such surveys were used to build local reports that are fed back to the communities in a standard format two or three months after the survey. School level reports are sent to schools, parents and teachers' organizations as well, and municipal level reports are given to community agencies, prevention practitioners, policymakers and stakeholders (Alfgeir L. Kristjansson et al., 2013; Alfgeir Logi Kristjansson et al., 2013). The most important protective factors identified in Iceland that were addressed in primary prevention were: parents knowing who their children are with; parents knowing where their children are; parents knowing the friends of their children; parents knowing the parents of the friends their children visit; participation in organized sports; and party life style as risk factor (Alfgeir L. Kristjansson et al., 2016). The Icelandic Model uses a community approach and builds dialogue

between researchers, politicians and practitioners. It is a holistic model, not a program, makes universal prevention, and emphasizes social change over individual change (Sigfúsdóttir et al., 2009).

The key components of this prevention model include: 1. Educating parents about the importance of emotional support, reasonable monitoring, and increasing the time they spend with their adolescent offspring. 2. Encouraging young people to participate in organized recreational and extracurricular activities and sports. 3. Working with local schools in order to strengthen the supportive network between relevant agencies in the local community (Sigfusdottir et al., 2008).

The Icelandic Model has been very successful in reducing the prevalence of substance use in adolescents, although differences between trends for alcohol and cannabis use were reported. Arnarsson A, et al show that the proportion of tenth grade students who have never used alcohol has increased, and the students who have used alcohol more than 40 times in life has decreased, but the proportion of students who have never used cannabis in their lives has not increased, and the proportion of students who have used cannabis more than 40 times in their lives has slightly increased (Arnarsson et al., 2018).

ICSRA aims to transfer the Icelandic Model to other places, and they have replicated this prevention approach in other municipalities in different countries in Europe, as well as currently in Chile, the first country in the Latin American region. This global plan of expanding the model to different places has been called Planet Youth.

In Chile six municipalities of the Metropolitan Region, the University of Chile and the Icelandic Centre for Social Research and Analysis collaborated in the implementation and adaptation of the Icelandic model since 2018, comprising a population several times larger than Iceland (Libuy H. et al., 2021). International Memorandums of Understanding were signed between each municipality, ICSRA and University of Chile. This collaboration defined a five-year plan with the implementation of Planet Youth surveys every two years, reports of survey results from ICSRA and recommendations to municipalities in order to provide guidance for the local

implementation of the Planet Youth community prevention plan. Planet Youth is not offering structured interventions, but guiding principles and recommendations to the communities. However, the implementation and specific prevention strategies and activities depend on each municipality.

Each municipality designated a responsible individual within a prevention team. The University of Chile provided the technical support in monthly meetings with the delegates, adapted the strategies and recommendations for the municipalities, and assisted in the management and implementation of the prevention model (Libuy H. et al., 2021). Common objectives were defined in the process and shared between the six municipalities that aimed at: 1. Reinforcing the administrative capacity and policies in the municipalities to conduct community prevention; 2. Decreasing adolescents' access to alcohol and other drugs; 3. Increasing parental involvement and 4. Decreasing parental normalization of adolescent alcohol and drug use; and 5. Promoting environmental enrichment through organized extracurricular recreational activities (Libuy H. et al., 2021).

The magnitude of the adolescent substance use problem, with its costs and consequences, requires gathering scientific evidence on substance use prevention in the Latin American context, since most of the research generally comes from high-income countries (Saxena et al., 2006; UNODC & WHO, 2018). Differences in the sociocultural context make it necessary to strengthen and develop research in the places where it needs to be applied.

The present study aims to address the question of whether community prevention carried out by the municipalities based on Planet Youth is associated with a decrease in alcohol and cannabis use prevalence, and whether this is related to changes in risk and protective factors associated with substance use in Chilean adolescents.

3. OBJECTIVES AND HYPOTHESIS

3.1 General objective

To assess changes in the in the prevalence of risk and protective factors, and changes in the alcohol and cannabis use prevalence in Chilean adolescents during a community prevention action on the municipal level.

3.2 Specific objectives

1. To assess changes in alcohol and cannabis use prevalence in secondary students between 2018 and 2020, in six Chilean municipalities after the implementation of the Planet Youth prevention model.

2. To identify and assess changes in risk and protective factors associated with alcohol and cannabis use in secondary students between 2018 and 2020, within the six municipalities after the implementation of the Planet Youth prevention model.

3. To describe the magnitude of prevention developed in the six municipalities participating in the Planet Youth prevention model with an adapted version of the Swedish instrument Alcohol Prevention Magnitude Measure (APMM) (Nilsson, Leifman, & Andréasson, 2017) and to assess changes between 2019 and 2020.

4. To describe barriers and strengths of the implementation process of prevention based on the Planet Youth in the six municipalities in Chile.

5. To explore the association between the prevention developed in each municipality and the changes in alcohol and cannabis use prevalence, and the changes in risk factor prevalence.

6. To discuss the impact of the COVID-19 pandemic on alcohol and cannabis use in Chilean adolescents during the prevention action.

3.3 Hypothesis

H1: The prevalence of alcohol and cannabis use will decrease in the six municipalities that implemented the prevention model between 2018 and 2020.

H2: The prevalence of one or more of the main risk factors identified for alcohol and cannabis use will decrease between 2018 and 2020 in the six municipalities.

H3: Barriers and strengths of the local adaptation of the prevention model can be described based on exploratory qualitative research.

H4: The decrease of alcohol and cannabis use prevalence is associated with the decrease in prevalence of risk factors, and both are associated with higher community prevention score in the municipalities.

H5: The COVID-19 pandemic may have contributed to changes in alcohol and cannabis use among adolescents between 2018 and 2020.

4. METHODS

4.1 Design

The design of the present thesis is non-experimental, with both quantitative and qualitative methods to assess a prevention in action process. It is a before and during comparison study, including multilevel components, based on municipal level, school level and individual level data. The present research was developed in a naturalistic setting and based on a real process of prevention in action in the municipalities.

The comparison of alcohol and cannabis use prevalence between 2018 and 2020 was conducted to observe outcomes before and after the initiated the implementation during the first and three years into the implementation of the prevention model. The identification of risk and protective factors associated to substance use aimed to understand the process of change in the prevalence of alcohol and cannabis use and to observe the factors associated to the change during the implementation of the prevention model.

The design of the qualitative part of the study aimed to describe the experiences of participants involved in the community and the process of prevention, to describe and better understand the prevention model in a real setting.

4.2 Participants

The study population was secondary school students from six municipalities participating in the Planet Youth model in the Metropolitan Region of Santiago in Chile (Colina, Melipilla, Las Condes, Lo Barnechea, Peñalolen and Renca). Table 1 summarizes socio-demographic characteristics of the municipalities. The sample was obtained from the schools which agreed to participate. The participants were 15 and 16 years old when the survey was applied. The data were obtained at two different time points in 2018 and 2020 as repeat cross-sectional surveys. The individuals who answer were different in 2018 and 2020 since in each year were surveyed students of 15 and 16 years old, but the schools and municipalities were the same.

For qualitative study, the following groups were invited to participate in focus groups: teachers, substance use prevention practitioners at schools and prevention practitioners from municipalities, prevention teams from municipalities, school psychologists and/or school principals. All participants invited were from the six municipalities mentioned and the schools which participated in the surveys.

In addition, the prevention teams from municipalities were asked to respond the APMM instrument for the magnitude of prevention.

4.3 Instruments

1. Survey Planet Youth: This survey has been designed by ICSRA and was used in Iceland. The survey includes items about substance use in adolescents, perceived parenting, risk perception of substance use, depression and anxiety symptoms, participation in extracurricular activities, sports, and others. The Addiction Unit of Universidad de Chile Clinical Hospital has conducted a translation into the Spanish language and has adapted the suitability for Chilean adolescents. This process included a semantic validation and assessment of understanding with a short field pilot study applied to some adolescents, directed by a pediatrician at the health center Ser Joven in the municipality of Lo Barnechea. The surveys from 2018 and 2020 are presented in the appendix. Due to the pandemic, the survey applied in 2020 was a shortened version done via an online form, and pandemic questions were added.

    Questions about COVID-19 pandemic cover the following topics: Family member has been infected with COVID-19; You have caught COVID-19; Family member has been hospitalized for COVID-19; Family member has died of COVID-19; Stress at the start of the pandemic; Current stress from COVID-19; Concerned about your physical health due to COVID-19; Concerned about the physical health of people close to you; Worried about your mental health; Concerned about the mental health of people close to you; Lockdown affecting family relationships; Lockdown affecting relationships with friends; How much the lockdown has affected your

physical health; How much the lockdown has affected your mental health; Lockdown affecting relationships with classmates and teachers; and Lockdown affecting learning experience.

2. Alcohol Prevention Magnitude Measure (APMM): This instrument has been developed in Sweden to evaluate prevention magnitude in communities, and has been applied in Swedish municipalities. The instrument was revised, translated and adapted by the Addiction Unit of Universidad de Chile. APMM returns a score in a scale with a range from 0 to 100. In the appendix, the original paper about the development of APMM is presented (Nilsson et al., 2015). The instrument has 37 indicators in five categories or dimensions: 1) staff and budget for alcohol prevention, 2) municipal alcohol policies, 3) supervision and licensed premises, 4) cooperation with local actors such as authorities, business, and NGOs on alcohol prevention, 5) prevention activities and prevention programmes.

3. Focus group: Focus groups covered topics concerning the prevention model implementation process. A thematic guide was performed with open questions in order to give guidance to the discussion. The questions included in the thematic guide were:

    -   What does preventing alcohol and drug use in adolescents mean to you?

    In your community, be it a commune, neighborhood, schools or others, are there activities to prevent consumption? What activities? How would you describe them?

    -   In your role (Municipality, Schools, or Parents, as appropriate), how is prevention carried out?
    -   Since 2018, a prevention model based on the Icelandic model has been applied in this municipality. A survey and some prevention strategies have been carried out. What is your opinion on this? Satisfaction level? Is it appropriate? Acceptable? What do you expect from this prevention model?

- From 2018 to the present, have you observed changes in the way prevention is carried out in your community based on the Icelandic model? Can you describe specific new activities? What has taken your attention? What would you highlight?

- What barriers or limitations do you think make it difficult to implement preventive strategies for adolescent use in your community?

4.4 Procedure

Databases from the surveys of six municipalities participating in Planet Youth in Chile were obtained with authorization from the University of Chile, corresponding to the years 2018 and 2020.

The surveys were applied in June 2018 and in November 2020. The adolescents who answered the surveys were different, at the same level (10th grade) in both years, nested in the same schools and municipalities. The original version of the survey from the Icelandic Model (Alfgeir L. Kristjansson et al., 2020b, 2020a; Sigfúsdóttir et al., 2009) was translated and adapted for the application in 2018, with a total of 360 items in paper and pencil format applied on-site, and a duration of 45 to 60 minutes. 7538 secondary students from 117 schools participated in 2018, with a response rate of 86.9%.

The survey was shortened in 2020, and questions were added about the pandemic, containing a total of 76 items with a duration of 15 to 20 minutes. The survey in 2020 was remotely delivered in a digital format online built on the website Jotform (www.jotform.com).

The procedure to implement the survey was coordinated and supervised by the prevention teams in each municipality with support and guidance from Universidad de Chile, according to the protocols of ICSRA (Alfgeir Logi Kristjansson et al., 2013).

All schools in the six municipalities were invited to participate. When schools accepted the participation, information was sent to the parents. A passive informed consent was sent to the

parents, and an assent form was applied to the students. All students assented to participate before answering the survey.

The APMM was applied in each municipality with the teams in charge of the prevention model, to assess the prevention level. The APMM was applied in a remote interview by Zoom Video software and the questions were answered online registered in a form document with assistance by the interviewer (me and a second interviewer, a psychologist from the Addiction Unit of Universidad de Chile). The APMM was applied between October and December of 2020.

Focus groups were held with community members including prevention practitioners from municipalities and schools, teachers, and parents, to obtain a qualitative description of the prevention model implementation process. Focus groups were performed in April 2020, online by Zoom Video software. 6 groups were formed, with a total of 38 participants. The focus groups had a duration of 90 minutes. The discussion was guided by one facilitator and had the accompanying and support of a second member of the research team. The focus groups were recorded with the consent of participants, and then transcribed for the analyses.

4.5 COVID-19 pandemic

In March 2020 the government decreed a state of emergency in Chile due to the pandemic, with a nationwide curfew between 10 pm and 5 am to restrict the movement of people. The starting time of the curfew was delayed to 11 pm in August and to 12 am in November 2020. The first wave of the COVID-19 pandemic in Chile reached a peak in June 2020. For July 2020, a five-step plan was implemented, which defined criteria for the opening or closing of activities, numbers of peoples for meetings and dynamic lockdowns based on epidemiological data at the municipal level.

Municipalities underwent median lockdowns of 95 days (ranging from 59 to 151 days in the six municipalities) between the start of pandemic in March 2020 and the application of the second survey in November 2020. Five of the six municipalities eased the lockdown policies in the months of July or August 2020, and one municipality in October 2020. At the survey application

time in 2020, all municipalities had at least one month without complete lockdown and the curfew was from 11 pm to 5 am for all. School activities comprised mainly online videoconferencing and homework, with better implementation in private schools than in public schools. The gradual return to on-site classes, once the municipalities had come out of the complete lockdown on step 1, depended on each school. Public schools had a slower return to on-site activities than private schools.

4.6 Data analysis

4.6.1 Quantitative analysis of substance use prevalence and risk factors

The outcomes selected in the present study were: proportion of adolescents who report lifetime alcohol use, past-month alcohol use, lifetime drunkenness, past-month drunkenness, lifetime cannabis use, and frequent cannabis use. The questions on frequent cannabis use were different in the 2018 and in the 2020 surveys. In 2018, participants asked how many times they had used cannabis, and in 2020, whether they had used cannabis in the past month. For lifetime cannabis use, though, the question was identical in both surveys.

Independent variables selected from the survey were: staying away from home after 10 pm; perceived parenting; depression and anxiety symptoms; parental rejection of drunkenness; parental rejection of cannabis use; alcohol use in friends; drunkenness of friends; cannabis use in friends; no sports activity; and no organized extracurricular activity.

The variables of parenting, depression, and anxiety symptoms had a compound score since they include several items. The way in which these two variables were dichotomized is presented below.

Perceived parenting was taken as a total score from 16 items which compound a scale. Each item was scored on a Likert-like scale from one to four by the students. Higher scores indicated higher levels of parental support. For the first five items the question was: How easy or hard would it be for you to receive the following from your parents? Items: 1. Caring and warmth, 2. Discussions about personal affairs, 3. Advice about studies, 4. Advice about other issues

(projects) of yours, 5. Assistance with things. A score from 1 to 4 was assigned to the alternatives: very difficult, rather difficult, rather easy, or very easy. The introductory question to items 6 to 16 was: How do the following statements apply to you? Items: 6. My parents find it important that I do well in my studies, 7. My parents set definite rules about what I can do at home, 8. My parents set definite rules about what I can do outside the home, 9. My parents set definite rules about when I should be home in the evening, 10. My parents know whom I am with in the evenings, 11. My parents know where I am in the evenings, 12. My parents know my friends, 13. My parents know my friends' parents, 14. My parents often talk to my friends' parents, 15. My parents and my friends' parents sometimes meet to talk to one another, 16. My parents follow what I do in my recreational time. For the items 6 to 16, a score from 1 to 4 was assigned to the answer alternatives: applies very poorly to me, applies rather poorly to me, applies rather well to me, or applies very well to me.

The results of the parenting score was divided into thirds (under percentile 0.33; between percentile 0.33 and 0.66; and over percentile 0.66) as low, middle, and high parenting. The parenting variable was then dichotomized from the total score, taking as low perceived parenting under percentile 33, and the reference value was over p33. The cut-off point was a score of 33 points, on an observed range of the minimum score in 15 points and maximum in 52 points. The internal consistency analysis of the scale returns a Cronbach's alpha of 0.79 and an Omega coefficient of 0.85.

The depression and anxiety symptoms variable included 12 items. The questions were: 1. How often did you feel nervousness in the past week?, 2. How often did you feel sudden fear for no apparent reason in the past week?, 3. How often did you have little interest in doing things in the past week?, 4. How often did you have little appetite in the past week?, 5. How often did you feel lonely in the past week?, 6. How often did you cry easily or want to cry in the past week?, 7. How often did you have sleeping problems in the past week?, 8. How often did you feel sad or blue in the past week?, 9. How often did you feel unexcited in doing things in the past week?, 10. How often did you feel slow or have little energy in the past week?, 11. How often did you feel the future seemed hopeless in the past week?, 12. How often did you think of committing suicide in the past week?.

A score from 1 to 4 was assigned to the answer alternatives: never, seldom, sometimes, and often.

The results of total score in depression and anxiety symptoms were divided into thirds (under percentile 0.33; between percentile 0.33 and 0.66; and over percentile 0.66) as mild, moderate and severe. The variable was then dichotomized from the total score, taking as severe depression and anxiety symptoms over percentile 66, and the reference value was under p66. The cut-off point was a score of 28 points, on an observed range of the minimum score in 12 points and maximum in 48 points. The analysis of internal consistency of the scale returns a Cronbach's alpha of 0.9 and an Omega coefficient of 0.92.

Covariates for adjusting the analyses were: gender, age, living with both parents, parents' employment status, school funding, and municipality.

The socio-demographics and prevalence of alcohol and cannabis use were described by municipalities for participants and schools. Chi-square tests were calculated to compare changes in the proportion of students who used alcohol and cannabis between 2018 and 2020 with a confidence interval of 95%, for the outcomes: lifetime alcohol use, past-month alcohol use, lifetime drunkenness, past-month drunkenness, and lifetime cannabis use. Changes in risk and protective factor prevalence were compared between 2018 and 2020 using chi-square tests with a confidence interval of 95% for the following: staying out after 10 pm; perceived parenting; depression and anxiety symptoms; parental rejection of drunkenness; parental rejection of cannabis use; alcohol use in friends; drunkenness of friends; cannabis use in friends; sport activity; and organized extracurricular activity.

The outcomes were dichotomic and the reference value was no substance use. All independent variables were dichotomized for the analyses.

The association between each risk factor and each outcome in 2018 and in 2020 was calculated by separated multilevel logistic regression models including all factors, adjusted for the

covariates for control potential confounders. Adjusted odds ratios were calculated with 95% confidence intervals. The three levels were individuals, schools, and municipalities.

The moderation effect of the year on the association between risk factors and alcohol and cannabis use outcome was calculated for each outcome, by the interaction between risk factors and year in adjusted multilevel logistic regressions. The interaction between municipality and year was also calculated for each outcome in adjusted multilevel logistic regressions.

Intra-class correlations (ICC) were calculated at the null regression models, to estimate the cluster effect at the school and municipal levels. The c-statistic was calculated in each full model assessing the discriminatory performance of the multilevel logistic regressions.

The analyses were performed with the software R version 4.0.4 for Windows. The package used for multilevel analyses was lme4.

4.6.2 Alcohol Prevention Magnitude Measure

In each municipality, the indicator scores were summarized by each dimension: staff and budget for alcohol prevention, municipal alcohol policies, supervision and licensed premises, cooperation with local actors such as authorities, business, and NGOs on alcohol prevention, prevention activities and prevention programs. Total APMM scores were calculated for each municipality.

The results of 2020 were compared with the score in 2019 with Wilcoxon's test. Correlations were also explored between the total score and the outcomes of substance use, and between each APMM dimension and substance use outcomes. Spearman's rank correlations were calculated between the differences of APMM 2019-2020 and between the differences 2018-2020 of prevalence of substance use for each outcome. In addition, correlations were explored between APMM scores and risk and protective factors with the same procedure.

4.6.3 Focus groups and qualitative analysis

Focus groups carried out by Zoom Video software were recorded and transcribed. The topics and contents that the participants talked about were revised and described qualitatively. The contents were analyzed using an inductive thematic analysis procedure (Hayes, 2000) with an approach consisting of 6 phases: familiarization, initial coding, searching for themes, reviewing themes, definition of themes and reporting (Braun & Clarke, 2006).

The transcriptions and overall content were revised by four members of the research team, headed by one psychologist with experience in qualitative analyses. Initial codes were identified in quotes of the text in agreement with the researchers according to the meaning within the frame of the guiding questions. The codification was inductive, ascendent, taking the quotes, without a preexisting codification. A reclassification was then performed with higher categories which comprised several codes. The categories were revised and refined, and new categories or code reorderings were discussed until achieving the final themes. A thematic map was proposed according to category contents, with the final denominations and setting category hierarchies. Municipalities and the roles of participants were considered.

4.7 Ethics

Participation by the municipalities, schools and students was voluntary. Passive informed consent was used for the parents, and an assent form for the students. The questionnaires were anonymous, protecting students' identities. The anonymized data were managed and stored by the research team. The interviews and focus groups were voluntary and the participants signed consent forms. The project was approved in its original version in 2019 by the Ethics Committee of the Medical School at Universidad de Chile (Project number 247-2019). In 2020 an amendment was approved with changes due to the pandemic involving modifying the on-site surveys, interviews and focus groups to online modalities of these activities.

5. RESULTS

5. 1 Sociodemographic description

In 2018 were surveyed 7538 tenth grade students from 118 schools with a response rate of 86.9%. In 2020 5528 tenth grade students from 100 schools participated in the survey with a response rate of 72.8%. For the whole sample, the mean age of students was 16 years, with a standard deviation of 0.66. In 2018, 48.7% of students were girls, and in 2020 51.9% were girls.

The surveys were conducted in the same six municipalities of the Metropolitan Region of Santiago in Chile in 2018 and 2020. 93 schools participated in both 2018 and 2020. 25 schools only participated in 2018, and 7 schools only took part in 2020. Among the 125 participating schools, 95 were private and 30 publicly funded.

The table 1 shows the description of the sample by municipality.

Table 1. Description of the sample and substance use prevalence by municipality and year

				Municipalities							
Municipality	1		2		3		4		5		6	
Year	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020
Number of participants (% of whole sample in each year)	1728 (22.9%)	1477 (26.7%)	2438 (32.3%)	2029 (36.7%)	1220 (16.2%)	545 (9.6%)	472 (6.3%)	226 (4.1%)	348 (4.6%)	334 (6%)	1332 (17.7%)	917 (16.6%)
Girls	50.6%	53.0%	49.6%	49.6%	52.6%	58.3%	35.9%	52.7%	44.8%	42.8%	46.7%	46.0%
Mean age (SD)	16.0 (0.7)	16.01 (0.6)	16.1 (0.6)	16.0 (0.6)	16.1 (0.5)	16.1 (0.4)	16.2 (0.9)	15.8 (0.8)	16.2 (0.9)	16.1 (0.8)	15.9 (0.7)	15.9 (0.8)
Number of participating schools (% of whole sample in each year)	22 (17.8%)	24 (24%)	49 (42.4%)	44 (44%)	19 (16.1%)	8 (8%)	4 (3.4%)	4 (4%)	7 (5.9%)	6 (6%)	17 (14.4%)	14 (14%)
Funding of schools												
Private	17	17	39	35	19	8	0	0	0	0	15	12
Municipal	5	7	10	9	0	0	4	4	7	6	2	2
Lifetime alcohol use (%)	80	**68.9***	84.1	**75.2***	81.4	**74.5***	73.5	**61.1***	66.4	63.8	76.5	**61.8***
Past-month alcohol use (%)	42.5	**32.9***	53.3	**40.2***	51.4	**39.8***	38.7	**20.4***	28.8	25.5	37.1	**21.2***
Lifetime drunkenness (%)	40.7	**30.2***	47.7	**37.7***	48.6	**32.7***	39.3	**20.4***	32.5	26.7	36.0	**23.6***
Past-month drunkenness (%)	15.6	**12.7***	22.0	**16.4***	21.4	17.8	16.0	**3.1***	6.8	9.6	11,2	**5.6***
Lifetime cannabis use (%)	30.3	**19.1***	25.5	**17.4***	20.3	**10.3***	38.2	**21.2***	30.8	32.0	37.3	**21.4***
Cannabis use ≥ 10 times (%)	13.0	-	10.3	-	7.2	-	19.8	-	14.2	-	15.3	-
Past-month cannabis use (%)	-	6.2	-	7.1	-	4.0	-	5.3	-	14.7	-	6.9

*Significantly different 2018-2020 (p<0.05)

5.2 Alcohol and cannabis use changes between 2018 and 2020

In the pooled data from the six municipalities all outcomes of substance use in adolescents decreased between 2018 and 2020. Lifetime alcohol use decreased from 79.9% in 2018 to 70.0% in 2020 ($X2=168.7$, $df=1$, $p<0.01$); past-month alcohol use decreased from 45.6% to 33.4% ($X2=196.5$, $df=1$, $p<0.01$); lifetime drunkenness decreased from 42.9% to 31.5% ($X2=174.51$, $df=1$, $p<0.01$); drunkenness in the past month decreased from 17.5% to 12.8% ($X2=56.56$, $df=1$, $p<0.01$); and lifetime cannabis use decreased from 28.7% to 18.8% ($X2=170.3$, $df=1$, $p<0.01$).

The frequent use of cannabis was measured differently in 2018 and 2020, and the results were not compared. However, since cannabis use (more than ten times in life and cannabis use during the past-month) represents a proportion of more serious cannabis users and the proportion in relation to cannabis use in lifetime was similar, we can observe a decreasing trend of frequent cannabis use between 2018 and 2020 in the line to observe other outcomes. 12.1% of the students in 2018 reported having used cannabis ten or more times in their lifetime; and in 2020, 6.9% reported having used cannabis in the past month.

Five of six municipalities had a decrease in alcohol and cannabis use. Only one municipality had no significant changes, and this was consistent for all outcomes.

Table 1 shows changes in substance use prevalence for each municipality.

5.3 Risk and protective factors of alcohol and cannabis use

Several risk factors improved between 2018 and 2020, including staying out of home after 10 pm, alcohol use in friends, drunkenness in friends, and cannabis use in friends. However, other factors deteriorated in 2020, such as perceived parenting, depression and anxiety symptoms, and low parental rejection of alcohol use. Table 2 summarizes the prevalence of risk and protective factors in 2018 and 2020.

The proportion of students who reported staying out of the house after 10:00 pm at least one day during the past week was 57.5% in 2018 and changed to 47.2% in 2020 ($X2=134.8$, $df=1$, $p<0.001$). Alcohol use in friends decreased from 50.7% in 2018 to 45.9% in 2020 ($X2=29.0$, $df=1$, $p<0.001$). Drunkenness of friends decreased from 33.0% in 2018 to 19.7% in 2020 ($X2=282.7$, $df=1$, $p<0.001$). Cannabis use in friends decreased from 22.6% to 11.6% ($X2=256.5$, $df=1$, $p<0.001$) between 2018 and 2020.

The students who perceived low parenting were 27.3% in 2018 and 33.7% in 2020 ($X2=105.0$, $df=1$, $p<0.001$). The prevalence of depression and anxiety symptoms increased from 30.3% in 2018 to 35.7% in 2020 ($X2=33.9$, $df=1$, $p<0.001$). Low perceived parental rejection of drunkenness was 3.5% in 2018, and increased to 5.3% in 2020 ($X2=25.9$, $df=1$, $p<0.001$). Low parental rejection of cannabis use was 2.8% in 2018 and 2.7% in 2020 ($X2=0.22$, $df=1$, $p=0.64$) without significant change.

The proportion of students who did not practice sport activities decreased from 49.5% in 2018 to 30.8% in 2020 ($X2=452.8$, $df=1$, $p<0.001$); and the proportion of students who reported no participation in organized extracurricular activities also decreased from 70.9% to 57.8% ($X2=234.5$, $df=1$, $p<0.001$).

Table 2. Risk and protective factors prevalence in 2018 and 2020

Prevalence of risk factors				
	Year			
Risk factor	2018	2020	Chi-square	*p*-value
Staying out of house after 10 pm	57.5%	47.2%	134.8	<0.01
Low Parenting	27.3%	33.7%	105.0	<0.01
Depression and anxiety symptoms	30.3%	35.7%	33.9	<0.01
Low parental rejection of drunkenness	3.5%	5.3%	25.9	<0.01
Low parental rejection of cannabis use	2.8%	2.7%	0.22	0.636
Alcohol use in friends	50.7%	45.9%	29.0	<0.01
Drunkenness in friends	33.0%	19.7%	282.7	<0.01
Cannabis use in friends	22.6%	11.6%	256.5	<0.01
No sport activity	49.5%	30.8%	452.8	<0.01
No organized extracurricular activities	70.9%	57.8%	234.5	<0.01

5.4 Association between risk factors and alcohol and cannabis use

In 2018, staying out of home after 10:00 pm and low parenting were significantly associated with all substance use outcomes: lifetime alcohol use, past-month alcohol use, lifetime drunkenness, past-month drunkenness, lifetime cannabis use, and cannabis use of 10 or more times in respondents' lifetimes. Alcohol use in friends was significantly associated with all alcohol use outcomes and with lifetime cannabis use. Cannabis use in friends was associated with cannabis use outcomes and with some alcohol outcomes. Low parental rejection of drunkenness was associated to past-month alcohol use, lifetime drunkenness and past-month drunkenness. Low parental rejection of cannabis use was associated to lifetime cannabis use, and cannabis used 10 times or more in life. Higher odds ratios for cannabis use were observed for the risk factor of having friends who use cannabis; and similarly, higher odds ratios for alcohol use were observed for the risk factor of having friends who use alcohol.

The factor of depression and anxiety symptoms was not significantly associated in almost all substance use outcomes in 2018, but only has a modest association with lifetime cannabis use. The factor of no participation in extracurricular activities was not associated with substance use in almost all outcomes, and was only slightly associated with lifetime cannabis use of ten times or more. Surprisingly, the factor of not doing any sport activities was associated inversely to lifetime alcohol use, lifetime drunkenness and lifetime cannabis use.

Table 3 shows all odds ratios and the confidence intervals for each risk factor in each outcome in 2018.

Table 3. Odds ratios for each risk factor by outcomes in 2018.

Risk factors*	Lifetime alcohol use		Past-month alcohol use		Lifetime drunkenness		Past-month drunkenness		Lifetime cannabis use		Cannabis 10 times in life	
	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%
Staying out of house after 10 pm	**2.02**	**1.76 - 2.31**	**2.64**	**2.35 - 2.96**	**2.14**	**1.90 - 2.40**	**2.76**	**2.32 - 3.29**	**2.25**	**1.96 - 2.58**	**2.06**	**1.69 - 2.51**
Low Parenting	**1.54**	**1.31 - 1.82**	**1.30**	**1.15 - 1.48**	**1.35**	**1.19 - 1.54**	**1.55**	**1.32 - 1.83**	**1.69**	**1.47 - 1.95**	**1.85**	**1.53 - 2.22**
Depression and anxiety symptoms	1.15	0.99 - 1.34	0.96	0.84 - 1.09	1.14	1.00 - 1.30	0.97	0.82 - 1.15	**1.21**	**1.05 - 1.40**	1.17	0.96 - 1.42
Low parental rejection of drunkenness	1.53	0.92 - 2.54	**2.05**	**1.45 - 2.90**	**2.35**	**1.65 - 3.34**	**2.12**	**1.50 - 3.00**	**1.43**	**1.01 - 2.04**	1.04	0.69 - 1.56
Low parental rejection of cannabis use	1.05	0.63 - 1.76	1.17	0.81 - 1.69	1.10	0.75 - 1.60	1.14	0.76 - 1.72	**2.56**	**1.70 - 3.86**	**4.09**	**2.71 - 6.15**
Alcohol use in friends	**2.66**	**2.19 - 3.22**	**2.75**	**2.38 - 3.17**	**2.35**	**2.03 - 2.72**	**2.16**	**1.74 - 2.69**	**1.58**	**1.32 - 1.89**	1.29	0.99 - 1.67
Drunkenness in friends	**1.28**	**1.03 - 1.60**	**1.54**	**1.33 - 1.78**	**2.08**	**1.80 - 2.41**	**3.20**	**2.65 - 3.85**	**1.28**	**1.07 - 1.52**	1.09	0.86 - 1.38
Cannabis use in friends	**1.43**	**1.14 - 1.79**	**1.23**	**1.05 - 1.44**	**1.38**	**1.19 - 1.61**	0.95	0.79 - 1.15	**3.83**	**3.24 - 4.55**	**6.79**	**5.37 - 8.57**
No sport activity	**0.85**	**0.73 - 0.98**	0.94	0.83 - 1.06	**0.83**	**0.73 - 0.93**	0.93	0.79 - 1.09	**0.79**	**0.69 - 0.91**	0.90	0.74 - 1.10
No organized extracurricular activities	1.04	0.89 - 1.22	1.02	0.90 - 1.16	1.13	1.00 - 1.29	1.04	0.88 - 1.22	1.11	0.95 - 1.29	**1.25**	**1.01 - 1.55**
ICC Schools	6.48%		5.51%		5.31%		6.91%		15.21%		24.8%	
ICC Municipalities	2.70%		2.78%		0.69%		2.99%		1.32%		2.23%	
C-statistic	0.75		0.77		0.77		0.81		0.82		0.87	

* Adjusted for: gender, age, living with both parents, employment status of the parents, school funding, and municipality

In **bold**, associations statistically significant

Odds Ratios over 1.5 highlighted in yellow

In 2020, staying out of home after 10:00 pm, and low parental rejection of drunkenness were significantly associated with all substance use outcomes: lifetime alcohol use, past month alcohol use, lifetime drunkenness, past month drunkenness, lifetime cannabis use, and past month cannabis use.

The factor of perceived low parenting by the adolescents is still an important risk factor in substance use in 2020, associated with lifetime alcohol use, past month alcohol use, lifetime drunkenness, lifetime cannabis use, and past month cannabis use.

Unlike 2018, in 2020 the factor of depression and anxiety symptoms was associated to several outcomes of alcohol and cannabis use, such as lifetime alcohol use, past month alcohol use, lifetime drunkenness, lifetime cannabis use, and past month cannabis use.

In 2020 the factors of substance use in friends have a similar association pattern with substance use and were the factors with higher odds ratios for alcohol and cannabis use.

The factor of not participating in sports activities was not associated with any substance use outcome, and the factor of not participating in extracurricular activities was not a risk factor for any substance use outcome.

Table 4 presents all odds ratios and the confidence intervals for each risk factor in each outcome in 2020.

Table 4. Odds ratios for each risk factor by outcomes in 2020.

Risk factors*	Alcohol and cannabis use in adolescents in 2020											
	Lifetime alcohol use		Past-month alcohol use		Lifetime drunkenness		Past-month drunkenness		Lifetime cannabis use		Past-month cannabis use	
	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%
Staying out of house after 10 pm	**2.17**	**1.88 - 2.50**	**3.18**	**2.76 - 3.67**	**2.21**	**1.91 - 2.55**	**3.36**	**2.69 - 4.19**	**2.05**	**1.72 - 2.45**	**2.50**	**1.89 - 3.30**
Low Parenting	**1.53**	**1.32 - 1.78**	**1.22**	**1.05 - 1.42**	**1.56**	**1.34 - 1.81**	1.17	0.95 - 1.44	**1.60**	**1.35 - 1.90**	**1.77**	**1.36 - 2.31**
Depression and anxiety symptoms	**1.61**	**1.38 - 1.87**	**1.34**	**1.15 - 1.56**	**1.31**	**1.13 - 1.53**	1.21	0.98 - 1.49	**1.56**	**1.31 - 1.86**	**1.48**	**1.12 - 1.96**
Low parental rejection of drunkenness	**2.77**	**1.79 - 4.28**	**2.70**	**2.00 - 3.64**	**2.95**	**2.19 - 3.99**	**2.53**	**1.80 - 3.57**	**1.89**	**1.39 - 2.56**	**1.81**	**1.21 - 2.72**
Low parental rejection of cannabis use	1.03	0.63 - 1.66	1.43	0.94 - 2.17	1.43	0.94 - 2.18	**1.90**	**1.15 - 3.16**	**3.27**	**2.13 - 5.00**	**6.04**	**3.82 - 9.55**
Alcohol use in friends	**3.91**	**3.30 - 4.62**	**3.52**	**3.02 - 4.12**	**3.29**	**2.80 - 3.85**	**3.09**	**2.40 - 3.99**	**1.53**	**1.25 - 1.87**	0.97	0.70 - 1.34
Drunkenness in friends	1.06	0.84 - 1.34	**1.46**	**1.22 - 1.74**	**1.94**	**1.62 - 2.31**	**3.17**	**2.56 - 3.93**	**1.40**	**1.12 - 1.74**	**1.81**	**1.32 - 2.48**
Cannabis use in friends	1.12	0.86 - 1.45	1.07	0.86 - 1.33	**1.54**	**1.24 - 1.91**	0.97	0.73 - 1.29	**3.98**	**3.17 - 4.99**	**7.38**	**5.49 - 9.91**
No sport activity	0.92	0.79 - 1.07	0.92	0.78 - 1.07	0.97	0.83 - 1.14	1.09	0.87 - 1.37	0.98	0.81 - 1.18	1.18	0.88 - 1.57
No organized extracurricular activities	0.99	0.86 - 1.15	1.14	0.98 - 1.31	1.09	0.94 - 1.26	0.99	0.81 - 1.20	1.02	0.86 - 1.22	**0.68**	**0.52 - 0.90**
ICC Schools	3.20%		6.24%		5.38%		11.81%		13.49%		14.76%	
ICC Municipalities	1.17%		2.62%		0.87%		4.44%		<0.1%		<0.1%	
C-statistic	0.76		0.80		0.80		0.85		0.82		0.88	

* Adjusted for: gender, age, living with both parents, employment status of the parents, school funding, and municipality

In **bold**, associations statistically significant

Odds Ratios over 1.5 highlighted in yellow

The schools show a higher intra-class correlation in the null models for each outcome than the municipalities, although the number of municipalities is very small for cluster effects analyses. The intra-class correlation coefficients for cannabis at the school level were higher than for alcohol use. The intra-class correlation coefficients for alcohol use outcomes ranged between 3.2% and 11.8% for the school level; while those for cannabis use ranged between 13.5% and 24.8% at the school level. Tables 3 and 4 show the ICCs for each outcome in the years 2018 and 2020.

The c-statistic showed moderate to high values over 0.75 for all multilevel logistic regression models, indicating an adequate level of discrimination. Tables 3 and 4 contain the c-statistic for each outcome in the years 2018 and 2020.

5.5 Interaction between year and risk factors

A significant interaction between the depression and anxiety symptoms with the factor year was observed in the adjusted multilevel logistic regression models for the outcomes: lifetime alcohol use (β=0.34; p<0.001), past month alcohol use (β=0.33; p<0.001), lifetime drunkenness (β=0.21; p=0.02), and lifetime cannabis use (β=0.26; p=0.016); with a significantly stronger association in 2020 than in 2018 with these substance use outcomes.

Alcohol use in friends had a significant interaction with year for the lifetime alcohol use (β=0.29; p=0.006), past-month alcohol use (β=0.24; p=0.008), lifetime drunkenness (β=0.35; p<0.001), and past-month drunkenness (β=0.48; p<0.001) outcomes. There was a stronger association with the outcomes in 2020 than in 2018.

Low parental rejection of drunkenness had a significant interaction with year for lifetime alcohol use (β=0.66; p=0.042) with a stronger association in 2020 than in 2018. The interaction between low perceived parenting and year was significant for past-month drunkenness (β= -0.25; p=0.046). In all other risk factors, the year did not significantly interact with the outcomes in the adjusted multilevel logistic regression models.

For the interaction between year and municipality, only one municipality (municipality 4, see table 1), presented a significant interaction for only one outcome, past-month drunkenness ($\beta=$ -1.46; p= 0.004). This was therefore a statistically different reduction from the other municipalities in the prevalence of past month drunkenness between 2018 and 2020. For all other outcomes there were no statistically significant differences between municipalities.

5.6 Impact of COVID-19 pandemic on adolescents

The questions about the COVID-19 pandemic added in the 2020 survey show important impacts of the pandemic and lockdown on the learning experience, stress, and physical and mental health, despite the fact that a small proportion of students and their families were infected over 2020 until November at the moment of the survey.

74.5% of students surveyed in 2020 reported that lockdown deteriorated their own learning experience; and 30.2% reported that lockdown deteriorated relationships with classmates and teachers.

56.6% of adolescents reported being fairly or very concerned about their own physical health due to COVID-19; while 68.4% were fairly or very concerned about the physical health of people close to them.

53.8% said they were fairly or very worried about their own mental health; and 64.7% were fairly or very concerned about the mental health of people close to them.

46.4% answered that lockdown deteriorated their own physical health; and 50.1% said that lockdown deteriorated their own mental health.

52.7% answered that at the start of the pandemic they felt middle or high levels of stress; at the moment of the survey 45.1% were currently feeling middle or high stress levels in November 2020.

38.5% of students reported that lockdown deteriorated relationships with friends; but only 21.5% considered that lockdown deteriorated family relationships.

28.1% answered that at least one family member had been infected with COVID-19. 6.5% of students had caught COVID-19. 9.8% of students reported that some family member had been hospitalized for COVID-19; and 4.5% had a family member who died of COVID-19.

Association of COVID-19 pandemic items with alcohol and cannabis use in 2020.

Having stress at the start of the pandemic was associated significantly with lifetime alcohol use, past month alcohol use, lifetime drunkenness, lifetime cannabis use and past month cannabis use.
Respondents being concerned about the physical health of people close to them was associated inversely with the outcomes: lifetime drunkenness, lifetime cannabis use, and past month cannabis use.

The adolescents who responded that the lockdown deteriorated their own mental health were associated significantly with all substance use outcomes: lifetime alcohol use, past month alcohol use, lifetime drunkenness, past month drunkenness, lifetime cannabis use and past month cannabis use.

The adolescents who responded that the lockdown deteriorated their own learning experience were associated significantly with all substance use outcomes: lifetime alcohol use, past month alcohol use, lifetime drunkenness, past month drunkenness, lifetime cannabis use and past month cannabis use.

Table 5 presents the odds ratios for all COVID-19 pandemic items for the substance use outcomes in 2020.

Table 5. Odds ratios for COVID-19 pandemic items by substance use outcomes in 2020

COVID-19 factors	Alcohol and cannabis use in adolescents in 2020											
	Lifetime alcohol use		Past-month alcohol use		Lifetime drunkenness		Past-month drunkenness		Lifetime cannabis use		Past-month cannabis use	
	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%
Family member has been infected with COVID-19	1.04	0.88 - 1.23	0.97	0.82 - 1.15	0.97	0.82 - 1.15	1.11	0.87 - 1.41	1.08	0.89 - 1.31	0.92	0.68 - 1.24
You have caught COVID-19	1.28	0.96 - 1.71	1.06	0.80 - 1.39	1.27	0.97 - 1.67	1.50	1.05 - 2.15	1.20	0.88 - 1.62	1.31	0.84 - 2.04
Family member has been hospitalized for COVID-19	**1.64**	**1.26 - 2.13**	**1.31**	**1.03 - 1.66**	1.19	0.94 - 1.52	1.08	0.77 - 1.51	**1.46**	**1.12 - 1.92**	1.43	0.95 - 2.14
Family member has died of COVID-19	**0.63**	**0.45 - 0.87**	0.94	0.68 - 1.30	0.88	0.63 - 1.22	1.04	0.66 - 1.62	0.77	0.53 - 1.13	1.38	0.82 - 2.31
Stress at the start of the pandemic	**1.26**	**1.10 - 1.45**	**1.39**	**1.21 - 1.59**	**1.25**	**1.09 - 1.43**	1.08	0.90 - 1.31	**1.40**	**1.18 - 1.66**	**1.31**	**1.01 - 1.69**
Currently stress by COVID-19	0.99	0.85 - 1.14	0.99	0.86 - 1.14	1.09	0.95 - 1.26	1.03	0.85 - 1.25	**1.25**	**1.05 - 1.48**	1.25	0.97 - 1.62
Concerned about your physical health due to COVID-19	1.01	0.88 - 1.15	1.01	0.89 - 1.16	0.95	0.83 - 1.09	0.90	0.75 - 1.08	1.08	0.92 - 1.27	1.10	0.86 - 1.41
Concerned about the physical health of close ones	0.87	0.74 - 1.01	0.92	0.80 - 1.07	**0.85**	**0.73 - 0.98**	0.83	0.68 - 1.02	**0.69**	**0.58 - 0.82**	**0.69**	**0.53 - 0.90**
Worried about your mental health	0.89	0.76 - 1.04	0.96	0.83 - 1.12	1.02	0.88 - 1.19	1.08	0.87 - 1.33	0.97	0.81 - 1.17	1.04	0.79 - 1.37
Concerned about the mental health of close ones	**1.25**	**1.07 - 1.47**	1.07	0.92 - 1.25	1.09	0.93 - 1.27	0.99	0.80 - 1.23	1.08	0.89 - 1.31	1.00	0.75 - 1.34
Lockdown affecting family relationships	1.10	0.93 - 1.29	1.15	0.99 - 1.34	**1.29**	**1.11 - 1.50**	1.21	0.99 - 1.48	**1.37**	**1.15 - 1.63**	1.23	0.95 - 1.59
Lockdown affecting relationships with friends	**1.29**	**1.11 - 1.49**	0.97	0.84 - 1.11	**1.19**	**1.04 - 1.37**	**0.75**	**0.61 - 0.92**	**1.20**	**1.01 - 1.41**	1.22	0.95 - 1.57
How much the lockdown has affected your physical health	1.03	0.90 - 1.17	0.96	0.85 - 1.10	0.94	0.83 - 1.08	0.91	0.76 - 1.08	0.90	0.77 - 1.05	0.63	**0.49 - 0.80**
How much the lockdown has affected your mental health	**1.54**	**1.33 - 1.79**	**1.23**	**1.06 - 1.42**	**1.31**	**1.13 - 1.52**	**1.32**	**1.08 - 1.62**	**1.30**	**1.09 - 1.56**	**1.46**	**1.11 - 1.92**
Lockdown affecting relationships with classmates and teachers	1.12	0.97 - 1.30	0.99	0.86 - 1.14	0.96	0.84 - 1.11	1.06	0.87 - 1.29	0.98	0.82 - 1.16	0.79	0.61 - 1.03
Lockdown affecting learning experience	**1.53**	**1.33 - 1.77**	**1.34**	**1.15 - 1.56**	**1.28**	**1.10 - 1.49**	**1.35**	**1.09 - 1.67**	**1.28**	**1.06 - 1.55**	**1.55**	**1.15 - 2.08**

* Adjusted for: gender, age, living with both parents, employment status of the parents, school funding, and municipality

In **bold**, associations statistically significant

Highlighted in yellow, Odds Ratios over 1.5 or under 0.67

5.7 Alcohol Prevention Magnitude Measure (APMM) by municipality

For the year 2020 were observed higher total APMM scores in five of the six municipalities. The comparison of APMM scores between 2019 and 2020 shows significantly better APMM scores for the total of six municipalities pooled, tested with Wilcoxon's test, p-value = 0.001. The APMM dimension with more important improvements was municipal alcohol and/or drug policies. Table 6 presents the APMM results by dimension in each municipality. One municipality had a decrease of total APMM score, and in this case, the municipality was the same that had no significant substance use changes between 2018 and 2020.

The correlation between the difference of total APMM scores in 2019-2020 and the difference of substance use prevalence in 2018-2020 for each outcome was non-significant. However, the different scores of the municipal alcohol and/or drug policies dimension was correlated with the differences of lifetime alcohol use prevalence (rho= 0.93; p= 0.0077), past month alcohol use (rho= 0.93; p= 0.0077), past month drunkenness (rho= 0.90; p= 0.0154), and lifetime cannabis use (rho= 0.812; p= 0.04986). In all other dimensions, the correlation with substance use changes for 2018-2020 was non-significant. Total APMM score by municipality and the score of each dimension were also not correlated to changes in the risk and protective factors.

Table 6. Alcohol Prevention Magnitude Measure (APMM) by municipality.

	Municipalities											
Municipality	1		2		3		4		5		6	
Year	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Dimensions of APMM												
1. Staff and budget for alcohol prevention	12	12	14	14	14	20	16	14	12	12	14	20
2. Municipal alcohol and/or drug policies	4	10	6	18	14	18	2	16	18	12	2	16
3. Cooperation with local actors such as authorities, business and NGOs on alcohol prevention	10	12	12	16	12	18	14	10	14	10	18	12
4. Supervision and licensed premises	9,5	9,5	7,5	11,5	0,5	6,5	1	13,5	10	15	0	5
5. Prevention activities and prevention programmes	8	12	14	12	14	18	12	18	10	10	10	10
Total score of APMM	43,5	55,5	53,5	71,5	54,5	80,5	45	71,5	64	59	44	63

5.8 Focus groups

Six focus groups were carried out, with a total number of 38 participants. The role of the participants and composition of each group is presented in Table 7.

Table 7. Focus groups participants

Focus groups

Focus group 1

Participant	Role	Municipality
Female	Municipal prevention	5
Female	Counselor in municipal school	5
Male	Counselor in municipal school	5
Female	Parent in municipal school	5
Female	Counselor in municipal school	6

Focus group 2

Participant	Role	Municipality
Female	Prevention in private school	2
Female	Parent in private school	3
Female	Municipal prevention	3
Female	Prevention of SENDA	1
Female	Municipal prevention	3
Female	Municipal prevention	3
Female	Municipal prevention	3

Focus group 3

Participant	Role	Municipality
Male	Municipal prevention	4
Female	Director of private school	3
Female	Municipal prevention	3
Female	Municipal prevention	3
Female	Parent in municipal school	3
Female	Parent in municipal school	3

Focus group 4

Participant	Role	Municipality
Female	Prevention of SENDA	1
Male	Parent in private school	2

Focus group 5

Participant	Role	Municipality
Female	Prevention in private school	2
Female	Prevention in private school	3
Male	Prevention of SENDA	6
Female	Parent in municipal school	1
Female	Parent in private school	2
Female	Municipal prevention	2
Female	Municipal prevention	2
Female	Parent in private school	2
Male	Parent in private school	2
Male	Prevention of SENDA	6

Focus group 6

Participant	Role	Municipality
Female	Municipal prevention	2
Female	Municipal prevention	1
Female	Parent in private school	2
Male	Prevention of SENDA	6
Female	Prevention in private school	6

The main themes identified in the focus groups were related to the strengths of the model of prevention, implementation difficulties for the prevention model, perceived changes since model implementation, and the survey applied in the municipalities as part of the prevention model. The contents which arose from the thematic analyses of the focus groups were organized

in these four themes. Figure 1 presents a diagram of the themes and subthemes from the focus groups. The subthemes in each theme are described below, and examples of citations are incorporated with the participant number (P.n).

5.8.1 Strengths

The participants mentioned some strengths of the implementation of community prevention based on the Icelandic Model.

The model of prevention assembles and organizes pre-existing objectives and actions. The participants reported that before the model was implemented there were several programs that had prevention as their objective. However, they were uncoordinated actions, so many times there was over-intervention in one topic and other relevant objectives could be left out. At the same time, the different programs did not share visions or experiences, which made it inefficient. The model came to assemble these actions or programs, promoting coordination and organization based on certain objectives.

"en la comuna tenemos muchos programas que están aplicando actividades, buscando la forma también de abordar estas problemáticas que hay, pero lo que consideramos que sí, el modelo viene a articularlas.." (P.14).

".. desde que estamos con el modelo uno de los objetivos ha sido como agrupar y ordenar lo que se está haciendo porque yo creo que al menos en Chile antes de que llegara este modelo se hacía mucha prevención, el tema es que eran muchos esfuerzos disgregados, duplicados muchas veces o a veces no necesariamente tan efectivos" (P.16).

The model encourages community member participation. Some participants highlight that the model gives the possibility of integrating community members in prevention work, at all levels, whether in a school or in the municipality.

"desde ahí fue interesante este método, desde la participación, porque convoca la participación de todos los estamentos, generalmente nosotros..., trabajamos con los estudiantes, trabajamos aparte con los apoderados, pero los reunió en una mesa de trabajo y eso fue sumamente interesante" (P.9).

"yo eso para mí es lo que más rescato (del modelo), ….el hecho de que podamos hacernos cargo de la prevención, o sea de poner la responsabilidad en la comunidad respecto de la prevención y no que vamos a traer ahora un recetario mágico, cierto?, o un grupo de pasos para hacer que los jóvenes no consuman..". (P.16)

The model is broader than only discouraging substance use. Several participants considered that only focusing on prohibiting consumption or providing information against drugs is not enough. They emphasized that the model points to a more comprehensive approach.

"rico también como que lo vean (el modelo) como entretenido y como que no tiene que ver con las drogas porque eso es a lo que queremos ir justamente, a este desarrollo de habilidades..". (P.32)

"entonces yo creo que este programa llega un poco a eso, a explicarnos como desarrollar ciertas habilidades y como enfrentarnos a ciertas situaciones de la vida cotidiana, eh… además del consumo de sustancias". (P.30)

The model gives general guidelines and flexible planning. Some participants mention that the model provides general guidelines allowing it to be applicable to any local reality (municipalities, establishments) and that planning can be flexible to adapt to different needs. This vision highlights the importance of adapting the model and not having a rigid predesigned format that is difficult to implement.

"yo creo que eso es lo rico del modelo, que es algo que uno puede ir adaptando a su localidad y ver cómo lo puede ir trabajando" (P.14)

"el modelo islandés en el fondo lo que entrega es como una orientación mas general, eh… un lineamiento, una manera de hacer las cosas, ..que se tiene que traducir después en intervenciones que se vayan desarrollando localmente, y ahí yo creo que también está la riqueza.." (P.16)

<u>5.8.2 Difficulties</u>

The intervention is adapted from a foreign model. Some participants said that the economic, demographic and social context of Iceland is not comparable to that of Chile, so they raised doubts about the feasibility of adapting the model to the Chilean reality.

"... versus la realidad chilena, de que hay botillerías en todas partes, ..., o sea ... el choque cultural es muy grande, entonces ahí siento que la gente lo ve como ..¿Qué tan real es la adaptación?, ¿Qué tan plausible es que podamos realmente adaptarlo?... " (P.37).

" y más el decir como: ´islandés´, inmediatamente uno pone como un freno, cierto?, como, ´no es que no hay tiempo, es que el contexto aquí es diferente´" (P.12).

"las características de una comuna en Islandia es totalmente distinta a las características de una comuna en Santiago, puede asimilarse más bien a las de región, donde puede que un colegio reciba a todo el alumnado de toda esa comuna" (P.13).

The imposition of the model as a standard policy. Some participants, despite valuing the model in its flexible aspect and general guidelines, stated that there are positions from decision makers regarding the design and implementation, who tried to impose the model in a standard way without considering the needs or local realities. This generated resistance from some participants who handled the implementation and insisted that the local aspect must be incorporated.

"cuando se habla de una política nacional de este modelo, ahí me preocupa eso, porque no es una política pública, no lo puedes manejar con programas universales" (P.29).

"a nivel de política nacional se pierde autonomía, se pierde capacidad de implementación desde lo territorial, .. la capacidad de autogestión para dar respuesta a lo comunitario ...a esas necesidades más específicas" (P.6).

"...como política nacional hay otra visión, con otros tiempos y estandarizando demasiado, y si hay algo que uno tiene que tener claro con el modelo islandés es que uno tiene que focalizarse en la comuna, entonces las directrices que nos empezaron a llegar ....., chocaban un poco con lo que nosotros hacíamos y estaban un poco atrasados respecto a lo que nosotros llevábamos de trabajo" (P.25).

The model did not provide concrete tools. Contrary to the view that the general guidelines were a strength facilitating adaptation of the model to each locality, other participants perceived that the model was too general and lacked direction in strategy delivery, or that it did not deliver specific prevention tools.

"lo que si podríamos criticarle quizás al modelo islandés que yo creo que nos falta un poco eh… es el tema de cómo tener estas estrategias como más concretas quizás, como… como del lineamiento más específico, más concreto como las cajas de herramientas un poco, o qué actividades en los otros países en los que se implementa Planet Youth han funcionado.." (P.16).

"también creemos que falta, faltan como lineamientos mas claros porque lo que hace al final eh… Islandia o Planet Youth es entregarte este instrumento ¿Cierto?, eh… para medir el consumo, pero sin embargo después como que sentimos que eh… quedamos como en el aire, …de ya ok y ahora ¿Que hacemos para dar respuesta a estos resultados?". (P.3)

There was a lack of agreement about the objectives. The difficulty involved in agreeing on objectives and activities between different actors was recognized, whether the participants were team members, program managers, implementers, or parents.

"pensando en que el modelo propone esta coordinación como entre los académicos y los técnicos y la comunidad y los políticos, y sabemos que en Chile eso históricamente no ha sido fácil, o sea independientemente del sector en el que uno esté, hay muchas cosas que se ponen en juego más que el bienestar de los niños, … entonces eso yo lo veo como una gran barrera" (P.16).

"Estuvimos un año trabajando en la política, eh cómo incluíamos no tan solo a los alumnos, a los apoderados, a los auxiliares, a toda la comunidad y costó mucho trabajar con la política y el directorio del colegio, en hacer estos espacios con los profesores y con las distintas entidades dentro de la comunidad, para poder acordar cuál iba a ser esta política" (P.26).

Funding and resources were scarce. Some participants highlighted the lack of resources to implement activities or to pay the professionals working in the programs. This involves reorganizing scarce resources and prioritizing, leaving some interventions for future implementation.

" ..entonces nuevamente caemos en esto que es como un ciclo interminable en las políticas públicas nacionales que es el hagan esto pero no hay apoyo financiero, ustedes vean como lo hacen.." (P.25).

"nosotros como (comuna) a nivel general contamos con muy pocos recursos para poder implementar el modelo como corresponde.." (P.19).

The effects of the 2019 social outburst and the pandemic were notable. All the participants referred to the interruption in activities caused initially by the 2019 social outburst followed by the COVID-19 pandemic in 2020.

"… nos vimos francamente afectados, con el estallido social" (P.17).

"...desgraciadamente con lo que pasó este año (pandemia) y por lo que viene pasando desde el año pasado, no se ha podido eh reanudar todo lo que se está trabajando" (P.20).

"no entiendo cómo podemos seguir implementando este modelo después del 18 de octubre 2019 por ejemplo, …es que no tenemos… fundamentos político-técnico de las políticas sociales que nos permitan hacerlos, ..porque no tenemos salud garantizada para la gente, no tenemos educación de calidad garantizada para la gente, no tenemos una constitución que nos permita ser autónomos..., no se pueden implementar cosas, entonces hay que hacer cambios estructurales" (P.6).

There was low progress in the implementation. Some participants did not see the implementation of the model in their schools or communities. On the other hand, there were participants who recognized that it has not been implemented in all schools or that this implementation is initial.

"...debo confesar que ehh con el método islandés estamos muy en pañales.." (P.7)

"...Entonces creo que no sé, por ahora yo no he tenido… lo acabo de conocer, acabo de entender más o menos lo que es (el modelo)" (P.23)

"..pero al final todo eso tiene etapas y procesos que yo creo que recién estamos construyendo camino hacia allá, todavía no, no hemos llegado al punto de que eso se esté implementando en el 100 %" (P.16).

5.8.3 Perceived changes

Substance use was reduced. Some participants reported seeing a decrease in consumption at school and others reported that public spaces have been recovered where there was consumption before.

"hicimos esta red de la plaza que hemos ganado proyectos, donde hemos ganado luminarias, y donde ha bajado eh mucho el consumo, por lo menos en ese sector" (P.20)

"*bajó el consumo dentro de grupos consumiendo quizás un pitito Eh... por lo tanto ha habido más control en el consumo*" (P.16).

Attitudes and thoughts about prevention evolved. Changes have been observed regarding the attitude, behavior or thoughts of the different sectors related to prevention. It is perceived that the model provides a broad understanding of the factors involved in consumption. For some participants, this has led to better conditions favoring preventive work.

"...A ver, lo que yo he percibido, es como un cambio más en el tema de pensamiento, cómo afrontar la prevención. Existía mucho la creencia de que para prevenir alcohol y drogas, tú tienes que hablar todo el tiempo de alcohol y drogas." (P.25).

"...el profe de alguna u otra forma se ha ido empoderando con esta situación y la ha ido llevando a la sala de clase y extendiendo también a sus apoderados a través de reuniones de apoderados" (P.35).

There were more activities and participation. Several participants reported observing new activities and greater development of participation instances created by the Municipality.

"...participé en varias reuniones ...informativas de cooperación con respecto a este proyecto y a mi me llamó mucho la atención algo, que participaron la junta de vecinos, estuvo carabineros, estuvo PDI, se hicieron concursos.." (P.16).

" ..se ha gestionado harto, se han hecho reuniones con los encargados de las botillerías por ejemplo, ...y también ha habido mucho sondeo de preguntarle justamente a la comunidad cómo ven las situaciones, qué les gustaría a ellos que se implementara..." (P.37).

Among some people, little or no change was noticed. Some of the participants perceived that there were no very visible changes or that the changes were not necessarily related to the implementation of the model.

"...pero no sé si eso tiene un real impacto, el Planet Youth en sí, sino más bien cómo han ido los tiempos y las mismas generaciones, no, ahí no podría decir que el Planet Youth ha tenido como cambios en la forma en cómo lo están implementando, no hemos tenido ese nivel de impacto, menos en el colegio.." (P.11).

"... yo no he percibido un cambio realmente, eh… no lo asociaba digamos con el modelo islandés, para nada…" (P.36).

5.8.4 Survey

The survey gave valuable data. Several participants acknowledged that the survey provided valuable information, which made them change their perceptions of the reality of consumption in schools. In these cases, the information made it possible to generate targeted prevention strategies.

"...visualizamos al momento que vimos los resultados, vimos qué era lo que había que trabajar..." (P.14).

"..lo valioso de esta encuesta es que en el fondo son los alumnos que tú tienes en tu sala, en tu colegio. No estamos hablando como tenemos a veces estas encuestas o estas mediciones a nivel nacional que dicen que los jóvenes consumen tanto en sí que se yo y uno se siente como ajeno a eso..." (P.10).

There was a lack of dissemination of data and results. A few participants from the schools reported that they had not had access to the survey results, that it had taken a long time to arrive, or that it was not given much importance. This was perceived as a problem in the case of prevention workers because there was no data that would allow more focused interventions to be carried out.

"...en la medida que no tenemos esa respuesta de como fue eh… es bien complejo realmente poder hacer o no alguna implementación.." (P.11).

"...pero siento que la demora en llegar a los apoderados es mucha porque claro, ellos tienen que esperar que les llegue la información, que la municipalidad deje que esto se pueda intervenir. Entonces siento que es muy lento el proceso desde que entrega la información hasta que les llega a los jóvenes o a los adultos.." (P.1).

Figure 1.

Community prevention based on Icelandic Model

Strengths
- It assembles and organize objectives and actions previously existing
- It encourages the participation of the community members
- It is broader than only discourage the substance use
- It gives general guidelines and flexible planning

Difficulties
- It is adapted from a foreign model
- The imposition of the model as a standard policy
- It don't give concrete tools
- Lack of agreement about the objectives
- Scarcity of funding and resources
- Effects of social outburst and pandemic
- Low progress in the implementation

Perceived changes
- Reduction of substance use
- Attitudes and thoughts about prevention
- More activities and participation
- Little or no change

Survey
- It gave valuable data
- Lack of dissemination of data and results

6. DISCUSSION

Substance use prevention among adolescents at the community level was studied with quantitative and qualitative methods, in a naturalistic context on a process of prevention in a real setting before and two years after the implementation of a prevention model based on the Icelandic model in Chile. Data from more than 12,000 surveys of tenth grade students from 100 schools were analyzed comparing substance use prevalence before and after initiating implementation of the community-based prevention process between 2018 and 2020 in six municipalities of the Metropolitan Region in Chile. The prevention magnitude was measured with the APMM instrument and compared in two times. The prevention process was qualitatively described from focus group analyses.

6.1 Main findings

The prevalence of alcohol and cannabis use in adolescents decreased significantly, and the prevalence of some relevant risk factors was reduced, such as staying out of house after 10 pm, alcohol use in friends, drunkenness in friends, and cannabis use among friends. However, there were increases in the prevalence of perceived poor parenting, symptoms of anxiety and depression, and low parental rejection of alcohol consumption.

The analysis of interaction shows that alcohol use reduction between 2018 and 2020 was related to the decrease of alcohol use in friends, whereas the increase in depression and anxiety symptoms was associated with higher odds for alcohol and cannabis use. Other risk factors were found to be significantly associated with the use of alcohol and cannabis in adolescents: perceived parenting, low parental rejection of substance use, and staying out of house after 10 PM. However, these risk factors did not interact with the year in their association with the substance use outcomes, remaining rather stable between 2018 and 2020.

To interpret the results in the risk and protective factors, it is necessary to consider both the prevalence of the risk factor and the association with the outcome. Although low parental rejection of consumption was associated strongly with substance use having high odds ratios,

the adolescents who reported low parental rejection in their parents were a very small proportion of adolescents, coming in at under six percent.

The APMM allowed us to measure an increase in prevention magnitude in the municipalities. However, one municipality had a decrease of the total APMM score, and this was consistent with non-significant changes in substance use between 2018 and 2020 in the same municipality.

Total APMM score changes were not associated significantly to changes in each outcome of substance use and risk factors. Nevertheless, better scores in the dimension of municipal alcohol and/or drug policies were associated with decreases in alcohol and cannabis use. This finding is in line with the implementation of the community prevention model based on the Icelandic model, since this model is a new policy on alcohol and drugs use prevention.

The qualitative analysis from the focus groups shows a good acceptance of the prevention model among community members, since the model articulates and gives order to existing prevention, encourages community participation, and is flexible.

6.2 Strengths and Limitations

A unique prevention process was assessed during the first three years into implementation in six municipalities in Chile. The study informs about the first experience of adaptation and implementation of the community prevention model based on Icelandic model Planet Youth in Latin America. The naturalistic process of prevention in action was assessed with quantitative and qualitative methods. This study shows the first use, feasibility and preliminary validity of the survey adapted from the Planet Youth and APMM in Chile. The prevention model was studied in a several times larger and socially more heterogeneous population than Iceland from where previous evidence was reported.

Some limitations of the present research must be taken into account for the interpretation of results and conclusions. The design was naturalistic, non-experimental, and non-controlled. Even though the reduction in adolescent substance use co-occurred with the implementation of the prevention model, this could not solely be attributed to the effectiveness of the prevention

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model. When the study was carried out, the COVID-19 pandemic took place worldwide, also affecting the implementation of the model in Chile as well as modifying adolescent substance use behavior. There were also limitations inherent to the Icelandic prevention model, with a lack of clarity about the active components of the model. The surveys were different in the way that they were administered, in pencil and paper in 2018 moving to online in 2020. And, the data of consumption and risk factor were self-reported.

The design of this investigation does not allow to establish causal relationships, but several associations. Other factors than prevention could have contributed to the changes observed between 2018 and 2020. The COVID-19 pandemic affected normal life and regular activities in Chile, with serious restrictions of school and social activities. Fewer social interactions between adolescents may have led to a decrease in substance use or a delay in substance use initiation in adolescents. Consistently, the decrease in alcohol use between 2018 and 2020 in the present study was related to less substance use in friends.

On the other hand, in the context of the pandemic in 2020, the adolescents reported that they were worried about their own mental health, felt stress at the start of the pandemic, and the lockdown deteriorated their own learning experience. These factors were significantly associated to alcohol and cannabis use.

The social outburst that occurred in Chile at the end of 2019, and the pandemic since March of 2020, were described in the focus groups as difficulties for implementing the prevention model. Further difficulties identified were adaptation of a foreign model, lack of concrete practical tools, and need of resources.

6.3 Comparison with the literature

From 2003 to 2017 in Chile, in line with rising cannabis use prevalence, the use among friends also increased, so that a normalization of cannabis use may have occurred among adolescents. Apparently this did not occur in parents, though, since parental rejection has increased (Libuy et al., 2020). In the present investigation, was found that the proportion of parents who reject the use of cannabis in their children was very high at over 90%.

Between 1997 and 2007 in Iceland the prevalence of drunkenness in the previous month decreased from 38% to 20% of tenth-grade students, and lifetime cannabis use decreased from 13% to 7% (Sigfusdottir et al., 2008; Sigfúsdóttir et al., 2009).

The prevention model has been successful in reducing the prevalence of alcohol use in Iceland, but the proportion of students who had never used cannabis in life has not increased, and the proportion of students who had used cannabis more than 40 times in life has slightly increased. Meanwhile, the proportion of tenth grade students who had never used alcohol has increased, and the students who have used alcohol more than 40 times in life has decreased (Arnarsson et al., 2018). Differences between alcohol and cannabis use trends were observed in Iceland. In the present research the reduction was consistent in both alcohol and cannabis, but the use of cannabis in Chile at baseline was higher than the baseline in Iceland. The data are also naturally not highly comparable because in Chile we observed only two years versus Iceland with a follow-up of over a decade.

Furthermore, the pandemic in 2020, lockdowns, and the lessons cancelled in schools, made it necessary to modify the survey from paper and pencil in 2018 to an online format in 2020. Even if in 2020 the response rate was lower than in 2018, it remained at an acceptable level of 72%. Previous research reported that computerized administration of a survey achieves almost the same results as paper-and-pencil administration, but could produce lower data quality (Colasante et al., 2019; Mangunkusumo et al., 2005).

The quantitative analyses of substance use prevalence and risk factors were multilevel, with data of individuals nested in schools. The intra-class correlations calculated resulted in higher cluster effects of the schools for cannabis than for alcohol use. This was concordant with higher odds ratios for consumption in friends as a risk factor in cannabis than alcohol, which could imply a more important effect of peers and group in cannabis consumption than in alcohol consumption in adolescents. The results coincide with research of national survey analyses from Chile showing that having friends who regularly use cannabis was the factor with strongest association with cannabis use in adolescents (Libuy et al., 2020). In line with the theory of normalization, though, higher cannabis use prevalence showed a reduction of the association between cannabis

use and cannabis use in friends (Libuy et al., 2020; Sznitman et al., 2013). Impact of peers on alcohol use in adolescents is lower than on cannabis use (Mason et al., 2017).

Iceland has described the following as key protective and risk factors addressed in primary prevention: parents know who their children are with; parents know where their children are; parents know the friends of their children; parents know the parents of the friends their children have; participation in organized sports as protective factors; and party lifestyle as risk factor (Alfgeir L. Kristjansson et al., 2016).

However, Kristjansson AL et al., tested risk and protective factor assumptions in the Icelandic model of adolescent substance use prevention and reported that weekly participation in recreational and/or extracurricular activities was non-related to substance use (Alfgeir L. Kristjansson et al., 2021). Parental monitoring, sport participation and organized recreational/extracurricular activities were also non-associated to reduced odds of alcohol and cannabis use in multiple main effect analyses including all seven independent variables (outside hours after midnight, organized sport participation, organized recreational/extracurricular activities, parental monitoring, time spent with parents, social capital and low school engagement), controlling for gender, family structure and mother education (Alfgeir L. Kristjansson et al., 2021).

The lack of effect of parental monitoring, sports, and extracurricular activities is concordant with similar findings in the present research. It is a future challenge to transform sports and extracurricular activities into preventive activities, since they can become risk factors themselves if they are not free of substance use (Murray et al., 2021).

According to the present results, sports activities increased in Chile during the pandemic. The changes observed during the pandemic could have implied that less regular school activity led to more time in other activities such as sports. However, these sport activities may not have been formal, but self-guided and, therefore, not necessarily preventive for substance use. In contrast, other reports show that California, for example, saw a decrease in physical activity levels during the pandemic (Chaffee et al., 2021).

How the COVID-19 pandemic affected adolescent substance use varies between contexts. Iceland reported a decline of cigarette smoking, e-cigarette use, and alcohol intoxication among adolescents of 15 to 18 years old from data obtained via a nationwide sample in 2016, 2018, and in October, 2020 (Thorisdottir et al., 2021).

In the United States, prevalence rates did not significantly change for marijuana use in the past 30 days and for binge drinking in the past two weeks in a longitudinal study of 12th grade students surveyed at baseline in February and March 2020 (one month before social distancing policies began) and at follow-up between July and August 2020 (Miech et al., 2021). However, perceived availability of marijuana, alcohol, and vaping devices declined during the pandemic (Miech et al., 2021). Similar results were reported for ninth- and tenth-grade students from California, where the use of tobacco, cannabis, and alcohol did not substantially differ before and after stay-at-home restrictions (Chaffee et al., 2021).

The pandemic may have also affected adolescents' mental health. Increased depression and anxiety symptoms were observed, and they were associated with a greater risk of substance use. The COVID-19 pandemic has caused substantial increase in the global prevalence and burden of major depression and anxiety disorders. Places with strongly decreased mobility and high infection rates had the greatest increase in prevalence of major depression and anxiety disorders (COVID-19 Mental Disorders Collaborators, 2021). Meta-analyses showed that 1 in 4 youths globally were experiencing clinically relevant depression symptoms, while 1 in 5 youths had clinically relevant anxiety symptoms, with higher prevalence rates in girls and older children (Racine et al., 2021).

Undoubtedly, the sociodemographic and economic aspects, municipalities' capacities to promote the good use of free time in young people, and parenting factors, are related to sociocultural aspects. For the appropriate implementation and adaptation of international experiences, some sociocultural factors influencing substance use and therefore prevention must be taken into account (Mutumba & Schulenberg, 2019; Patton et al., 2016). Strategies based on international evidence must be appropriately transferred to the local context. In addition, other local socio-cultural factors must be incorporated into the adaptation process, such as the opinion, participation and experience of those involved and of the prevention professionals in the

territory. The focus groups' description could thus be helpful for preventive model implementation in the municipalities.

The Icelandic prevention model has been criticized for the lack of clarity regarding the interventions' active components, the lack of knowledge about mechanisms through which it is effective, and which behavioral outcomes in the young people are targeted. The scientific evidence supporting the model is still scarce, and transferring it to other settings is challenging because its implementation depends on the legal and social contexts in each country (Kock et al., 2021; I. M. Koning et al., 2021).

In Chile, it has been described that family norms could be more important than social norms for people (Olhaberry H. et al., 2011). This is in line with the importance of parenting that has been described in the Hispanic population when compared to Caucasians (Moreno et al., 2017). A robust family approach, aimed at promoting adequate and involved parenting, could thus be more appropriate to this culture than norms and social control.

Sociocultural factors associated with consumption are also the paradigm of individualism-collectivism (Le et al., 2009; Olhaberry H. et al., 2011; Schwartz et al., 2011) and gender roles (Seedat et al., 2009; Shakya et al., 2019). The male gender role has been associated to greater alcohol use, and stronger expression of the female role was associated with less alcohol use (Seedat et al., 2009; Shakya et al., 2019). Gender differences in drinking have been negatively associated with perceived parental monitoring, parental involvement in adolescent school performance, and parental empathy (Bo & Jaccard, 2020).

An adequate adaptation of prevention strategies could offer better results, greater acceptability and fewer barriers at the time of implementation, as has been described in the case of two other culturally adapted preventive interventions for Latinos (keepin' it REAL and Families Preparing the New Generation) in the United States and Mexico (Marsiglia, Ayers, Han, et al., 2019; Marsiglia, Medina-Mora, et al., 2019). Other experiences of culturally adapted preventive programs are the Skills for Life program (Botvin & Griffin, 2004; Velasco et al., 2017), United

Families (Jacobs et al., 2016) and Communities That Care (Montero Zamora et al., 2018; Pérez-Gómez et al., 2016).

In Chile, Rojas-Andrade R et al., examined the effects of implementation fidelity of the Skills for Life program (doses received by parents, teachers and students, intervention relevance, management commitment, adherence and job satisfaction). A high fidelity was found in the implemented components, with the exception of adherence and the dose received by parents. They discuss that the implementation of bottom-up intervention could be more flexible and acceptable in a Spanish-American context (Rojas-Andrade et al., 2017). This conclusion is extensible to the experience in the six municipalities that implemented the prevention model based on the Icelandic model, since the work was bottom-up and flexible; however, a lack of a manualized and structured intervention was considered to be a weakness too.

In Sweden, a study that evaluated the political dimension and activities for the development of the APMM instrument, found significant differences in the increase for these indicators' score between municipalities that increased their prevention resources and those that did not (Nilsson et al., 2018). In addition, in those municipalities that increased their score in these dimensions, there was a decrease in indicators of alcohol consumption and alcohol-related harm (Nilsson et al., 2020). Although APMM was developed in a different context from Chile, the characteristics of the community prevention mechanisms involved in the Swedish study (Nilsson et al., 2015) have similar characteristics with the prevention model studied considering municipal and community-based leadership.

APMM is therefore a useful alternative to observe the development of the different intervention areas or dimensions, identify gaps and monitor community prevention actions. In general, the monitoring of preventive policy implementation and the study of municipal prevention strategies has limited evidence (Anderson et al., 2018) and can probably be attributed to difficulties in implementation and evaluation (Giesbrecht et al., 2014).

7. CONCLUSIONS

This research aimed to study community-based substance use prevention in Chilean adolescents, in the context of implementation and adaptation of a novel and unique approach based on the Icelandic prevention model. Quantitative and qualitative methods were carried out to analyze changes in substance use prevalence and risk factors, and focus groups were used to reach a better understanding about community members' experience with this prevention model.

The identification of risk and protective factors most relevant for different municipalities in Chile contributed to the knowledge of the complex process by which adolescents get involved in alcohol and cannabis use. Substance use in friends, depression and anxiety symptoms, perceived parenting, low parental rejection of substance use, and staying out of the house after 10 PM were the most important factors associated to substance use.

A marked reduction of alcohol and cannabis use in adolescents was observed in six municipalities of the Metropolitan Region in Chile, two years after implementing the Icelandic prevention model. However, the pandemic could have influenced the results in 2020, and those are not exclusively attributable to the effectiveness of the model. The increase of depression and anxiety symptoms may also be related to the COVID-19 pandemic. The factors which would be more attributable to the prevention intervention did not show substantial changes (i.e., sports activities, parenting, and extracurricular activities). During the observed period 2018-2020, there was a greater development of prevention strategies according to the APMM instrument whose application was helpful in prevention assessment at a municipal level. Communities value some aspects of the prevention process, and how this model articulates existing and new preventive strategies. Although the flexibility of the model is valued, the unstructured aspect is also identified as a difficulty. Lack of evidence regarding the active ingredients and mechanisms of action are relevant limitations of the prevention model studied.

In general terms, positive results of the model of prevention were observed in the present research. Nevertheless, some factors typical of the prevention model did not show significant changes, such as parenting and extracurricular and sports activities.

It is possible to affirm that the results from changes in prevalence of substance use, scores in APMM, and qualitative description of the prevention model show consistency between each other. The mechanism through which the model of prevention is reducing the substance use could not be identified from the present research, though. The changes observed in risk and protective factors and their association with substance use did not causally explain the effect of the model, and the findings were not in total agreement with the principles of the Planet Youth prevention model based on the Icelandic model. The changes in risk factors were not associated to the APMM in total score or in the dimensions.

Chile has a high prevalence of adolescent substance use, so extending prevention strategies and searching for new approaches to address this issue is necessary in order to achieve better outcomes in adolescent health. The transfer of foreign evidence and local practice require research to support prevention with evidence. Researching within communities is a challenge and should be improved in the future for the implementation of effective initiatives. Future research could assess larger scale implementation, and longer follow-up periods of the ongoing project to disentangle whether effects and trends were transitory and mostly attributable to the pandemic or rather sustainable and prolonged and in larger part attributable to the intervention.

Research on adolescent consumption should help identify specific risk groups in each community. Determining the risks helps guide the approach and prevent consumption before it begins. Risk groups should be identified early. Action must be taken at early stages of adolescent development, since a significant proportion of young people have already started using substances by the age of 16.

The policies in prevention should consider the administration of local surveys at community level for have data of their specific reality on time with information updated and therefore fit the approaches in prevention according to their needs. Carrying out surveys at the local level allows feedback to be given to the communities to focus prevention activities.

Communities must make their own decisions on how to carry out prevention and prioritize their resources. This requires building prevention capacity in local teams. An innovative and valued

aspect of the prevention model studied is its bottom-up nature. Not all strategies should be dictated from the central government in a classic top-down format. Strengthen the prevention strategies in schools based on own current data, the collaboration with and between parents, and aligned with municipalities can improves outcomes in the prevention of substances use in adolescents. At the same time, if the municipalities have data from their own reality can take better decisions in preventives activities such as to prioritize resources, reoriented the existent resources in a better way, the control of licenses, improve neighborhoods and environments for adolescents, coordination with NGOs, coordination with the police, and coordination with the government at national level.

The collaborative work between academy, practitioners, stakeholders and politics within the communities is a major challenge for achieve better outcomes in prevention of substance use.

Applying APMM at the local level also allows feedback to municipalities on the way in which they are carrying out prevention, and it is advisable to have monitoring for longer periods of time. Likewise, in the future it will be valuable to investigate on a larger scale, adding more municipalities to obtain more robust results.

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Appendix

Planet Youth 2018

Juventud y bienestar

Una encuesta sobre la vida y las condiciones de vida de los jóvenes

− Confidencial −

PLANET
Youth
EVIDENCE BASED DRUG PREVENTION

A los estudiantes

Este cuadernillo contiene varias preguntas para responder. Estas preguntas son sobre tus opiniones en varios temas, así como sobre diferentes tipos de actividades que realizas o en las que podrías estar involucrado. Probablemente nunca has participado de una encuesta similar, pero esperamos que puedas responder muy a conciencia porque tus respuestas son muy importantes. Es importante que respondas las preguntas de la forma en que mejor describa tu opinión. Esto es completamente diferente a una prueba, **no hay respuestas más correctas que otras**. Lo único importante aquí es conocer tus opiniones.

La mayoría de las preguntas tienen varias opciones para que puedas elegir tu respuesta, pero debes elegir solo una de ellas. Pon una **X** en el casillero que está al lado de la respuesta que has escogido. No uses un lápiz muy suave, y no rellenes completamente el casillero que has elegido. Si cambias de opinión, debes borrar la respuesta o rellenar completamente el casillero con la respuesta equivocada. Unas pocas preguntas no son de alternativas, y tu debes escribir la respuesta. En tales casos, debes escribir claramente en letras mayúsculas poniendo solo una letra por casillero. Te pedimos que respondas todas las preguntas lo mejor que puedas. Si sientes que ninguna de las alternativas describe tu opinión precisamente, elige la respuesta que tu pienses que está más cercana a tu opinión.

Va a ser imposible asociar tus respuestas contigo, en otras palabras, nadie que tu conozcas, ni tus profesores, padres, familiares o amigos, podrán acceder a tus respuestas personales. Asegúrate de **no escribir tu nombre ni ninguna identificación personal** en las hojas del cuestionario ni en los sobres que te entregaron. Cuando hayas terminado de responder todas las preguntas, pon el cuestionario en el sobre, séllalo completamente y déjalo en tu mesa. Los sobres serán recogidos cuando todos hayan terminado.

Si tienes alguna duda sobre alguna de las preguntas, cierra tu cuadernillo y levanta la mano. Un encargado se acercará a ti con un cuadernillo para ayudarte sin ver tus respuestas.

Con nuestros más cordiales saludos,

Equipo Planet Youth Chile

POR FAVOR ANTES DE CONTESTAR LAS PREGUNTAS, LEE CUIDADOSAMENTE

LAS INSTRUCCIONES DE LA PÁGINA ANTERIOR.

Contesta cada pregunta marcando con una X en el recuadro respectivo

1. **¿Eres hombre o mujer?**
   ☐ Hombre   ☐ Mujer

2. **¿Cuál es tu año de nacimiento?** (Elige solo UNA opción)
   ☐ 2000   ☐ 2001   ☐ 2002   ☐ 2003   ☐ 2004   ☐ 2005

3. **¿En qué curso estás?** (Elige solo UNA opción)
   ☐ 7° Básico   ☐ 8° Básico   ☐ 1° Medio   ☐ 2° Medio   ☐ 3° Medio

4. **Vives con…** (Elige solo UNA opción, la mejor respuesta)
   ☐ Con madre y padre
   ☐ Con madre, sin padre
   ☐ Con padre, sin madre
   ☐ Con madre y su pareja
   ☐ Con padre y su pareja
   ☐ Con abuelos y padres
   ☐ Solo con abuelos, sin padres
   ☐ Con amigos
   ☐ Vivo solo
   ☐ Vivo de otra forma (familia de acogida, hogar de menores, etc.)

5. **¿Cuál es el mayor nivel de estudios que completó tu <u>madre o apoderada</u>?** (Si fuiste criado por una madre adoptiva, responde por ella. Elige solo UNA opción)
   ☐ No lo sé / No aplica
   ☐ Completó estudios en la universidad
   ☐ Comenzó la universidad pero no terminó
   ☐ Completó estudios en una carrera técnica
   ☐ Comenzó una carrera técnica pero no la terminó
   ☐ Terminó el colegio
   ☐ No terminó la educación media
   ☐ Educación básica completa o menos

6. ¿Cuál es el mayor nivel de estudios que completó tu <u>padre o apoderado</u>? (Si fuiste criado por un padre adoptivo, responde por él. Elige solo UNA opción)

☐ No lo sé / no aplica

☐ Completó estudios en la universidad

☐ Comenzó la universidad pero no terminó

☐ Completó estudios en una carrera técnica

☐ Comenzó una carrera técnica pero no la terminó

☐ Terminó en colegio

☐ No terminó la educación media

☐ Educación básica completa o menos

7. ¿Cuál es la principal actividad de tu madre o apoderada? (Elige solo UNA opción, la que se <u>ajuste mejor</u>)

☐ Mi Madre trabaja en casa (dueña de casa)

☐ Mi Madre trabaja media jornada

☐ Mi Madre trabaja jornada completa

☐ Mi Madre trabaja en el extranjero

☐ Mi Madre no tiene trabajo

☐ Mi Madre está discapacitada, no trabaja

☐ Mi Madre es estudiante

☐ Mi Madre está estudiando y trabajando

☐ No lo sé /No aplica

8. ¿Cuál es la principal actividad de tu padre o apoderado? (elige solo UNA opción, la que se ajuste mejor)

☐ Mi Padre trabaja en casa (dueño de casa)

☐ Mi Padre trabaja media jornada

☐ Mi Padre trabaja jornada completa

☐ Mi Padre trabaja en el extranjero

☐ Mi Padre no tiene trabajo

☐ Mi Padre esta discapacitado, no trabaja

☐ Mi Padre es estudiante

☐ Mi Padre está estudiando y trabajando

☐ No lo sé / No aplica

9. ¿Dónde naciste? (Elige UNA opción y escribe la respuesta si corresponde)

☐ En este país

☐ En otro país

10. ¿Tus padres nacieron y crecieron en este país? (Elige UNA opción en CADA categoría)

	Sí	No
a) Mi madre nació en este país	☐	☐
b) Mi madre creció en este país	☐	☐
c) Mi padre nació en este país	☐	☐
d) Mi padre creció en este país	☐	☐

11. ¿Se habla español en tu casa? (Elige solo UNA opción)

☐ Sí, solo español

☐ Sí, junto con otro idioma

☐ No, solo se habla otro idioma

12. ¿Cómo crees tú que está económicamente tu familia en comparación a otras familias en el país?
(Elige solo UNA opción)

☐ Mucho mejor

☐ Bastante mejor

☐ Un poco mejor

☐ Similar a otros

☐ Un poco peor

☐ Bastante peor

☐ Mucho peor

13. ¿A qué grupo o comunidad religiosa perteneces? (Elige solo UNA opción)

☐ Católica

☐ Evangélica o Protestante

☐ Testigo de Jehová

☐ Ortodoxa

☐ Mormona

☐ Judia

☐ Otra

☐ No pertenezco a una comunidad religiosa

14. ¿Vas a un colegio de tu barrio? (Elige solo UNA opción)

☐ Sí ☐ No

15. ¿Qué tan buen alumno crees que eres, comparado con otras personas de tu edad? (Elige solo UNA opción)

Excelente, probablemente soy uno de los mejores	Muy por sobre el promedio	Sobre el promedio	En el promedio	Bajo el promedio	Muy por debajo del promedio	Malo, probablemente soy uno de los peores
☐	☐	☐	☐	☐	☐	☐

16. ¿Cuántos días completos has estado ausente del colegio durante los últimos 30 días? (Elige UNA opción en CADA categoría)

	Ninguno	1 día	2 días	3-4 días	5 o más días
a) Por enfermedad	☐	☐	☐	☐	☐
b) Por hacer la cimarra	☐	☐	☐	☐	☐
c) Por otras razones	☐	☐	☐	☐	☐

17. ¿Qué tan bien te representan las siguientes frases? (Elige UNA opción en CADA categoría)

	Me representa casi siempre	Me representa frecuentemente	Me representa algunas veces	Me representa pocas veces	Casi nunca me representa
a) Creo que estudiar en el colegio no tiene sentido	☐	☐	☐	☐	☐
b) Estoy aburrido(a) de los estudios	☐	☐	☐	☐	☐
c) Estoy mal preparado(a) para las clases	☐	☐	☐	☐	☐
d) Siento que no pongo suficiente esfuerzo en los estudios	☐	☐	☐	☐	☐
e) Encuentro muy fácil los estudios	☐	☐	☐	☐	☐
f) Encuentro muy difícil los estudios	☐	☐	☐	☐	☐
g) Me siento mal en el colegio	☐	☐	☐	☐	☐
h) Quiero abandonar los estudios	☐	☐	☐	☐	☐
i) Quiero cambiarme de colegio	☐	☐	☐	☐	☐
j) Me llevo mal con los profesores	☐	☐	☐	☐	☐

18. Durante los últimos 7 días, ¿cuántas veces hiciste alguna de las siguientes cosas? (Elige UNA opción en CADA categoría)

	Nunca	Una vez	Dos veces	3 veces	4 veces	5 veces	6 veces	7 veces
a) Estar en casa toda la noche	☐	☐	☐	☐	☐	☐	☐	☐
b) Estar fuera de casa después de las diez de la noche	☐	☐	☐	☐	☐	☐	☐	☐
c) Salir y volver después de media noche	☐	☐	☐	☐	☐	☐	☐	☐

19. ¿Cuán fácil o difícil sería para ti recibir u obtener lo siguiente de tus padres o apoderados? (Elige UNA opción en CADA categoría)

	Muy difícil	Difícil	Fácil	Muy fácil
a) Cariño y calidez	☐	☐	☐	☐
b) Una conversación sobre temas personales	☐	☐	☐	☐
c) Consejos sobre los estudios	☐	☐	☐	☐
d) Consejos sobre otros asuntos (proyectos) tuyos	☐	☐	☐	☐
e) Ayuda con cosas	☐	☐	☐	☐

20. ¿Qué tan fácil o difícil sería para ti recibir u obtener lo siguiente de tus amigos? (Elige UNA opción en CADA categoría)

	Muy difícil	Bastante difícil	Bastante fácil	Muy fácil
a) Cariño y calidez	☐	☐	☐	☐
b) Una conversación sobre temas personales	☐	☐	☐	☐
c) Consejos sobre los estudios	☐	☐	☐	☐
d) Consejos sobre otros asuntos (proyectos) tuyos	☐	☐	☐	☐
e) Ayuda con cosas	☐	☐	☐	☐

21. ¿Cómo se aplican a ti las siguientes frases? (Elige UNA opción en CADA categoría)

	Casi nunca	Pocas veces	Algunas veces	Frecuente-mente	Casi siempre
a) Paso tiempo con mis padres o apoderados en la semana, despues del colegio	☐	☐	☐	☐	☐
b) Paso tiempo con mis padres o apoderados los fines de semana	☐	☐	☐	☐	☐

22. ¿Tus padres o apoderados saben donde estás los sábados en la noche? (Elige solo UNA opción)

Casi nunca	Pocas veces	Algunas veces	Frecuentemente	Casi siempre
☐	☐	☐	☐	☐

23. ¿Cuánto te representa la siguiente frase? "Me siento seguro(a)…" (Elige UNA opción para CADA subcategoría)

	Casi nunca	Pocas veces	Algunas veces	Frecuentemente	Casi siempre
a) en casa	☐	☐	☐	☐	☐
b) en el colegio	☐	☐	☐	☐	☐
c) en mi barrio	☐	☐	☐	☐	☐

25. ¿Cuánto te representan las siguientes frases? (Elige UNA opción en CADA categoría)

	Me representa muy bien	Me representa bien	Me representa poco	Me representa muy poco
a) Mis padres o apoderados encuentran importante que me vaya bien en los estudios	☐	☐	☐	☐
b) Mis padres o apoderados tienen reglas claras sobre lo que puedo hacer en casa	☐	☐	☐	☐
c) Mis padres o apoderados tienen reglas claras sobre lo que puedo hacer fuera de casa	☐	☐	☐	☐
d) Mis padres o apoderados tienen reglas claras sobre cuándo debo estar en casa en la noche	☐	☐	☐	☐
e) Mis padres o apoderados saben con quién estoy cuando salgo de noche	☐	☐	☐	☐
f) Mis padres o apoderados saben dónde estoy cuando salgo de noche	☐	☐	☐	☐
g) Mis padres o apoderados conocen a mis amigos(as)	☐	☐	☐	☐
h) Mis padres o apoderados conocen a los padres de mis amigos(as)	☐	☐	☐	☐
i) Mis padres o apoderados hablan frecuentemente con los padres de mis amigos(as)	☐	☐	☐	☐
j) Mis padres o apoderados y los padres de mis amigos(as) algunas veces se reúnen a hablar entre ellos	☐	☐	☐	☐
k) Mis padres o apoderados están al tanto de lo que hago cuando no estoy en el colegio	☐	☐	☐	☐

25. ¿Cuánto te representan las siguientes frases? (Elige UNA opción en CADA categoría)

	Casi siempre	Frecuente-mente	Algunas veces	Pocas veces	Casi nunca
a) Mis padres o apoderados tienen amigos que viven cerca de nuestra casa	☐	☐	☐	☐	☐
b) Mis padres o apoderados saben el nombre de muchos de nuestros vecinos	☐	☐	☐	☐	☐
c) Mis padres o apoderados algunas veces visitan a algunos de nuestros vecinos	☐	☐	☐	☐	☐
d) Mis vecinos algunas veces visitan a mis padres	☐	☐	☐	☐	☐
e) Algunas veces pedimos prestado cosas a nuestros vecinos (ej. leche o herramientas)	☐	☐	☐	☐	☐
f) Algunas veces nuestros vecinos nos piden cosas prestadas (ej. leche o herramientas)	☐	☐	☐	☐	☐

26. ¿Cuán probable o improbable es que tus vecinos hagan algo si…? (Elige UNA opción en CADA categoría)

	Muy probable	Bastante probable	Ni lo uno ni lo otro	Bastante improbable	Muy improbable
a) …los jóvenes en el barrio faltan al colegio y se quedan por ahí	☐	☐	☐	☐	☐
b) …los jóvenes están haciendo grafitis en las casas del sector	☐	☐	☐	☐	☐
c) …los jóvenes son irrespetuosos con los adultos	☐	☐	☐	☐	☐
d) …se genera una pelea fuera de tu casa	☐	☐	☐	☐	☐
e) …alguien está entrando a robar un auto o casa en tu call	☐	☐	☐	☐	☐

27. Por favor responde si lo siguiente te representa y en qué medida. (Elige UNA opción en CADA categoría)

	Casi nunca	Pocas veces	Algunas veces	Frecuente-mente	Casi siempre
a) Mis padres o apoderados están mal económicamente	☐	☐	☐	☐	☐
b) A mis padres o apoderados no les alcanza para tener un auto	☐	☐	☐	☐	☐
c) A mis padres o apoderados les alcanza justo para pagar nuestras necesidades basicas como familia (e.j. comida, vivienda, teléfono)	☐	☐	☐	☐	☐
d) A mis padres o apoderados no les alcanza para pagar por actividades extracurriculares en las que me gustaria participar (e.j. practicar un instrumento musical o deportes)	☐	☐	☐	☐	☐

28. ¿Cuánto te representan las siguientes frases? (Elige UNA opción en CADA categoría)

	Totalmente en desacuerdo	Algo en desacuerdo	Algo de acuerdo	Totalmente de acuerdo
a) Algunas veces es necesario fumar cigarros para no ser excluido en el grupo de compañeros	☐	☐	☐	☐
b) Algunas veces es necesario beber alcohol para no ser excluido en el grupo de compañeros	☐	☐	☐	☐
c) Algunas veces es necesario fumar marihuana para no ser excluido en el grupo de compañeros	☐	☐	☐	☐
d) Algunas veces es necesario hacer la cimarra para no ser excluido en el grupo de compañeros	☐	☐	☐	☐

29. ¿Cuántas horas en promedio duermes cada noche? (Elige solo UNA categoría)

Más de 9 horas	Cerca de 9 horas	Cerca de 8 horas	Cerca de 7 horas	Cerca de 6 horas	Menos de 6 horas
☐	☐	☐	☐	☐	☐

30. Considerando la semana pasada, ¿qué tan bien describen tu estado de ánimo las siguientes frases? (Elige UNA opción en CADA categoría)

	Nunca o Casi nunca	Pocas veces	Algunas veces	Frecuente-mente
a) Me enojaba o irritaba con facilidad	☐	☐	☐	☐
b) Experimenté arrebatos de ira que no podía controlar	☐	☐	☐	☐
c) Quería romper o dañar cosas	☐	☐	☐	☐
d) Tuve una discusión con alguien	☐	☐	☐	☐
e) Le grité a alguien o tiré cosas	☐	☐	☐	☐

31. ¿Qué tan bien te representan las siguientes frases? (Elige UNA opción en CADA categoría)

	Para nada	Bastante mal	Bastante bien	Muy bien
a) Cuando pienso en como me veré en el futuro, me siento satisfecho(a)	☐	☐	☐	☐
b) Muy frecuentemente pienso que soy feo(a) y poco atractivo(a)	☐	☐	☐	☐
c) Estoy feliz con mi cuerpo	☐	☐	☐	☐
d) Estoy feliz con los cambios físicos que han ocurrido en mi cuerpo los últimos años	☐	☐	☐	☐
e) Me siento físicamente fuerte y saludable	☐	☐	☐	☐
f) Estoy contento(a) con mi vida	☐	☐	☐	☐
g) Estoy feliz	☐	☐	☐	☐

32. Considerando las últimas 2 semanas, ¿Con qué frecuencia te ha pasado lo siguiente?

	Nunca	Rara vez	Algunas veces	Frecuente-mente	Siempre
a) Me he sentido optimista sobre el futuro	☐	☐	☐	☐	☐
b) Me he sentido útil	☐	☐	☐	☐	☐
c) Me he sentido relajado(a)	☐	☐	☐	☐	☐
d) He estado afrontando bien mis problemas	☐	☐	☐	☐	☐
e) He estado pensando claro	☐	☐	☐	☐	☐
f) Me he sentido cercano(a) a otras personas	☐	☐	☐	☐	☐
g) He podido tomar decisiones respecto algunas cosas	☐	☐	☐	☐	☐

33. ¿Como calificarías tu salud física? (Elige solo UNA opción)

Muy buena	Buena	Regular	Mala	Muy mala
☐	☐	☐	☐	☐

34. ¿Como calificarías tu salud mental? (Elige solo UNA opción)

Muy buena	Buena	Regular	Mala	Muy mala
☐	☐	☐	☐	☐

35. ¿Cuán de acuerdo o en desacuerdo estas con las siguientes frases? (Elige UNA opción en CADA categoría)

	Totalmente en desacuerdo	Algo en desacuerdo	Neutral	Algo de acuerdo	Totalmente de acuerdo
a) Uno puede romper la mayoría de las reglas si el resto no las sigue	☐	☐	☐	☐	☐
b) Sigo las reglas que quiero seguir	☐	☐	☐	☐	☐
c) Hay muy pocas reglas absolutas en la vida	☐	☐	☐	☐	☐
d) Es difícil confiar en algo, porque todo cambia	☐	☐	☐	☐	☐
e) Nadie sabe que se espera de uno en la vida	☐	☐	☐	☐	☐
f) Uno nunca puede estar seguro de nada en la vida	☐	☐	☐	☐	☐
g) A veces uno necesita romper las reglas para tener éxito	☐	☐	☐	☐	☐
h) Seguir las reglas no asegura éxito	☐	☐	☐	☐	☐

36. ¿Con qué frecuencia sentiste alguna de las siguientes molestias físicas o psicológicas en la semana pasada? (Elige UNA opción en CADA categoría)

	Nunca o Casi nunca	Pocas veces	Algunas veces	Frecuente-mente
a) Me sentí nervioso(a)	☐	☐	☐	☐
b) Sentí miedo repentino sin razón aparente	☐	☐	☐	☐
c) Me sentí tenso(a)	☐	☐	☐	☐
d) Me sentí poco interesado(a) en hacer cosas	☐	☐	☐	☐
e) Tenía poco apetito	☐	☐	☐	☐
f) Me sentí sólo(a)	☐	☐	☐	☐
g) Lloraba fácilmente o quería llorar	☐	☐	☐	☐
h) Tuve problemas para dormir	☐	☐	☐	☐
i) Me sentí triste o decaído(a)	☐	☐	☐	☐
j) No disfrutaba al hacer las cosas	☐	☐	☐	☐
k) Estaba lento(a) o tenía poca energía	☐	☐	☐	☐
l) El futuro parecía sin esperanza	☐	☐	☐	☐
m) Pensé en suicidarme	☐	☐	☐	☐

37. ¿Alguno de los siguientes enunciados se aplica a ti? (Elige UNA opción en CADA categoría)

		Si	No
a)	¿Alguien te ha dicho que está pensando en suicidarse?	☐	☐
b)	¿Alguien de tus conocidos, no cercanos, ha intentado suicidarse alguna vez?	☐	☐
c)	¿Alguien de tus conocidos, no cercanos, se ha suicidado?	☐	☐
d)	¿Alguno de tus amigos o alguien cercano ha intentado suicidarse?	☐	☐
e)	¿Alguno de tus amigos o alguien cercano se ha suicidado?	☐	☐
f)	¿Has pensado alguna vez en suicidarte?	☐	☐
g)	¿Has considerado seriamente suicidarte alguna vez ?	☐	☐
h)	¿Le has dicho alguna vez a alguien que estabas pensando en suicidarte?	☐	☐
i)	¿Has hecho alguna vez un intento de suicidio?	☐	☐
j)	¿Has hecho un intento de suicidio en los últimos 6 meses?	☐	☐

38. Alguna vez en la vida has pensado en hacerte daño intencionalmente (como rasguñarte, quemarte, cortarte, pegarte)

Nunca	1 vez en la vida	2 veces en la vida	3-4 veces en la vida	5 veces o más
☐	☐	☐	☐	☐

39. Alguna vez en la vida te has hecho daño intencionalmente (como rasguñarte, quemarte, cortarte, pegarte)

Nunca	1 vez en la vida	2 veces en la vida	3-4 veces en la vida	5 veces o más
☐	☐	☐	☐	☐

40. ¿Te ha ocurrido alguna de las siguientes situaciones? (Elige todas OPCIONES que aplique a ti en CADA categoría)

		Sí, durante los últimos 30 días	Sí, hace más de 1 mes, pero menos de 1 año	Sí, hace más de 1 año	No
a)	Un accidente grave	☐	☐	☐	☐
b)	Una enfermedad grave	☐	☐	☐	☐
c)	Separación o divorcio de tus padres	☐	☐	☐	☐
d)	Una discusión seria con tus padres	☐	☐	☐	☐
e)	Presenciaste una pelea seria de tus padres	☐	☐	☐	☐
f)	Presenciaste violencia física en tu casa donde un adulto estaba involucrado	☐	☐	☐	☐
g)	Presenciaste violencia psicológica en tu casa donde un adulto estaba involucrado	☐	☐	☐	☐
h)	Estuviste involucrado en violencia física en tu casa en que un adulto estaba involucrado	☐	☐	☐	☐
i)	La muerte de uno de tus padres o hermano	☐	☐	☐	☐
j)	La muerte de un amigo	☐	☐	☐	☐
k)	El término de una relación con tu pololo/a	☐	☐	☐	☐
l)	Has sido rechazado/a por tus amigos	☐	☐	☐	☐
m)	La separación de un amigo/a	☐	☐	☐	☐
n)	Haber recibido excepcionalmente una mala nota	☐	☐	☐	☐
o)	Tu padre (o madre) perdió su trabajo	☐	☐	☐	☐
p)	Haber sido expulsado de la sala o haber sido enviado a inspectoría	☐	☐	☐	☐
q)	Haber sido expulsado del colegio	☐	☐	☐	☐
r)	Experimentado abuso sexual (como víctima)	☐	☐	☐	☐
s)	Experimentado abuso sexual donde un adulto dentro de la familia estaba involucrado	☐	☐	☐	☐
t)	Experimentado abuso sexual donde un adulto de fuera de la familia estaba involucrado	☐	☐	☐	☐

41. ¿Qué tan de acuerdo estas con los siguientes enunciados? (Elige UNA opción en CADA categoría)

	Totalmente de acuerdo	Algo de acuerdo	Algo en desacuerdo	Totalmente en desacuerdo
a) Siento que soy tan valioso/a como las otras personas	☐	☐	☐	☐
b) Siento que tengo muchas cualidades	☐	☐	☐	☐
c) En general tiendo a sentir que soy un fracaso	☐	☐	☐	☐
d) Soy capaz de hacer cosas tan bien como otras personas	☐	☐	☐	☐
e) Siento que no tengo muchas cosas por las cuales estar orgulloso(a)	☐	☐	☐	☐
f) Tomo una actitud positiva hacia mí mismo(a)	☐	☐	☐	☐
g) En general, estoy satisfecho(a) conmigo mismo(a)	☐	☐	☐	☐
h) Desearía tener más respeto por mí mismo(a)	☐	☐	☐	☐
i) A veces pienso que no soy bueno(a) en nada	☐	☐	☐	☐
j) Realmente me siento inútil a veces	☐	☐	☐	☐

42. ¿Qué tan de acuerdo estás con los siguientes enunciados? (Elige UNA opción en CADA categoría)

	Totalmente en desacuerdo	Algo en desacuerdo	Algo de acuerdo	Totalmente de acuerdo
a) Hay una gran cantidad de vida social en mi barrio/comunidad	☐	☐	☐	☐
b) Es bueno vivir en mi barrio/comunidad	☐	☐	☐	☐
c) En el futuro me gustaría seguir viviendo en el barrio/comunidad en que vivo actualmente	☐	☐	☐	☐
d) En el futuro me gustaría cambiarme a otra barrio/comuna/ciudad en mi país	☐	☐	☐	☐
e) En el futuro me gustaría irme a vivir al extranjero	☐	☐	☐	☐

43. Durante los últimos 12 meses, ¿tú te has…? (Elige UNA opción en CADA categoría)

	Si	No
a) …cambiado de barrio o comunidad	☐	☐
b) …cambiado de colegio	☐	☐

44. Durante los últimos 5 años, ¿te has… ? (Elige UNA opción en CADA categoría)

	Nunca	Una vez	Dos veces	Tres veces	Cuatro veces	Cinco veces o más
a) ... cambiado de barrio o comunidad	☐	☐	☐	☐	☐	☐
b) ... cambiado de colegio	☐	☐	☐	☐	☐	☐

45. ¿Cuán bien te representan los siguientes enunciados? (Elige UNA opción en CADA categoría)

	Me representa muy bien	Me representa bien	Me representa poco	Me representa muy poco
a) Yo creo en Dios	☐	☐	☐	☐
b) Mi fe es importante para mi	☐	☐	☐	☐
c) Yo rezo a Dios regularmente	☐	☐	☐	☐
d) Yo leo regularmente las escrituras de mi fe	☐	☐	☐	☐
e) Asisto a servicios religiosos regularmente	☐	☐	☐	☐
f) Participo regularmente de actividades religiosas en mi iglesia, distintas a las misas, cultos y otros ritos religiosos	☐	☐	☐	☐
g) Sería capaz de obtener apoyo de Dios si lo necesitara	☐	☐	☐	☐
h) He buscado apoyo de Dios cuando lo he necesitado	☐	☐	☐	☐
i Mis mejores amigos son personas religiosas	☐	☐	☐	☐
j) La mayoría de mis conocidos son personas religiosas	☐	☐	☐	☐
k) Mi madre (o adoptiva/madrastra) es religiosa	☐	☐	☐	☐
l) Mi padre (o adoptivo/padrastro) es religioso	☐	☐	☐	☐

46. Si bebes algo de las siguientes bebidas, ¿cuánto bebes cada día? (Elige UNA opción en CADA categoría)

	No la bebo	Una taza	Dos tazas	Tres tazas	Cuatro tazas	Cinco tasas	Seis o más tasas
a) Café	☐	☐	☐	☐	☐	☐	☐
b) Té	☐	☐	☐	☐	☐	☐	☐

	No la bebo	Una lata o botella mini	Dos latas o botellas mini	Tres latas o botellas mini	Cuatro latas o botellas mini	Cinco latas o botellas mini	Seis o más latas o botellas mini
c) Bebidas cola (como Coca-cola, Pepsi etc.)	☐	☐	☐	☐	☐	☐	☐
d) Bebidas energéticas que contienen cafeína (como: Red bull, Monster etc.)	☐	☐	☐	☐	☐	☐	☐

47. ¿Alguna de las siguientes personas fuma cigarrillos diariamente? (Elige UNA opción en CADA categoríay)

	No	Si	No aplica
a) Padre o apoderado	☐	☐	☐
b) Madre o apoderada	☐	☐	☐
c) Hermano(a) (uno o más)	☐	☐	☐
d) Mejor amigo(a)	☐	☐	☐

48. ¿Cuántas veces has fumado cigarrillos en tu vida? (Elige solo UNA opción)

Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
☐	☐	☐	☐	☐	☐	☐

49. ¿Cuántos cigarrillos has fumado, en promedio, durante los últimos 30 días? (Elige solo UNA opción)

☐ Nada

☐ Menos de un cigarro a la semana

☐ Menos de un cigarro al día

☐ 1-5 cigarros por día

☐ 6-10 cigarros por día

☐ 11-20 cigarros por día

☐ Más de 20 cigarros por día

50. ¿Cuántas veces, si lo has hecho, has fumado cigarros electrónicos en tu vida? (Elige solo UNA opción)

	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
Nunca						
☐	☐	☐	☐	☐	☐	☐

51. ¿Con qué frecuencia has fumado cigarrillos electrónicos, en promedio, <u>durante los últimos 30 días</u>? (Elige solo UNA opción)

	Menos de una vez por semana	Menos de una vez por día	1-5 veces al día	6-10 veces al día	11-20 veces al día	Más de 20 veces al día
Nunca						
☐	☐	☐	☐	☐	☐	☐

52. ¿Cuántas veces en tu vida has usado rapé, tabaco masticable u otros tabacos aplicables en la boca? (Elige UNA opción)

	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
Nunca						
☐	☐	☐	☐	☐	☐	☐

53. ¿Cuántas veces, <u>en los últimos 30 días</u>, has usado Rapé, tabaco masticable u otros tabacos aplicables en la boca? (Elige UNA opción)

	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
Nunca						
☐	☐	☐	☐	☐	☐	☐

54. ¿Cuántas veces has usado <u>pipa de agua / narguile</u>? (Elige UNA opción en CADA categoría)

	Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a) En tu vida	☐	☐	☐	☐	☐	☐	☐
b) Durante los últimos 30 días	☐	☐	☐	☐	☐	☐	☐

55. ¿Cuántas veces has usado lo siguiente <u>en tu vida</u>? (Elige UNA opción en CADA categoría)

	Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a) Ritalin, Concerta, Rubifen, Aradix, Metilfenidato, Anfetaminas (u otro medicamento para el déficit atencional) que ha sido recetado para ti	☐	☐	☐	☐	☐	☐	☐
b) Ritalin, Concerta, Rubifen, Aradix, Metilfenidato, Anfetaminas (u otro medicamento para el déficit atencional) sin receta	☐	☐	☐	☐	☐	☐	☐

56. ¿Cuántas veces has consumido alguno de los siguientes tragos <u>durante los últimos 30 días</u>?
(Elige UNA opción en CADA categoría)

	Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a) Cerveza	☐	☐	☐	☐	☐	☐	☐
b) Alcopops o Bebidas alcohólicas suaves como "Lemon stone", "Mistral Ice", "Capel Ice" u otras	☐	☐	☐	☐	☐	☐	☐
c) Vino	☐	☐	☐	☐	☐	☐	☐
d) Destilados (pisco, ron, vodka u otro)	☐	☐	☐	☐	☐	☐	☐

57. ¿Cuántas veces has bebido alcohol de cualquier tipo? (Elige UNA opción en CADA categoría)

	Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a) En tu vida	☐	☐	☐	☐	☐	☐	☐
b) Durante los últimos 30 días	☐	☐	☐	☐	☐	☐	☐

58. ¿Cuántas veces te has embriagado? (Elige UNA opción en CADA categoría)

	Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a) En tu vida	☐	☐	☐	☐	☐	☐	☐
b) Durante los últimos 30 días	☐	☐	☐	☐	☐	☐	☐

59. ¿Cuántas veces, si lo has hecho, has bebido 4 (cuatro) o más bebidas alcohólicas (e.j. cerveza, vino, destilados, cortos) dentro del periodo de una hora o menos? (Elige UNA opción)

Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
☐	☐	☐	☐	☐	☐	☐

60. ¿Cuántas veces, si lo has hecho, has bebido 5 (cinco) o más bebidas alcohólicas (e.j. cerveza, vino, destilados, cortos) dentro del periodo de una hora o menos? (Elige UNA opción en CADA categoría)

Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
☐	☐	☐	☐	☐	☐	☐

61. ¿Bebes alcohol en los siguientes lugares? (Elige UNA opción en CADA categoría)

	Nunca	Pocas veces	Algunas veces	Frecuente-mente
a) En tu casa	☐	☐	☐	☐
b) En la casa de otros	☐	☐	☐	☐
c) En un centro comercial	☐	☐	☐	☐
d) Al aire libre: en la calle, en la plaza, etc.	☐	☐	☐	☐
e) En una disco o bar/pub	☐	☐	☐	☐
f) En una fiesta del colegio	☐	☐	☐	☐
g) En una fiesta universitaria	☐	☐	☐	☐
h) En un centro juvenil o clubes	☐	☐	☐	☐
i) En canchas deportivas, entrenamiento o camping	☐	☐	☐	☐
j) En otro lugar	☐	☐	☐	☐

62. ¿Cuántas veces (si alguna vez lo has hecho) has consumido alguna de las siguientes drogas?
(Elige UNA opción en CADA categoría)

		Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a)	Pastillas para dormir o tranquilizantes (SIN RECETA MÊDICA)	☐	☐	☐	☐	☐	☐	☐
b)	Cannabis (Hashis o Marihuana)	☐	☐	☐	☐	☐	☐	☐
c)	Anfetaminas (SIN RECETA MÊDICA)	☐	☐	☐	☐	☐	☐	☐
d)	LSD (Ácido)	☐	☐	☐	☐	☐	☐	☐
e)	Extasis (MDMA)	☐	☐	☐	☐	☐	☐	☐
f)	Cocaina	☐	☐	☐	☐	☐	☐	☐
g)	Pasta Base	☐	☐	☐	☐	☐	☐	☐
h)	Relevón	☐	☐	☐	☐	☐	☐	☐
i)	Hongos	☐	☐	☐	☐	☐	☐	☐
j)	Inhalantes (encendedores, correctores, pegamento, desodorante ambiental u otros)	☐	☐	☐	☐	☐	☐	☐
k)	Esteroides anabólicos	☐	☐	☐	☐	☐	☐	☐
l)	Destilados/fermentados caseros	☐	☐	☐	☐	☐	☐	☐
m)	Hierbas/drogas orgánicas (San Pedro, Ayahuasca,etc.)	☐	☐	☐	☐	☐	☐	☐
n)	Gas de la risa (Oxido Nitroso)	☐	☐	☐	☐	☐	☐	☐
o)	Heroina	☐	☐	☐	☐	☐	☐	☐
p)	Opioides sin receta médica (morfina , codeina, fentanil, tramadol y otros)	☐	☐	☐	☐	☐	☐	☐
q)	Khat (u otras catinonas) o Spice (u otros cannabinoides sintéticos)	☐	☐	☐	☐	☐	☐	☐

63. ¿A qué edad hiciste (si alguna vez las has hecho) alguna de las siguientes cosas <u>por primera vez</u>?
(Elige UNA opción en CADA categoría)

		Nunca	11 años o menos	12 años	13 años	14 años	15 o más
a)	Beber alcohol	☐	☐	☐	☐	☐	☐
b)	Emborracharse	☐	☐	☐	☐	☐	☐
c)	Fumar cigarro	☐	☐	☐	☐	☐	☐
d)	Fumar cigarro diariamente	☐	☐	☐	☐	☐	☐
e)	Usar marihuana	☐	☐	☐	☐	☐	☐
f)	Fumar cigarros electrónicos	☐	☐	☐	☐	☐	☐
g)	Usar masticables de tabaco, rapé, u otros tabacos aplicables en la boca	☐	☐	☐	☐	☐	☐

64. ¿Cuántas veces hiciste (si alguna vez las has hecho) alguna de las siguientes cosas <u>durante los últimos 12 meses</u>? (Elige UNA opción en CADA categoría)

		Nunca	Una vez	2-5 veces	6-9 veces	10-13 veces	14-17 veces	18 veces o más
a)	Robar algo que cueste menos que 3 entradas normales de cine (aprox. $10.000)	☐	☐	☐	☐	☐	☐	☐
b)	Robar algo que cueste más que 3 entradas normales de cine (aprox. $10.000)	☐	☐	☐	☐	☐	☐	☐
c)	Usar violencia física para robar	☐	☐	☐	☐	☐	☐	☐
d)	Entrar a una casa o auto para robar	☐	☐	☐	☐	☐	☐	☐
e)	Dañar o hacer vandalismo a cosas que no son tuyas	☐	☐	☐	☐	☐	☐	☐
f)	Cometer otro delito	☐	☐	☐	☐	☐	☐	☐

65. ¿Cómo reaccionarían tus padres o apoderados si hicieras alguna de las siguientes cosas? (Elige UNA opción en CADA categoría)

		Estarían totalmente en contra	Estarían muy en contra	Estarían en contra	Ellos no se preocuparían
a)	Si tu fumaras cigarros	☐	☐	☐	☐
b)	Si tu te emborracharas	☐	☐	☐	☐
c)	Si tu fumaras marihuana	☐	☐	☐	☐
d)	Si tu fumaras cigarros electrónicos	☐	☐	☐	☐
e)	Si tu usaras tabaco masticable, rapé u otros tabacos aplicables en la boca	☐	☐	☐	☐

66. Por favor responde las siguientes preguntas según cómo se aplican a ti. (Elige UNA opción en CADA categoría)

		Nunca	Una vez	2-5 veces	6-9 veces	10-13 veces	14-17 veces	18 veces o más
a)	¿Has sido victima de violencia <u>física</u> en los últimos 12 meses?	☐	☐	☐	☐	☐	☐	☐
b)	¿Has ejercido violencia <u>física</u> en los últimos 12 meses?	☐	☐	☐	☐	☐	☐	☐
c)	¿Has sido victima de violencia <u>sexual</u> en los últimos 12 meses?	☐	☐	☐	☐	☐	☐	☐
d)	¿Has ejercido violencia <u>sexual</u> en los últimos 12 meses?	☐	☐	☐	☐	☐	☐	☐

67. ¿Cuántas veces hiciste alguna de las siguientes cosas (si alguna vez las has hecho), durante los últimos 12 meses?

		Nunca	Una vez	Dos veces	3 - 4 veces	5 veces o más
a)	He sido parte de un grupo que se burla de alguien	☐	☐	☐	☐	☐
b)	He sido parte de un grupo que daña físicamente a alguien	☐	☐	☐	☐	☐
c)	He sido parte de un grupo que inicia una pelea con otro grupo	☐	☐	☐	☐	☐
d)	He recibido burlas por un grupo	☐	☐	☐	☐	☐
e)	He sido atacado por un grupo	☐	☐	☐	☐	☐
f)	He estado en un grupo que ha sido atacado por otro grupo	☐	☐	☐	☐	☐

68. ¿Cuántas veces (si alguna vez te ha ocurrido) en tu vida, te ha ocurrido lo siguiente?

	Nunca	Una vez	Dos veces	3 - 4 veces	5 veces o más
a) Yo he ENVIADO mensajes ofensivos o desagradables a un grupo o a una persona a través de internet o por el teléfono	☐	☐	☐	☐	☐
b) Yo he RECIBIDO mensajes ofensivos o desagradables de un grupo o una persona a través de internet o por el teléfono?	☐	☐	☐	☐	☐

69. ¿Cuántas veces (si alguna vez las has hecho) has hecho alguna de las siguientes cosas, en los últimos 12 meses? (Elige UNA opción en CADA categoría)

	Nunca	Una vez	2-5 veces	6-9 veces	10-13 veces	14-17 veces	18 veces o más
a) Pegarle un combo a alguien	☐	☐	☐	☐	☐	☐	☐
b) Darle una paliza a alguien	☐	☐	☐	☐	☐	☐	☐
c) Pateado a alguien	☐	☐	☐	☐	☐	☐	☐
d) Cacheteado a alguien	☐	☐	☐	☐	☐	☐	☐
e) Tomado a alguien por el cuello	☐	☐	☐	☐	☐	☐	☐
f) Amenazado a alguien con violencia	☐	☐	☐	☐	☐	☐	☐

70. ¿Cuántos de tus amigos, crees que han hecho lo siguiente en los últimos 12 meses? (Elige UNA opción en CADA categoría)

	Nadie	Unos pocos	Algunos	Muchos	Casi todos
a) Robado algo que cuesta más de 3 entradas al cine (aprox. $10.000)	☐	☐	☐	☐	☐
b) Entrado a una casa o auto para robar	☐	☐	☐	☐	☐
c) Dañado o hecho vandalismo a cosas que no son de ellos	☐	☐	☐	☐	☐

71. Cuántos de tus amigos, crees que han hecho lo siguiente? (Elige UNA opción en CADA categoría)

	Nadie	Unos pocos	Algunos	Muchos	Casi todos
a) Fumar cigarro	☐	☐	☐	☐	☐
b) Beber alcohol (cerveza, vino, o destilados)	☐	☐	☐	☐	☐
c) Embriagarse al menos una vez al mes	☐	☐	☐	☐	☐
d) Fumar marihuana	☐	☐	☐	☐	☐
e) Buscar peleas	☐	☐	☐	☐	☐

72. Las siguientes preguntas son acerca de deportes y actividades aeróbicas (Elige UNA opción en CADA categoría)

	Casi nunca o nunca	Una vez a la semana	Dos veces a la semana	3 veces a la semana	4-6 veces a la semana	Casi todos los días
a) ¿Con qué frecuencia practicas deportes o entrenamiento físico en el colegio, fuera de las clases de educación fisica?	☐	☐	☐	☐	☐	☐
b) ¿Con qué frecuencia practicas deporte como miembro de un club deportivo o equipo?	☐	☐	☐	☐	☐	☐
c) ¿Con qué frecuencia haces ejercicio o practicas deporte, fuera del colegio y <u>fuera</u> de un club deportivo o equipo?	☐	☐	☐	☐	☐	☐
d) ¿Con qué frecuencia te esfuerzas fisicamente hasta agotarte o sudar?	☐	☐	☐	☐	☐	☐

73. ¿Participas en alguna actividad extracurricular o recreacional organizada? (Elige solo UNA opción)

Casi nunca	Una vez a la semana	Dos veces a la semana	3 veces a la semana	4-6 veces a la semana	Casi todos los días
☐	☐	☐	☐	☐	☐

74. ¿Cuantos días de la última semana, hiciste al menos 60 minutos de ejercicio de una intensidad sufciente como para acelerar tu respiración? (Elige solo UNA opción) *puede icluir deportes, bicileta, caminata u otros, por entretención o para desplazarte de un lugar a otro.*

Casi nunca	Una vez a la semana	Dos veces a la semana	3 veces a la semana	4-6 veces a la semana	Casi todos los días
☐	☐	☐	☐	☐	☐

75. ¿Cuánto tiempo, en promedio, pasas cada día en las siguientes actividades? (Elige solo una opción)

	Casi nada	½ a 1 hora	Cerca de 1 hora	Cerca de 2 horas	Cerca de 3 horas	Cerca de 4 horas	Cerca de 5 horas	6 horas o más
a) Viendo programas, películas o videos	☐	☐	☐	☐	☐	☐	☐	☐
b) Jugando videojuegos	☐	☐	☐	☐	☐	☐	☐	☐
c) En redes sociales (e.j. Facebook, Snapchat, Messenger, Instagram, Twitter, Vine, Skype, WhatsApp, Tumblr. Etc)	☐	☐	☐	☐	☐	☐	☐	☐
c) Usando internet en otras actividades o videojuegos (e.j. leyendo, viendo noticias)	☐	☐	☐	☐	☐	☐	☐	☐

76. ¿Que tan seguido ha ocurrido lo siguiente? (Elige sólo una OPCIÓN)

	Nunca	1-2 veces	3-5 veces	6-9 veces	10-19 veces	20-39 veces	40 veces o más
a) Enviaste una foto provocativa o desnudo/a a alguien a través de internet	☐	☐	☐	☐	☐	☐	☐
b) Le pediste a alguien que te enviara una foto provocativa o desnudo/a suya a través de internet o mensajes/chat	☐	☐	☐	☐	☐	☐	☐
c) Alguien te ha pedido que envíes una foto provocativa o desnudo/a a través de internet o mensajes/chat	☐	☐	☐	☐	☐	☐	☐

77. En una escala de 1 a 5, donde 1 es "sin atracción" y 5 es "Intensa atracción". (Marca con una x la posición que más te represente)

¿Qué tan atraído/a te sientes hacia personas del sexo **opuesto?**

Sin atracción	1	2	3	4	5	Intensa atracción
☐	☐	☐	☐	☐	☐	☐

¿Qué tan atraído/a te sientes hacia personas de tu **mismo** sexo**?**

Sin atracción	1	2	3	4	5	Intensa atracción
☐	☐	☐	☐	☐	☐	☐

Por favor pon el cuestionario en el sobre, pégalo y devuélvelo al profesor / supervisor.

Todos los cuestionarios serán destruidos luego de extraídos los datos.

Estamos muy agradecidos por tu participación.

Encuesta PY 2020

Juventud y bienestar. Una encuesta sobre la vida y las condiciones de vida de los jóvenes.

Encuesta PY 2020

Juventud y bienestar. Una encuesta sobre la vida y las condiciones de vida de los jóvenes.

1

Asentimiento Informado

La municipalidad del colegio donde estudias ha decidido participar en un modelo de prevención de alcohol y drogas. Este estudio trata sobre factores de riesgo y protectores del consumo de sustancias en escolares, susceptibles de ser abordados mediante estrategias de prevención efectivas a nivel local, coordinado por la Universidad de Chile.

Esta investigación consta de una encuesta sobre las circunstancias y el bienestar de los jóvenes basada en el Modelo de Prevención Primaria de Islandia, cuyo objetivo es disminuir la probabilidad del consumo de alcohol y sustancias entre los jóvenes.

El objetivo de este estudio es evaluar la aceptabilidad, factibilidad y efectividad de las estrategias de prevención de consumo de alcohol y drogas en adolescentes basadas en el Modelo Islandés en 6 comunas de la Región Metropolitana.

Es vital que la participación sea buena, ya que la información obtenida es muy importante para la formulación de políticas en lo que respecta a las cuestiones relativas a los jóvenes en el país. Tu participación en el estudio no implica ningún riesgo. También debemos recalcar que tus calificaciones no se verán afectadas de ninguna manera por tu participación o por no participar. No diremos a otras personas que estas en ésta investigación y no compartiremos información sobre ti a nadie que no trabaje en el estudio de investigación. No es obligatorio que participes en esta investigación. Nadie se molestará contigo si dices que no quieres participar. Eres libre de tomar la decisión. Puedes pensar en ello y responder más tarde. Si quieres, puedes decir "sí" ahora y cambiar de idea más tarde y también estará bien. No recibirás ningún incentivo en dinero ni de otro tipo por participar de esta investigación.

Se te pedirá que respondas esta encuesta online, lo que llevará unos 20 minutos aproximadamente.

Si luego de responder esta encuesta requieres recibir apoyo y/o orientación acerca de ciertos temas sensibles de esta encuesta, podrás hacerlo consultando al orientador del colegio o al mail prevencion@hcuch y si se requiere tomaremos las medidas necesarias para derivarte algún profesional de salud de la atención primaria.

Si existe cualquier pregunta, por favor, realizarla a la persona de tu colegio que te ha contactado por la encuesta, o también te puedes contactar con el Doctor Adrian Mundt del Hospital Clínico de la Universidad de Chile al teléfono 229788601 o en el correo adrian.mundt@uchile.cl.

Agradecemos desde ya toda tu colaboración. Si continuas con la encuesta, quiere decir que leíste este asentimiento o alguien te lo leyó. Si NO quieres participar de la encuesta, puedes abandonar la encuesta ahora. Recuerda que tú decides participar y nadie se puede enojar contigo si no quieres contestar la encuesta o si cambias de idea y después de empezar el estudio, te quieres retirar.

Atentamente,

Adrian Mundt

RUT: 23.915.947-8

Universidad de Chile

Estoy de acuerdo con participar *

Sí   No

Ingresa el código *

1. ¿Con qué género te identificas?

Femenino   Masculino

Género no conforme   Otro

2. ¿En qué año naciste?

2001   2002   2003

2004   2005   2006

3. ¿En qué curso estás?

8º Básico   1º Medio   2º Medio

3º Medio   4º Medio

4. Vives con …

Con madre y padre

Con madre, sin padre

Con padre, sin madre

Con madre y su pareja

Con padre y su pareja

Con abuelos y padres

Solo con abuelos, sin padres

Con amigos/as

Vivo solo/a

Vivo de otra forma (familia de acogida, hogar de menores, etc.)

5. ¿Cuál es la principal actividad de tu madre o apoderada?

Mi Madre realiza labores de la casa (dueña de casa)

Mi Madre trabaja media jornada

Mi Madre trabaja jornada completa

Mi Madre trabaja en el extranjero

Mi Madre no tiene trabajo

Mi Madre está discapacitada, no trabaja

Mi Madre es estudiante

Mi Madre está estudiando y trabajando

No lo sé /No aplica

6. ¿Cuál es la principal actividad de tu padre o apoderado?

Mi Padre realiza labores de la casa (dueño de casa)

Mi Padre trabaja media jornada

Mi Padre trabaja jornada completa

Mi Padre trabaja en el extranjero

Mi Padre no tiene trabajo

Mi Padre está discapacitado, no trabaja

Mi Padre es estudiante

Mi Padre está estudiando y trabajando

No lo sé /No aplica

7. ¿Vas a un colegio de tu barrio?

Sí   No

8. Durante los últimos 7 días, ¿cuántos días estuviste fuera de casa después de las diez de la noche?

Nunca   1 día   2 días

3 días   4 días   5 días

6 días   7 días

9. ¿Cuán fácil o difícil sería para ti recibir de tus padres o apoderados cariño y calidez?

Muy difícil   Difícil   Fácil

Muy fácil

10. ¿Cuán fácil o difícil sería para ti tener una conversación sobre temas personales con tus padres o apoderados?

Muy difícil   Difícil   Fácil

Muy fácil

11. ¿Cuán fácil o difícil sería para ti recibir de tus padres o apoderados consejos sobre los estudios?

Muy difícil   Difícil   Fácil

Muy fácil

12. ¿Cuán fácil o difícil sería para ti recibir de tus padres o apoderados consejos sobre otros asuntos (proyectos) tuyos?

13. ¿Cuán fácil o difícil sería para ti recibir de tus padres o apoderados ayuda en tus cosas?

Muy difícil   Difícil   Fácil

Muy fácil

14. ¿Cuánto te representa la frase: "Mis padres o apoderados tienen reglas claras sobre lo que puedo hacer en casa"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

15. ¿Cuánto te representa la frase: "Mis padres o apoderados tienen reglas claras sobre lo que puedo hacer fuera de casa"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

16. ¿Cuánto te representa la frase: "Mis padres o apoderados tienen reglas claras sobre cuándo debo estar en casa en la noche"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

17. ¿Cuánto te representa la frase: "Mis padres o apoderados saben con quién estoy cuando salgo de noche"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

18. ¿Cuánto te representa la frase: "Mis padres o apoderados saben dónde estoy cuando salgo de noche"?

19. ¿Cuánto te representa la frase: "Mis padres o apoderados conocen a los padres de mis amigos(as)"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

20. ¿Cuánto te representa la frase: "Mis padres o apoderados hablan frecuentemente con los padres de mis amigos(as)"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

21. ¿Cuánto te representa la frase: "Mis padres o apoderados y los padres de mis amigos(as) algunas veces se reúnen a hablar entre ellos"?

Me representa muy bien   Me representa bien

Me representa poco   Me representa muy poco

22. ¿Con qué frecuencia te sentiste nervioso(a) durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

23. ¿Con qué frecuencia sentiste miedo repentino sin razón aparente durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

24. ¿Con qué frecuencia te sentiste poco interesado(a) en hacer cosas durante la semana pasada?

25. ¿Con qué frecuencia te sentiste con poco apetito durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

26. ¿Con qué frecuencia te sentiste sólo(a) durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

27. ¿Con qué frecuencia llorabas fácilmente o querías llorar durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

28. ¿Con qué frecuencia tuviste problemas para dormir durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

29. ¿Con qué frecuencia te sentiste triste o decaído(a) durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

30. ¿Con qué frecuencia sentiste que no disfrutabas al hacer las cosas durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

31. ¿Con qué frecuencia estabas lento(a) o tenías poca energía durante la semana pasada?

Nunca o casi nunca   Pocas veces

32. ¿Con qué frecuencia sentiste que el futuro parecía sin esperanza durante la semana pasada?

Nunca o casi nunca   Pocas veces

Algunas veces   Frecuentemente

33. ¿Con qué frecuencia pensaste en suicidarte durante la semana pasada?

Nunca   Pocas veces

Algunas veces   Frecuentemente

34. ¿Cuántas horas en promedio duermes cada noche?

Más de 9 horas   Cerca de 9 horas

Cerca de 8 horas   Cerca de 7 horas

Cerca de 6 horas   Menos de 6 horas

35. ¿Has fumado tabaco / cigarros alguna vez en tu vida?

Sí   No

36. Durante los últimos 30 días, ¿has fumado tabaco / cigarros?

Sí   No

37. Tu consumo de tabaco / cigarros, ¿ha sido distinto durante el periodo de cuarentena por COVID- 19?

Durante la cuarentena no cambió mi consumo

Durante la cuarentena mi consumo ha sido mayor

Durante la cuarentena mi consumo ha sido menor

No aplica

38. ¿Has bebido alcohol alguna vez en tu vida?

Sí   No

39. Durante los últimos 30 días, ¿has bebido alcohol?

Sí   No

40. ¿Te has emborrachado alguna vez en tu vida?

Sí   No

41. Durante los últimos 30 días, ¿te has emborrachado?

Sí   No

42. Tu consumo de alcohol, ¿ha sido distinto durante el periodo de cuarentena por COVID-19?

Durante la cuarentena no cambió mi consumo

Durante la cuarentena mi consumo ha sido mayor

Durante la cuarentena mi consumo ha sido menor

No aplica

43. ¿Has consumido marihuana alguna vez en tu vida?

Sí   No

44. Durante los últimos 30 días, ¿has consumido marihuana?

Sí   No

45. Tu consumo de marihuana, ¿ha sido distinto durante el periodo de cuarentena por COVID-19?

Durante la cuarentena no cambió mi consumo

Durante la cuarentena mi consumo ha sido mayor

Durante la cuarentena mi consumo ha sido menor

No aplica

46. ¿Has consumido pastillas para dormir o tranquilizantes (sin receta médica) alguna vez en tu vida?

Sí   No

47. Durante los últimos 30 días, ¿has consumido pastillas para dormir o tranquilizantes (sin receta médica)?

Sí   No

48. Tu consumo de pastillas para dormir o tranquilizantes (sin receta médica), ¿ha sido distinto durante el periodo de cuarentena por COVID-19?

Durante la cuarentena no cambió mi consumo

Durante la cuarentena mi consumo ha sido mayor

Durante la cuarentena mi consumo ha sido menor

No aplica

49. ¿Cómo reaccionarían tus padres o apoderados si fumas tabaco / cigarros?

Estarían totalmente en contra   Estarían muy en contra

Estarían en contra   Ellos no se preocuparían

50. ¿Cómo reaccionarían tus padres o apoderados si te emborrachas?

Estarían totalmente en contra   Estarían muy en contra

Estarían en contra   Ellos no se preocuparían

51. ¿Cómo reaccionarían tus padres o apoderados si consumes marihuana?

52. ¿Cuántos de tus amigos crees que fuman tabaco / cigarro?

Nadie   Unos pocos   Algunos

Muchos   Casi todos

53. ¿Cuántos de tus amigos crees que beben alcohol?

Nadie   Unos pocos   Algunos

Muchos   Casi todos

54. ¿Cuántos de tus amigos crees que se emborrachan al menos una vez al mes?

Nadie   Unos pocos   Algunos

Muchos   Casi todos

55. ¿Cuántos de tus amigos crees que consumen marihuana?

Nadie   Unos pocos   Algunos

Muchos   Casi todos

56. ¿Has fumado cigarros electrónicos alguna vez en tu vida?

Sí   No

57. Durante los últimos 30 días, ¿has fumado cigarros electrónicos?

Sí   No

58. Sin considerar actividades de estudio y colegio, ¿Cuántas horas en promedio pasas al día conectado al televisor, videojuegos, teléfono, tablet o computador?

6 o más horas   Cerca de 5 horas

Cerca de 4 horas   Cerca de 3 horas

Cerca de 2 horas   Cerca de 1 hora

Menos de 1 hora   Nada o casi nada

59. ¿Participas en alguna actividad extracurricular, extraprogramática o recreacional organizada?

Casi nunca   Una vez a la semana

Dos veces a la semana   3 veces a la semana

4 a 6 veces a la semana   Casi todos los días

60. ¿Cuántos días de la última semana, hiciste al menos 60 minutos de ejercicio de una intensidad suficiente como para acelerar tu respiración?

Casi nunca   Una vez a la semana

Dos veces a la semana   3 veces a la semana

4 a 6 veces a la semana   Casi todos los días

61. ¿Alguien de tu familia se ha contagiado de COVID-19?

Sí   No

62. ¿Tú te has contagiado de COVID-19?

Sí   No

63. ¿Alguien de tu familia se ha hospitalizado por COVID-19?

Sí   No

64. ¿Alguien de tu familia ha fallecido por COVID-19?

Sí   No

65. Al inicio de la pandemia por Coronavirus, cuando los colegios cerraron, ¿Cuánto estrés causó el COVID-19 en tu vida?

Nada de estrés   Un poco de estrés

Una cantidad moderada de estrés   Mucho estrés

66. Actualmente, ¿Cuánto estrés causa el COVID-19 en tu vida?

Nada de estrés   Un poco de estrés

Una cantidad moderada de estrés   Mucho estrés

67. Debido al COVID-19, ¿cuán preocupado/a estas por tu salud física?

Nada   Poco

Moderadamente preocupado/a   Muy preocupado/a

68. Debido al COVID-19, ¿cuán preocupado/a estas por la salud física de tus cercanos?

Nada   Poco

Moderadamente preocupado/a   Muy preocupado/a

69. Debido al COVID-19, ¿cuán preocupado/a estas por tu salud mental?

Nada   Poco

Moderadamente preocupado/a   Muy preocupado/a

70. Debido al COVID-19, ¿cuán preocupado/a estas por la salud mental de tus cercanos?

Nada   Poco

Moderadamente preocupado/a   Muy preocupado/a

71. ¿Cuánto afectó la cuarentena las relaciones en tu familia?

Empeoró mucho   Empeoró poco

No cambió   Mejoró un poco

Mejoró mucho

72. ¿Cuánto afectó la cuarentena las relaciones con tus amigos?

Empeoró mucho   Empeoró poco

No cambió   Mejoró un poco

Mejoró mucho

73. ¿Cuánto afectó la cuarentena tu salud física?

Empeoró mucho   Empeoró poco

No cambió   Mejoró un poco

Mejoró mucho

74. ¿Cuánto afectó la cuarentena tu salud mental?

Empeoró mucho   Empeoró poco

No cambió   Mejoró un poco

Mejoró mucho

75. ¿Cuánto afectó la cuarentena tu relación con compañeros y profesores?

Empeoró mucho   Empeoró poco

No cambió   Mejoró un poco

Mejoró mucho

76. ¿Cuánto afectó la cuarentena tu experiencia de aprendizaje?

Empeoró mucho   Empeoró poco

No cambió   Mejoró un poco

Hemos terminado 😀

Presiona Enviar para completar la encuesta

Pero antes, te dejamos unas recomendaciones a continuación:

Si crees que puedes necesitar ayuda, es importante que busques apoyo en tu entorno más cercano o en tu colegio.

Además, puedes encontrar ayuda en los siguientes lugares:

• Salud Responde 600 360 77 77: dispone de psicólogos de emergencias para apoyo.

• Fono Drogas al 1412: Orientación profesional las 24 horas del día sobre alcohol y drogas.

• Fono Infancia 800 200 818: orientación por profesionales psicólogos en temáticas de infancia y adolescencia.

• Fundación Todo Mejora: prevención del suicidio adolescente y bullying homofóbico a jóvenes LGBT. A través de chat del fanpage todomejora.org, bajando aplicación en celular o vía mail a apoyo@todomejora.org.

• Hablemos de Todo Injuv: https://hablemosdetodo.injuv.gob.cl/

• En caso necesario, puedes acudir a Urgencias del Centro de Atención Primaria, Hospital o Clínica más cercanos; o llama al servicio de Atención Médica de Urgencia (SAMU) 131.

• Recuerda que si necesitas ayuda, también nos puedes escribir al correo prevencion@hcuch.cl

Muchas gracias por participar!

😊

MEDIDA DE MAGNITUD DE PREVENCIÓN DE ALCOHOL ADAPTADO (APMM) NILSSON, T.; LEIFMAN, H. & Y RÉASSON, S. (2015) NORDIC STUDIES ON ALCOHOL Y DRUGS (32)

MUNICIPALIDAD:	FECHA:	
NOMBRE:	CARGO:	
¿FIRMA CONSENTIMIENTO?:	HORA INICIO:	HORA TÉRMINO:
ENTREVISTADOR:	DIRECCIÓN:	

Categoría	Indicador	Puntaje y puntos de corte	Puntaje
1. Equipo y presupuesto año	Número de cargos en el equipo de prevención de alcohol y otras drogas de la municipalidad	( ) Más de 2 cargos jornada completa= 8p ( ) 1 a 2 cargos jornada completa = 6p ( ) Entre media jornada y menos de 1 jornada completa = 4p ( ) Menos de media jornada = 2p ( ) Sin cargo = 0p	
	El financiamiento para la prevención de drogas y/o alcohol es parte del presupuesto regular de la municipalidad	( ) Si, todo = 8p (100%) ( ) Casi todo = 4p (Entre 70 y 99%) ( ) Parcialmente = 2p (Menos del 70%)	
	Se designó un coordinador de prevención específico	( ) Si = 4p ( ) No = 0p	
2. Política	Existe una política municipal de alcohol y drogas escrita	( ) Si = 2p ( ) No = 0p	
	Año de aprobación de la política de alcohol y drogas	( ) Hace 5 años o menos = 2p	

	( ) Hace más de 5 años = 0p	
La política municipal de alcohol y drogas tiene un plan de implementación (cronograma o carta gant)	( ) Si = 2p ( ) No = 0p	
Año de inicio de la implementación		
La política municipal de alcohol y otras drogas tiene objetivos medibles (describe calaramente lo que se quiere prevenir o lo que se quiere lograr)	( ) Si = 2p ( ) No = 0p	
La política municipal de alcohol y otras drogas tiene una población objetivo definida	( ) Si = 2p ( ) No = 0p	
La política municipal de alcohol y otras drogas tiene un plan de seguimiento	( ) Si = 2p ( ) No = 0p	
Existe financiamiento reservado para realizar actividades propias de la política municipal	( ) Si = 2p ( ) No = 0p	
El municipio, como empleador, tiene una política de alcohol y drogas para sus funcionarios.	( ) Si = 2p ( ) No = 0p	
El municipio tiene una política de consumo en lugares públicos.	( ) Si = 2p ( ) No = 0p	
Las organizaciones civiles están obligadas a tener una política de alcohol y drogas para recibir fondos municipales	( ) Si = 2p ( ) No = 0p	
El municipio tiene una estrategia de prevención de alcohol y drogas en el ámbito educativo (plan que incorpora intervenciones ambientales, universales, selectivas e indicadas)	( ) Si = 2p ( ) No = 0p	
El municipio tiene una estrategia de prevención de alcohol y	( ) Si = 2p	

	drogas en el ámbito comunitario	( ) No = 0p	
	El municipio tiene una estrategia de prevención de alcohol y drogas en el ámbito laboral	( ) Si = 2p ( ) No = 0p	
	El municipio cuenta con un informe de resultados de evaluación de la política de alcohol y drogas.	( ) Si ( ) No	
3. Cooperación organizada sobre prevención de alcohol y otras drogas con: autoridades (a), **empresas (b),** **sociedad civil (c)**	El Concejo Comunal de Seguridad Pública	( ) Si = 2p ( ) No = 0p	
	Ministerio Público, Carabineros y PDI en temas de control de drogas (a)	( ) Si = 2p ( ) No = 0p	
	Concejo Municipal	( ) Si = 2p ( ) No = 0p	
	Departamento de Salud o Servicio de Salud (a)	( ) Si = 2p ( ) No = 0p	
	SEREMI de Transporte (a)	( ) Si = 2p ( ) No = 0p	
	Otros municipios (a)	( ) Si = 2p ( ) No = 0p	
	Dueños de restaurantes (b)	( ) Si = 2p ( ) No = 0p	
	Empresas de entretención (b)	( ) Si = 2p	

		( ) No = 0p	
	Asociaciones deportivas (c)	( ) Si = 2p ( ) No = 0p	
	Organizaciones que promueven el no consumo (c)	( ) Si = 2p ( ) No = 0p	
	Otras organizaciones de la sociedad civil (vecinales, juveniles, religiosas, entre otras) (c)	( ) Si = 2p ( ) No = 0p	
	Universidades u otras organizaciones científicas (c)	( ) Si = 2p ( ) No = 0p	
	La mayoría de las reuniones con autoridades (a) se usan para	( ) Pedir o evaluar la asignación de fondos ( ) Trabajar en torno a un objetivo común ( ) Evaluar los avances de la implementación de una estrategia	
	La mayoría de las reuniones con empresas (b) se usan para	( ) Pedir o evaluar la asignación de fondos ( ) Trabajar en torno a un objetivo común ( ) Evaluar los avances de la implementación de una estrategia	
	La mayoría de las reuniones con organizaciones de la sociedad civil (c) se usan para	( ) Pedir o evaluar la asignación de fondos ( ) Trabajar en torno a un objetivo común ( ) Evaluar los avances de la implementación de una estrategia	

5. Actividades año	Se realizaron actividades destinadas a jóvenes, libres de alcohol y otras drogas en la comuna (por ej. Fiestas escolares, conciertos, etc.)	( ) Si=2p ( ) No=0p	
	Se entregó de información específica a los padres sobre alcohol y otras drogas (volantes, folletos, MCM locales o nacionales, redes sociales, etc.)	( ) Si=2p ( ) No=0p	
	Se realizó un trabajo activo en los medios de comunicación para incrementar la consciencia social sobre alcohol y otras drogas en la comunidad	( ) Si=2p ( ) No=0p	
	Se realizaron actividades para disminuir la venta ilegal a menores de edad (por ej. Capacitación a expendedores, campañas de información, fiscalización o intervención policial)	( ) Si=2p ( ) No=0p	
	Se realizaron actividades para hacer cumplir la edad legal para comprar alcohol (por ej. capacitación en venta responsable de alcohol, incentivos)	( ) Si=2p ( ) No=0p	
	Se realizaron actividades de Venta Responsable de Bebidas Alcohólicas (RBS) (capacitaciones a expendedores, redes de establecimientos expendedores RBS)	( ) Si=2p ( ) No=0p	
	Se implementaron programas de prevención dirigido a padres y apoderados, a cargo de monitores o profesionales capacitados	( ) Si=2p ( ) No=0p	
	Se implementaron programas de prevención comunitaria	( ) Si=2p ( ) No=0p	
	Se realizaron actividades grupales para hijos de padres con problemas de uso de sustancias.	( ) Si=2p ( ) No=0p	
	Se realizaron actividades comunales para promover la	( ) Si=2p	

	conducción con 0 alcohol, además de los esfuerzos de autoridades nacionales	( ) No=0p	
	Se realizaron intervenciones breves para el uso de alcohol y otras drogas en atención primaria (existe DIT en APS)	( ) Si=2p ( ) No=0p	
4. Fiscalización y permisos año	Número total de patentes de alcohol en la comuna Número total de habitantes de la comuna Número total de habitantes mayores de 15 años de la comuna	_____ Total patentes _____Total habitantes _____Total mayores de 15 años	
	Número de patentes tipo A, H, J y P (venta para consumo fuera de las dependencias)		
	Número de establecimientos con patente de alcohol autorizados para cerrar después de las 01:00 am		
	Número de establecimientos autorizados que fueron fiscalizados en el año		
	Número de negocios que venden cerveza (patente F) Número de negocios con patente F, fiscalizadas	_____ Total patentes F _____Total patentes F fiscalizadas año	
		PUNTAJE OBJETIDO (NO LLENAR)	

OBSERVACIONES:

NAD

Monitoring local alcohol prevention in Sweden: Application of Alcohol Prevention Magnitude Measure (APMM)

TONY NILSSON & HÅKAN LEIFMAN & SVEN ANDRÉASSON

ABSTRACT

AIMS – National alcohol policy in Sweden has to a certain extent grown weaker, and there has instead been an increased focus on strengthening local alcohol prevention. Swedish municipalities carry out a variety of alcohol prevention activities, but there is little knowledge of how the magnitude of all these activities has developed over time. One reason for this lack of information is the limitation of tools for monitoring prevention activities locally. The aim of this study is 1) to develop an Alcohol Prevention Magnitude Measure (APMM) based on local data and 2) to analyse the development of local alcohol prevention by using APMM. **DATA** – The APMM is based on 37 different indicators of local prevention. Data derives from web-based surveys comprising all Swedish municipalities and from information on licensed premises at the local level. **RESULTS** – The results reveal that local alcohol prevention in Sweden, as measured by the APMM, has increased generally between 2006 and 2010. The increase is the result of more local policies and activities. **CONCLUSION** – The results indicate that the APMM captures real changes at the local level, as the APMM increased significantly in community intervention municipalities compared to others.
KEYWORDS – Alcohol, prevention, municipalities, composite indicator

Introduction

Many countries worldwide have adopted prevention policies and programmes to prevent harm from alcohol (World Health Organization, 2011). This is true also for Sweden. Indeed, Sweden has a long history of restrictive alcohol policies and has been ranked as having the second strictest alcohol control policy of 30 studied European countries in 2012, only surpassed by Norway (Karlsson, 2014). Important components have been high prices through high levels of alcohol taxation and low physical availability, particularly by high age limits, limited opening hours and a restricted number of outlets. Such components have been shown to be effective in the international literature (Babor et al., 2003). Over time, however, Sweden's restrictive national policy has weakened to a certain extent, partly because of EU

membership (Andréasson, 2002). Instead, there has been an increased focus on local alcohol prevention as a means of compensating for this change.

The importance of local alcohol prevention has been expressed repeatedly in the Swedish government's national alcohol action plans since 2001, and thus also in the current national strategy (Swedish Government, 2010) for 2011–2015. This has been backed up by considerable resources to be used, among other things, to support the development of local prevention work through, for example, improved coordination, prevention programme development and dissemination of knowledge. In sum, significant efforts have been taken to strengthen local alcohol prevention in Sweden.

Municipalities in Sweden carry out a variety of alcohol prevention activities, such as supervision of licensed premises, information campaigns for parents, activities to prevent illegal sales of alcohol to youth, responsible beverage service programmes (RBS) and media campaigns (Swedish National Institute of Public Health, 2009). There is, however, little knowledge of how the magnitude of these activities varies between municipalities and how they have evolved over time. This study tries to fill this gap by monitoring alcohol prevention in Swedish municipalities over recent years by means of a newly developed composite measure of prevention.

The work presented in this paper has its theoretical base in a systems model for substance use prevention (Holder, 1998). In accordance with this model, effective local prevention needs to focus on system-wide structures and processes and interactions between these. Included in Holder's model are consumption, retail sales, formal regulation and control, social norms, legal sanctions and social, economic and health consequences (Holder, 1998). A recent evaluation of the impact of community projects on alcohol-related harm found that prevention works best when several sectors of the community are mobilised and a wide spectrum of alcohol preventive efforts have been implemented (World Health Organization, 2012). These findings support a broad approach to monitoring local prevention, which also calls for a comprehensive assessment of local conditions for prevention. This, in turn, requires that data on local community prevention efforts are systematically acquired. Our approach to managing this task is to construct a composite indicator, an Alcohol Prevention Magnitude Measure, based on local data.

There are several advantages in using a composite indicator rather than many individual indicators. For instance, a composite measure is easier to interpret and may summarise multiple dimensions and facilitate communication. Furthermore, it facilitates comparisons of complex dimensions. Composites can however also be misleading if they are poorly constructed or misinterpreted (Organisation for Economic Co-operation and Development, 2008). A main argument against composites is that the weighting process is arbitrary when variables are merged (Sharpe, 2004).

Different composite alcohol policy measures have been constructed, albeit mostly limited to formal alcohol control at the national level. Examples of such indices are the "Bridging the gap scale" (Karlsson & Österberg, 2007), the "Alcohol

Policy Index" (Brand, Saisana, Rynn, Pennoni, & Lowenfels, 2007) and the "Alcohol Public Health Research Alliance (AMPHORA) alcohol policy scale" (Karlsson, Lindeman, & Österberg, 2012). The most recent composite, the "Alcohol Policy Scale" (Naimi TS et al., 2014), however, addresses state level in the US. In Sweden, there have been some previous attempts to construct and analyse alcohol preventive composites at the local level (Andréasson, Nilsson, & Bränström, 2009; Engdahl & Romelsjö, 2006). This is a relatively new research area with no gold standard for composite measure construction of policy/prevention, but in some cases when national composites on alcohol policies have been constructed, the David and Walsh scale from 1983 has served as a model (Karlsson & Österberg, 2007).

This study monitors the magnitude and development of local alcohol prevention in Sweden over time, using a newly developed composite indicator constructed for this purpose, the Alcohol Prevention Magnitude Measure (APMM). Also discussed are the opportunities and challenges of monitoring local alcohol prevention with the APMM.

Material and method

Indicators and points assigned
Alcohol prevention comprises national legislation as well as local prevention, where indicators of local prevention can be divided into organisational (structural) indicators and preventive activity indicators. An earlier version of the APMM was based on indicators belonging to one or the other of these two categories of indicators (Andréasson et al., 2009).

During the development of the current APMM, categories, indicators and the scoring system have been modified and refined. In general, the modifications led to indicators being divided into five categories. The overall score of the composite is a maximum of 100 points. However, the theoretical system model approach remains the same: prevention at the local level needs to target several determinants of consumption and harm and should therefore be measured using several indicators in order to capture a broad spectrum of prevention. Based on prior knowledge and available data, we have selected 37 indicators relating to organisation and activities of local alcohol prevention.

These 37 indicators have been divided into five categories and are assigned points to enable the measuring of the magnitude of prevention. The five categories are; *1) staff and budget for alcohol prevention, 2) municipal alcohol policies, 3) supervision and licensed premises, 4) cooperation with local actors such as authorities, business and NGOs on alcohol prevention, 5) prevention activities and prevention programmes.*

Broadly, effective prevention at the community level requires local policies that restrict availability, and advocacy to gain or maintain support for such restrictive policies (Holder, 1998). Of the five categories in the APMM, two, "policy" and "supervision" address restrictive policy, while two, "cooperation" and "activities" address advocacy (where some indicators contain elements of both). The fifth, "staff and budget" is a prerequisite for all organised activities.

All five categories are deemed important by themselves, but are also assumed to reinforce each other in forming a system

of prevention that affects several different structures, areas and people in the local community. The scoring of indicators in the categories entails that each of the categories can get a maximum of 20 points. The total maximum sum of the five categories taken together is 100 points (five categories times 20 points). It is the sums of these five categories that form the Alcohol Prevention Magnitude Measure (APMM). The five categories are described below, and more detailed information about scoring can be found in Table 1.

- *Staff and budget for alcohol prevention (3 indicators).* Without staff and budget, little can be accomplished. Indicators in staff and budget reflect positions for alcohol prevention and funding (i.e. alcohol prevention or broader drug prevention which includes alcohol). We have considered it reasonable that a Swedish (median-populated) municipality can have between a half-time and a full-time position for such prevention. An indicator reflecting staff for alcohol prevention has been assigned points accordingly. A second indicator in this category reflects whether a specific person has been designated to coordinate alcohol prevention in the municipality. If there is one, it generates half of the potential maximum score for staff for alcohol prevention. The third and final indicator in this category reflects funding. We consider it important that the municipalities largely fund their own alcohol prevention, as this can be seen as an indication of priority and long-term commitment. The maximum points for municipal financing correspond to the maximum points set for staff for alcohol prevention.

- *Municipal alcohol policies (10 indicators).* An alcohol policy is needed to ensure political support and sustainability in prevention efforts. Research has shown that the presence of an alcohol policy in itself appears to reduce alcohol-related problems (Gliksman, Douglas, Rylett, & Narbonne-Fortin, 1995). Indicators included in this category have been selected in order to capture a broad spectrum of alcohol policies in different areas (such as municipality administration, in schools, among NGOs) but with focus on the municipality as a policy maker. All ten indicators in this category are based on dichotomous data and render points based on presence or absence in the municipality. All ten indicators refer to alcohol policy or broader drug policy that includes alcohol.

- *Supervision and licensed premises (4 indicators).* Regulations of alcohol availability can have significant effects on both consumption and problems. The number of outlets, opening hours and restrictions on availability are important components to address. If preventive regulations are combined with supervision, they become more effective (Babor et al., 2003). Two indicators in this category reflect alcohol availability and two reflect supervision. The two availability indicators are number of licensed premises to the public (in relation to the population per 10,000 inhabitants 15 years and older) and number of licensed premises with business hours after 1am (in relation to the total number of licensed premises). The two supervision indicators are extent of supervision at premises with regular alcohol

licenses (i.e. the number of supervision divided by the number of public and private licences) and proportion of inspected grocery shops selling beer (i.e. the number of inspected shops divided by the number of shops). The points assigned for each of the four indicators in this category are divided into eleven fixed intervals with an additional increase for each increased interval. The scoring system for this category results in higher scores when municipalities are more restrictive and controlling.

- *Cooperation with local actors such as authorities, business and NGOs on alcohol prevention (10 indicators).* The municipality needs to cooperate with other agencies, as it does not have jurisdiction over a number of important sectors, such as the police authority or health care. Selected indicators of cooperation are intended to capture municipal cooperation on alcohol prevention among authorities, NGOs and local businesses. All ten indicators in this category are based on dichotomous data and render points based on presence or absence in the municipality.

- *Prevention activities and prevention programmes such as drug-free activities, media campaigns, Responsible Beverage Service programmes and parental programmes (10 indicators).* The number and type of preventive activities are important, not only in the actual activities themselves, but also in order to create local public support and mobilisation. The indicators within this category have therefore been selected to monitor a broad spectrum of prevention activities

in different areas. All ten indicators in this category are based on dichotomous data and render points based on presence or absence in the municipality.

The data for all the indicators in the APMM come from two sources at the former Swedish National Institute of Public Health (which is now the Public Health Agency of Sweden). One source is a web-based survey targeting all 290 municipalities in Sweden. The survey comprises three areas, inspections according to the tobacco law, inspections according to the alcohol law and municipal alcohol and drug prevention (such as policy, organisation and prevention activities). Data from inspections according to the alcohol law and municipal alcohol and drug prevention are used in the APMM. Data on inspections according to the alcohol law have been collected since 1998 and data on alcohol and drug prevention since 2001. Over the years, the questionnaires have been revised, and therefore we use 2006 as the starting year. The second data source is a register containing information such as licensed premises and their opening hours. Data used from this register is on municipal level. In this study, we have used data from the surveys and the register for five years (2006–2010), as this was the data we had available at the time when we began our study. There is data available for more recent years, but no APMM has been computed.

Municipalities in analysis, and missing values

Response rates for the surveys used are generally high, as most municipalities have participated, but there is unfortu-

Table 1. Alcohol Prevention Magnitude Measure; categories, indicators, cut off and points.

Category	Indicator	Cut off and points
Staff and budget (Max 20 points)	Number of staff positions for alcohol and/or drug prevention in the municipality[1]	More than two full-time positions = 8p One to two full-time positions = 6p A half-time up to less than a full-time position = 4p Less than a half-time position = 2p No position = 0p
	Funding for alcohol and/or drug prevention is provided in the regular budget of the municipality	Yes all = 8p Almost all = 4p Partly = 2p Not at all = 0p
	A particular alcohol prevention coordinator is designated	Yes = 4p No = 0p
Policy[2] (Max 20 points)	Municipal alcohol policy	Yes = 2p No = 0p
	Years since alcohol policy was adopted	Five or less years ago = 2p More than five years ago = 0p
	Plan for implementation of the municipal alcohol policy	Yes = 2p No = 0p
	Measurable goals in municipal alcohol policy	Yes = 2p No = 0p
	Plan for follow-up in municipal alcohol policy	Yes = 2p No = 0p
	Particular funding set aside to perform activities in municipal alcohol policy	Yes = 2p No = 0p
	The municipality as an employer has an alcohol policy	Yes = 2p No = 0p
	The municipality has a policy for alcohol consumption in public places	Yes = 2p No = 0p
	NGOs are required to have alcohol policy to be eligible for municipal funding	Yes = 2p No = 0p
	The municipality has a policy for alcohol prevention in elementary schools.	Yes = 2p No = 0p
Organised cooperation with authorities (a), business (b), NGOs (c) on alcohol prevention. (Max 20 points)	Police (a)	Yes=2p No=0p
	Health care (a)	Yes=2p No=0p
	Swedish Transport Agency[3] (a)	Yes=2p No=0p
	Other municipalities (a)	Yes=2p No=0p
	County administrative board (a)	Yes=2p No=0p
	Restaurant owners (b)	Yes=2p No=0p
	Entertainment business (b)	Yes=2p No=0p
	Sports associations (c)	Yes=2p No=0p
	Temperance organisations (c)	Yes=2p No=0p
	Religious organisations (c)	Yes=2p No=0p

Category	Indicator	Cut off and points
Supervision and licences (Max 20 points)	Number of regular alcohol licences to the public per 10,000 inhabitants (15+)	0=<and<=2.5=5p 2.5<and<=5=4.5p 5<and<=7.5=4p 7.5<and<=10=3.5p 10<and<12.5=3p 12.5<and<=15=2.5p 15<and<=17.5=2p 17.5<and<=20=1.5p 20<and<=22.5=1p 22.5<and<=25=0.5p More than 25=0p
	Proportion of licensed premises to the public closing later than 01:00am[4]	0=5p 0<and<=0.05=4.5p 0.05<and<=0.10=4p 0.10<and<=0.15=3.5p 0.15<and<0.20=3p 0.20<and<=0.25=2.5p 0.25<and<=0.30=2p 0.30<and<=0.35=1.5p 0.35<and<=0.40=1p 0.40<and<=0.45=0.5p 0.45<and<=1=0p
Supervision and licences	Extent of supervision at licensed premises (public + private)	More than 1.8=5p 1.6<and<=1.8=4.5p 1.4<and<=1.6=4p 1.2<and<=1.4=3.5p 1<and<1.2=3p 0.8<and<=1=2.5p 0.6<and<=0.8=2p 0.4<and<=0.6=1.5p 0.2<and<=0.4=1p 0<and<=0.2=0.5p 0=0p
	Proportion of inspected grocery shops selling alcohol (beer)	More than 0.9=5p 0.8<and<=0.9=4.5p 0.7<and<=0.8=4p 0.6<and<=0.7=3.5p 0.5<and<0.6=3p 0.4<and<=0.5=2.5p 0.3<and<=0.4=2p 0.2<and<=0.3=1.5p 0.1<and<=0.2=1p 0<and<=0.1=0.5p 0=0p

Category	Indicator	Cut off and points
Activities (Max 20 points)	Arranging drug-free activities (e.g. school dances, concerts etc.)	Yes=2p No=0p
	Information to parents (leaflets, brochures, etc.)	Yes=2p No=0p
	Active work with media advocacy in order to increase awareness about alcohol and/or drugs	Yes=2p No=0p
	Activities to limit illegal sales to youth (e.g., information campaigns or police intervention)	Yes=2p No=0p
	Activities to enforce age limits for alcohol sales[5]	Yes=2p No=0p
	Responsible beverage service (RBS)	Yes=2p No=0p
	Parental programme (with educated instructors) on alcohol and drugs in grades 6–9	Yes=2p No=0p
	Group activities for children of substance misusing parents[6]	Yes=2p No=0p
	Activity for traffic sobriety, in addition to police efforts	Yes=2p No=0p
	Brief intervention in primary health care	Yes=2p No=0p
Sum	Maximal sum=100 points (Policy + Staff and budget + Supervision and licence + Cooperation + Activities)	

[1] Points assigned are based on a mean value of position points for adjusted and not adjusted for population size. This is because small municipalities score higher when positions of staff are in relation to population size and large municipalities score higher when population size is ignored.

[2] Policy often refers to alcohol and/or drugs.

[3] Swedish Transport Agency 2010. Swedish Road Administration 2009–2006.

[4] Opening hours have been calculated for 2006–2009 (due to frequent missing data) by using data from 2010. During 2010 missing data were highly reduced due to frequent reminders from SNIPH.

[5] And serving, 2006.

[6] Other activities instead of group activities in 2006 and 2007.

nately internal missing data that limit the use of data. Therefore, only municipalities that had data for at least 80% of the indicators in the composite for all five years (2006–2010) are included in the analysis in order to gain stable data to facilitate comparison over time. Furthermore, the three major municipalities of Stockholm, Göteborg and Malmö, which all consist of several city districts, are excluded, for the questionnaire was not adapted to municipalities with such districts until 2011. In total there are 189 municipalities (65.2%) included in the analysis; all Swedish counties are represented; and the municipalities included in the analysis account for 63% of the Swedish population. In the forthcoming analyses of these municipali-

ties, missing values have been replaced with values from the previous year. The only exception is missing values for 2006, which have been replaced with values from 2007, as there are no data available before 2006. It should also be mentioned that we have studied all municipalities (except Stockholm, Göteborg and Malmö) regardless of the extent of missing values. SAS base (version 9.3) has been used to perform the statistical analyses.

This study was approved by the regional ethical review board in Stockholm.

Internal consistency and validation of the Alcohol Prevention Magnitude Measure
Internal consistency: Standardised Cronbach alpha was calculated for the com-

posite measure and for all five categories for all years to establish internal consistency of the composite. The total sum of the APMM (based on 37 indicators) has acceptable values of Cronbach alpha over the years (.77 on average), indicating good reliability. However, this must be considered with caution, as the alpha values can depend on the number of indicators (37) included in the analysis and also on underlying correlations among subsets of indicators (Field & Miles, 2010). If different categories of indicators should be deleted from the APMM, it is only the deletion of supervision and licence (four indicators) that slightly increases the mean average of alpha over the years to approximately .79. When analysing Cronbach alpha in categories, they turned out to be more or less inappropriate from a strictly alpha value point of view, but from a theoretical point of view they are considered appropriate.

Validation: Several community intervention projects have been implemented in Sweden between 2006 and 2010 in order to strengthen local alcohol and/or drug prevention and reduce harm. The community intervention projects are called the *Six community trial* (2003–2006), *Three times Three* (2006–2009), *Small municipalities project* (2006–2010) and *Local development with ambitions* (2009–2010). These projects are characterised by governmental financial support, and in conjunction with this, different requirements have been set up for participating municipalities. Examples of requirements are updated drug policy, steering group for drug prevention, a drug prevention coordinator, inventory of the drug situation and an implementation plan for drug prevention. Results from earlier evaluations of community inter-

vention projects (Allebeck, Guldbrandsson, Boman, & Heinemans, 2012; Grundh, 2011; Jakobsson, 2011; Swedish National Institute of Public Health, 2008) show indications of improved structures, as well as higher priority and activity for drug prevention. Therefore, it might be expected that the APMM values would increase in intervention municipalities compared to other municipalities without such intervention projects. Such significant increase would support the hypothesis that the composite measure is sensitive to real changes on the local level.

Results

The validation (see table 2) shows that intervention municipalities increased their APMM values compared to municipalities not included in intervention projects. This indicates that the composite measure is sensitive to real changes on the local level. The intervention municipalities in *Small municipalities* and *Three times three* were (because of their similar intervention periods) used as one comparison group (N=25) and were compared with the municipality group (N=137), which includes municipalities that have not participated in any of the other community intervention projects; see table 2. The Wilcoxon two-sample test (one-sided test, p<.05) revealed that the APMM values have increased more in the group of intervention municipalities compared to other municipalities between 2006 and 2010. The higher increase in APMM values among these 25 intervention municipalities is explained by significant increases in policy, activity staff and budget. Similar results appear when comparing the APMM values of *Local development with ambitions*

Table 2. Total sum of the Alcohol Prevention Magnitude Measure (max=100 points) among municipal intervention projects and other municipalities, years 2006–2010.

Year	Six community Trial	Small municipalities	Three times three	Local development with ambitions	Other municipalities (not included in intervention projects)
	2003–2006* (N=5)	2006–2010* (N=19)	2006–2009* (N=6)	2009–2010* (N=22)	(N=137)
	(Points)	(Points)	(Points)	(Points)	(Points)
2006	70.20	58.05	55.25	54.68	57.49
2007	75.70	63.32	58.67	58.52	59.36
2008	72.40	69.00	62.00	58.86	61.07
2009	65.70	64.68	61.67	61.70	61.71
2010	64.40	67.66	63.83	64.77	60.66

* Intervention period.

(N=22) (which started in 2009) with other municipalities (N=137) from the year 2008 to 2010. The APMM increased significantly among these 22 municipalities compared to other municipalities and this is explained by significantly increases in activity, cooperation, staff and budget. There was no significant change in supervision and license between interventions (N=22, N=25) and others (N=137).

In terms of all 189 municipalities, analyses reveal that the total sum of the Alcohol Prevention Magnitude Measure (see table 3) has increased significantly from 2006 to 2010 among Swedish municipalities in general (N=189) (Wilcoxon signed rank test =3237.5, median=4.5, p<.05). At the same time, the difference between the municipalities' APMM points has decreased, as shown by reduced dispersion, coefficient of variation 21.70 (2006), 19.54 (2010) and standard deviation 12.47 (2006), 12.12 (2010). Overall, more municipalities are carrying out more alcohol prevention in 2010 than in 2006, and this is mainly due to more comprehensive policies (Wilcoxon signed rank test =1763, median=2, p<.05) and more local preven-

tion activities (Wilcoxon signed rank test =3671.5, median=2, p<.05).

Of all 189 municipalities in this study, 62% increased their APMM values (+10.5 points, median) and 36% decreased their values (−7.0 points, median) from 2006 to 2010. Two percent had the same APMM values in 2010 as in 2006.

The validation of the APMM (see table 2) showed that intervention municipalities had increased their APMM values significantly compared to municipalities which had not taken part in community intervention projects. However, these non-intervention municipalities (N=137) also increased their APMM values significantly from 2006 to 2010 (Wilcoxon signed rank test, p <.05), and these results can also be attributed to policies and activities.

All category values are significantly (p<.05) correlated (Spearman) with the APMM total value (the correlation coefficients refer to the year 2010). Cooperation and activities are the categories that have the highest correlation with the APMM (.76 and .68 respectively) followed by policy (.60), staff and budget (.53) and supervision and licence (.28). A majority of the

Table 3. Total sum of the Alcohol Prevention Magnitude Measure (max=100 points) and category values (max=20 points) among municipalities, years 2006–2010.

Year	N	Staff and budget	Policy	Cooperation	Supervision and licence	Activities	Alcohol Prevention Magnitude Measure	
		(Points)	(Points)	(Points)	(Points)	(Points)	(Points)	(SD)
2006	189	11.87	11.46	12.03	10.41	11.71	57.49	12.47
2007	189	12.29	11.57	12.92	9.98	13.30	60.07	12.59
2008	189	12.21	12.35	12.89	10.64	13.85	61.94	12.85
2009	189	12.28	12.51	12.72	10.56	14.05	62.11	11.58
2010	189	12.22	12.71	12.24	10.43	14.43	62.04	12.12

five individual categories are significantly correlated with each other. Staff and budget correlate significantly with cooperation (.37) and activities (.22). Cooperation and activities correlate significantly with each other (.58). Policy is significantly correlated with cooperation (.29) and activities (.17). However, the supervision and licence category does not significantly correlate with any other category.

The APMM total values for the year 2010 are strongly related to values from earlier years (2009, 2008, 2007 and 2006) according to regression analysis (p<.05, R^2, ranging and decreasing from .45 for the year 2009 to .11 for the year 2006).

The activity category is of special importance, as it includes specific preventive efforts that in different ways reach out to the citizens in the local community. Figure 1 shows the percentage of municipalities that used the different prevention interventions monitored within the activity category in 2006 and in 2010.

All prevention interventions, except traffic sobriety in addition to police efforts, were carried out in more municipalities in 2010 than in 2006. The greatest increase in percentage is to be found in the number of municipalities employing efforts to enforce age limits for alcohol sales

to youths (+25%), followed by actions to limit illegal sales to youths (+23%). Arranging drug-free activities and efforts to limit illegal sales of alcohol to youths are the most common activities among the 189 municipalities in 2010.

It should be mentioned that we have experimented with relative scoring of the categories in order to assess what would happen to the sum of the APMM, if category scores were modified in various ways. This has been done by assigning several different weights to category scores to enable categories to have different maximum points in relation to each other, but still with 100 points as the maximum sum. We have then calculated the correlations between the total sum of the present APMM and the total sums of these (11) alternative composites for the year 2010. All correlations (Spearman) turned out to be high (approximately .75–.95) and statistically significant (p<.05), which reveals that most municipalities that score highly on the total sum of the APMM in its present form are likely to score highly even if the relative importance of the categories are changed in some ways.

Finally, it should be noted that we replicated the main analysis for all municipalities (except Stockholm, Göteborg and

Figure 1. Municipal (N=189) percentages of prevention interventions in 2006 and 2010.
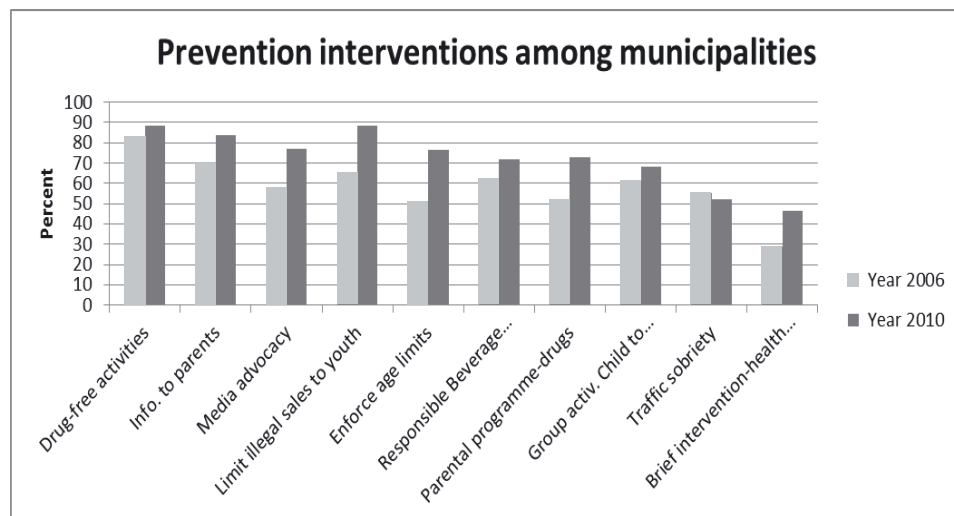
Malmö) regardless of the extent of missing values. However, we used the same procedure for replacement of missing values as described in the method section. The analysis revealed that the total APMM points (based on 287 municipalities) increased significantly (Wilcoxon signed rank test = 4667, median 3.5, p<.05) from 53.0 points in 2006 to 56.2 points in 2010. In the APMM subcategories it was policy (based on 270 municipalities) and activity (based on 264 municipalities) which increased significantly. This implies that the results we report based on our selected sample of municipalities (N=189) appear to be generally viable.

Discussion

To our knowledge, this is the first time that a composite measure of local alcohol prevention is applied in order to study the magnitude of prevention at the local level over time in a country. And as has been shown in the results section, alcohol prevention measured by the Alco-

hol Prevention Magnitude Measure has increased generally in Sweden between 2006 and 2010. Furthermore, the APMM increased significantly in those municipalities where special efforts have been undertaken to strengthen the local alcohol and drug prevention compared to others. This suggests that the composite measure works and is sensitive to real changes at the local level. However, it has not been possible to validate the APMM values for the *Six community trial* in relation to other municipalities, as APMM data only extend as far back as 2006 and the *Six community trial* was implemented between 2003 and 2006. Despite this, the APMM values for this intervention are nevertheless interesting, for they display high values one year (2007) after project termination (2006) and thereafter a gradual decrease. This may be considered a reasonable APMM development due to (possibly) lower priority after intervention termination.

A possible explanation for the overall increase of the APMM could be the rela-

tively large resources spent on local drug prevention within the framework of the government's national alcohol action plan for 2006–2010. It seems also that the specific community intervention projects that have been implemented have contributed to the overall increase in the APMM.

In the APMM subcategories, there has been an increase in policies as well as in activities. The reason why the category supervision and licensing have not increased may be related to municipal preferences for softer interventions, and it seems that supervision and licensing are carried out separately from the other categories. Regarding the category of staff and budget, one possible explanation for the relatively stable values might be that the municipalities do not have enough financial resources to further strengthen the area. Why the extent of cooperation has not increased over time is unclear.

During a period when alcohol prevention has increased in Sweden, the per capita alcohol consumption (15+) has fallen by approximately 7%, from 10.1 litres of pure alcohol in 2006 to 9.4 litres in 2010 (Leifman & Trolldal, 2014). As has been mentioned, the increase in prevention can be mainly attributed to increases in policy and activities, while the other categories of prevention are relatively stable over time. This raises the question of the importance of local mobilisation in relation to consumption development. Future analyses will show if and how the composite measure and its categories relate to alcohol consumption and harm. Future analyses will also need to include the impact of national alcohol policies affecting the economic and physical availability of alcohol. The APMM should be seen as a project with

a potential for additional improvement as the work progresses, especially in the light of its relation to harm.

It should be pointed out that the APMM is developed within the specific conditions that are present in Sweden, including the Swedish municipal system and a generally comprehensive alcohol policy on both the national and the local level. This implies that generalisation to other countries is uncertain, but all mapping systems ought to consider some cultural adaptation. Thus, the tool used to collect data must be flexible enough to pay attention to and to discern cultural differences. Still, we believe that the basic assumptions in our approach are valid in many countries, i.e. a mapping tool (e.g. web-based) directed to the right executive level where decisions of prevention are made (e.g. communities, regions) and with a focus on several dimensions, including the infrastructure for long-term prevention as well as actual prevention activities. Furthermore, many of the actual prevention activities assessed are not culturally limited, such as measures to restrict the availability of alcoholic beverages and drunk driving.

An important aspect of the APMM's construction is that previous research suggests that availability (i.e. licence and supervision category) is more important for the reduction of harm than the other categories in the composite and therefore this category should possibly be awarded more points than the other categories. However, how much more important this category is remains unclear and hence our unconditional analysis of the composite and its categories. A further complication is that the data for indicators is mostly dichoto-

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mous, providing no information about the dose of the interventions. Even if more detailed data was available, it would still be hard to weigh indicators (or categories) against each other. One reason for this is that indicators touch upon different target groups/arenas and thus, in the end, different alcohol problems, which makes scoring more complex. A reasonable approach seems to be assigning points to indicators in categories, so that categories sum up equally to enable simple analysis of the magnitude of prevention. Also, as shown in the result section, most municipalities that score high on the total sum of the APMM in its present form are likely to score high, even if the relative importance of the categories are changed in some way.

Conclusion and suggestions for further work

The APMM is a tool for monitoring the development of local alcohol prevention, and the outcome of the APMM is a magnitude measure of alcohol prevention. It is preferable that the categories are reported separately as well as in combination in order to understand the development of prevention best. As is clear from our work, category weightings and relative scoring of indicators remain major challenges for composite measures of alcohol prevention on local level.

Our results indicate that local alcohol prevention measured by the APMM has increased over a five-year period in Sweden. However, an increase in prevention is not necessarily synonymous with reductions of alcohol-related harm, which is the primary purpose of prevention. Thus, the next step in this project is to examine the association between alcohol-related harm and the magnitude of prevention on the local level.

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Adaptación e implementación del modelo de prevención de consumo de sustancias Planet Youth en Chile.

Adaptation and implementation of the Planet Youth substance use prevention model in Chile

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The prevalence of substance use is high among adolescents in several region around the world, specifically in Chile, and its prevention is an important public health challenge. We describe the adaptation and the feasibility to implement the Icelandic model of substance use prevention in adolescents "Planet Youth" in Chile as first experience in Latin America. This community prevention model focuses on the environment, culture and the promotion of health in adolescents, informed by local risk and protective factors. Implementation requires collaboration between academia and municipal authorities. Six municipalities of the Metropolitan Region, the University of Chile and the Icelandic Centre for Social Research and Analysis collaborated in the implementation of the Planet Youth model since 2018 in Chile. A substance use survey was translated, adapted, and applied to 7354 tenth grade students. The results were informed to schools and municipalities in order to work on modifications of the main risk and protective factors in their own community. In 2020, the prevention process has required some adaptation due to COVID-19 pandemic. We discuss sociocultural factors in the adaptation of this international prevention model transferred to Latin America. The implementation of the Planet Youth model is feasible in Chile and offers an opportunity to effectively prevent the substance use behaviors of adolescents in Latin America.

Key words: *Prevention, Substance Use, Adolescents, Community based, Environmental prevention.*
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Introducción

El consumo de alcohol y drogas es un importante problema social y de salud en todo el mundo. El alcohol genera alta carga de enfermedad en años de vida perdidos por discapacidad y muerte[1] , mientras la marihuana es la droga más consumida a nivel mundial[2]. Las Américas es la región con la más alta prevalencia anual de consumo de marihuana con 8.8% en población entre 15 y 64 años[2]. Estados Unidos, Bolivia, Chile y Uruguay, han visto un aumento en el consumo de marihuana en los últimos años; además en Latinoamérica, la cocaína es la segunda droga por la que se busca tratamiento como sustancia principal[2].

En Latino América, Chile tiene altas prevalencias de consumo de sustancias en adolescentes, con un consumo de alcohol del último año en escolares de 57%, y de último mes de 31% donde el 62% de estos ellos ha bebido 5 o más tragos en una sola ocasión[3]. En cuanto a marihuana, la prevalencia de consumo en el último año subió de 14,8% en 2001 a 30,9% en 2017[3,4]. Mientras en el mundo, el 4,7% de los adolescentes entre 15 y 16 años ha consumido marihuana el último año[2]. Por sus prevalencias y consecuencias asociadas, el consumo de alcohol y otras sustancias genera un alto costo social y a la salud[5].

La adolescencia es el periodo de la vida en que más frecuentemente se inicia el consumo de sustancias[6,7]. En esta etapa hay gran vulnerabilidad a la experimentación, mayor riesgo de trastornos por uso de sustancias, efectos más severos y mayor sensibilidad a la neurotoxicidad[8]. Debido a las altas prevalencias de consumo de sustancias en adolescentes y al impacto que estas tienen en una etapa de alta vulnerabilidad, es importante prevenir el consumo en adolescentes[9]. La identificación y el abordaje de los factores de riesgo y protectores más relevantes para el consumo permite planificar estrategias de prevención apropiadas[10], sin embargo, estos factores pueden variar en distintas sociedades, países e incluso entre comunidades en un mismo país, de acuerdo a diferentes determinantes socioculturales. Por lo tanto, un abordaje local y adaptado a las necesidades de una comunidad específica debe ser considerado en la prevención.

Este artículo tiene por objetivo describir un modelo de prevención comunitaria desarrollado en Islandia, y la experiencia inicial del proceso de adaptación y factibilidad de implementación en seis comunas de Chile.

Modelo Islandés

Islandia ha llevado a cabo un proceso de prevención del consumo de sustancias en adolescentes abordando factores de riesgo y protección específicos basado en datos locales, y de esta manera han propuesto un modelo de prevención comunitario[11]. El Icelandic Centre for Social Research and Analysis (ICSRA) realiza una encuesta de bienestar juvenil anualmente desde los años 90, llamada "Youth in Iceland", que aborda el consumo de sustancias, explora factores protectores como apoyo, monitoreo y comunicación parental, bienestar escolar y participación en actividades extracurriculares tales como actividad deportiva organizada, y factores de riesgo como tiempo libre no supervisado, estilos de vida asociado a fiestas, y consumo en pares, entre otros[12,13]. Entre los factores protectores abordados en Islandia para la prevención primaria a nivel parental se incluyen: que los padres sepan con quién y dónde se encuentran sus hijos y que conozcan a los amigos de sus hijos y a sus respectivos padres. Además, resulta protectora la participación de los adolescentes en actividades deportivas organizadas, mientras un estilo de vida relacionado a fiestas es un factor de riesgo[14]. ICSRA ha diseminado el modelo de prevención realizado en Islandia a distintos lugares del mundo, llamándole Planet Youth

(ver en https://planetyouth.org/).

Recientemente, el equipo de ICSRA[15,16] ha publicado 5 principios guía del modelo islandés (Tabla 1) y 10 etapas (Tabla 2) para la implementación de este modelo de prevención.

Tabla 1. Principios Guía Modelo Islandés Planet Youth

Principios Guía Modelo Islandés
1. Aplicar un enfoque de prevención primaria diseñado para mejorar el ambiente social.
2. Enfatizar la acción comunitaria y aprovechar los colegios como el centro natural de los esfuerzos de la comunidad para apoyar la salud, aprendizaje y una vida exitosa de los niños y adolescentes.
3. Involucrar y empoderar a los miembros de la comunidad en la toma de decisiones prácticas usando datos y diagnósticos locales, accesibles y de alta calidad.
4. Integrar investigadores, políticos, profesionales y miembros de la comunidad en un equipo unificado dedicado a resolver problemas complejos del mundo real.
5. Hacer coincidir el alcance de la solución con el ámbito del problema, incluyendo intervenciones con énfasis de largo plazo y esfuerzos para organizar adecuadamente los recursos de la comunidad.

Tabla 2. Etapas Modelo Islandés Planet Youth

Etapas Modelo Islandés
Etapa 1: Identificación del equipo local, desarrollo y construcción de capacidad
Etapa 2: Identificación de fondos locales, desarrollo y construcción de capacidad
Etapa 3: Planificación de la recolección de datos e involucramiento de la comunidad
Etapa 4: Recolección de datos, procesamiento, incluyendo diagnósticos basados en los datos
Etapa 5: Fortaleciendo la participación de la comunidad y el involucramiento
Etapa 6: Diseminación de los resultados
Etapa 7: Establecimiento de objetivos de la comunidad y otras respuestas organizadas frente a los resultados
Etapa 8: Alineamiento entre política y práctica
Etapa 9: Inmersión de niños y adolescentes en ambientes, actividades y mensaje de prevención primaria
Etapa 10: Repetir las tapas 1 a 9 anualmente

Planet Youth en Chile

En 2018 se inició una colaboración entre seis municipalidades (Colina, Las Condes, Lo Barnechea, Melipilla, Peñalolén y Renca), ICSRA y la Universidad de Chile para implementar el modelo Planet Youth.

La estrategia de prevención basada en el modelo de Islandia, Planet Youth en Chile (en adelante, PY) está dirigida a toda la población adolescente de cada comuna vinculada al sistema educativo formal. Para evaluar el consumo de sustancias en adolescentes, se planificó realizar encuestas de corte transversal a estudiantes de educación secundaria en décimo grado (2° año de educación media en Chile), cada 2 años.

En el proceso de implementación y adaptación del modelo PY en las seis comunas involucradas, se ha coordinado la participación de tres partes: ICSRA, cada Municipalidad y la Universidad de Chile. Cada Municipalidad definió un responsable y un equipo de prevención local. El equipo de la Universidad de Chile se ha encargado de llevar a cabo los procesos de adaptación del modelo, proveer de apoyo técnico a cada comuna y de la coordinación entre ICSRA y cada Municipalidad, para facilitar la gestión de implementación del modelo PY.

Se firmaron memorandos de entendimiento internacionales entre cada municipio, ICSRA y la Universidad de Chile. Esta colaboración definió un plan de cinco años con la aplicación de las encuestas PY cada dos años, y entrega de informes de resultados a colegios y municipios con recomendaciones desde ICSRA para orientar la implementación local del plan comunitario de prevención PY. Este modelo no ofrece intervenciones estructuradas, ni manualizadas, pero tiene principios y recomendaciones para las municipalidades que la implementan, por tanto, las estrategias y actividades preventivas específicas se aplican según las definiciones de cada municipio.

Encuestas

Entre enero y marzo del 2018 el equipo coordinador de la Universidad de Chile tradujo la encuesta original de ICSRA. Se realizó una revisión de contenidos por parte de los equipos comunales, y una revisión por expertos de la Universidad de Chile. Se validó lingüística y semánticamente la adaptación de la encuesta en tres adolescentes chilenos voluntarios pertenecientes al mismo grupo etario de la población objetivo, que asisten a un centro de salud mental adolescente (SERJOVEN). La versión final aprobada por ICSRA y la Universidad de Chile contiene 77 preguntas. Se ejecutó el proceso de impresión de cuestionarios, embalaje, distribución y recolección, de acuerdo a lo establecido por ICSRA[13].

La encuesta permite entregar un diagnóstico a cada comuna y colegio sobre el consumo de sustancias de los escolares y los factores relacionados al consumo. Desde cada municipio se contactó a los colegios particulares y municipales de la comuna para invitarlos a participar voluntariamente. Se confeccionó un consentimiento informado pasivo para ser enviado a los padres, a través del cual aquellos padres que rechazaban participar lo hacían de manera explícita. Además, se aplicó un documento de asentimiento para los alumnos, pudiendo aceptar o rechazar participar libremente si así lo decidían. Tanto el documento de consentimiento como el asentimiento fueron aprobados por el comité de ética del Hospital Clínico de la Universidad de Chile (OAIC 981/18).

Se conformaron equipos municipales encargados de implementar la encuesta en cada comuna, en coordinación con el equipo de la Universidad de Chile. Se capacitó a los equipos municipales sobre el procedimiento de aplicación de la encuesta PY en los colegios, quienes a su vez capacitaron a profesores de cada colegio. Se desarrollaron documentos de registro para sistematizar el proceso de

aplicación de encuestas, realizar seguimiento y controlar el proceso. La encuesta fue aplicada la misma semana de junio de 2018 en los colegios participantes de las seis comunas.

Prevención local

Luego de 4 meses de aplicada la encuesta, ICSRA entregó informes con los resultados a municipalidades y colegios, junto con la base de datos anonimizada a cada municipalidad.

En 2018 participaron 7354 escolares de 117 colegios, con una tasa de respuesta de 86,9%, siendo el 51,4% hombres y 48,6% mujeres.

Desde el equipo de la Universidad de Chile se apoyo a las comunas en el proceso de prevención en base a los informes de resultados y las recomendaciones realizadas por ICSRA, y se desarrollaron las siguientes herramientas para el trabajo con las comunas:

-Definición de objetivos transversales, comunes entre las seis comunas, considerando sus diferencias socioculturales y de gestión: 1. Reforzar la capacidad de gestión comunitaria, administrativa y política para la prevención a nivel comunal. 2. Disminuir el acceso al alcohol y a otras drogas a menores. 3. Aumentar el involucramiento parental y disminuir la normalización del consumo de alcohol y otras drogas en menores entre los padres y apoderados. 4. Promover un enriquecimiento ambiental a través de actividades recreativas extracurriculares organizadas.

-Utilización de Marco Lógico: se propuso diseñar el plan de prevención en base a la metodología de Marco Lógico que permite planificar, seguir y evaluar programas[17].

-Índice de prevención comunal: Se tradujo y adaptó un instrumento sueco[18] de monitoreo del nivel de desarrollo de la prevención local en 5 dimensiones: personal y presupuesto, política de prevención, colaboración, patentes de alcohol y fiscalización, y actividades de prevención. Este instrumento brinda una medida simple para orientar el trabajo preventivo y es comparable entre municipios.

-Compromiso Parental: Se tradujo y adaptó un documento desarrollado en Islandia con recomendaciones para promover relaciones positivas entre padres e hijos, aumentar la participación en actividades escolares y recreativas, y establecer límites claros en la crianza (3 formatos distintos para estudiantes de 1º a 5º básico, de 6º a 8º básico y de 1º a 4º medio). Además, se incorporó una propuesta metodológica para implementar esta herramienta en establecimientos educacionales.

Además de estas herramientas, y de las estrategias adoptadas por las comunas basadas en las recomendaciones realizadas por ICSRA, cada municipio desarrollo actividades específicas ajustadas a su realidad y contexto, dentro de los principios del modelo PY. Así mismo, el marco general y principios del modelo comunitario de prevención PY, permitieron que los distintos actores en prevención de las comunas participantes pudieran organizar su trabajo de forma coordinada, incluyendo actividades de prevención que se venían realizando previamente y agregando nuevas estrategias y actividades centradas en las necesidades identificadas y priorizadas, en un trabajo flexible, dirigido por cada comuna.

En 2020, debido a la pandemia por COVID-19, la encuesta fue adaptada para ser aplicada en formato online, en una versión abreviada e incorporando preguntas sobre la pandemia y su impacto en los participantes. En noviembre de 2020 participaron las mismas seis comunas en la encuesta, con un total de 5528 encuestas con una tasa de respuesta promedio por colegio de 72,8% en 96 colegios. Los resultados son informados a cada colegio y comuna en reportes preparados por ICSRA para orientar las próximas

estrategias de prevención.

Discusión

El proceso de implementación del modelo Planet Youth en seis comunas se está ejecutando con el objetivo de disminuir el consumo de sustancias en adolescentes en un plan que se encuentra actualmente en progreso, siendo una experiencia única de prevención del consumo de sustancias en adolescentes para Chile, ya que abarca una gran población a través de las municipalidades, y ha exigido una estrecha colaboración y coordinación entre: autoridades políticas y administrativas de cada comuna, los equipos de profesionales en prevención que llevan a cabo el trabajo con la comunidad y la academia con las orientaciones desde los equipos de la Universidad de Chile y de ICSRA. De acuerdo con esta experiencia que hemos reportado, parece promisoria la adaptación de este modelo de prevención basado en evidencia internacional para implementarlo en países de Latinoamérica.

Debido a que el modelo PY no ofrece intervenciones estructuradas, desarrollar y adaptar herramientas de apoyo para la prevención local según las necesidades específicas de las municipalidades ha permitido estructurar la implementación de la prevención, y sirve para apoyar a equipos comunales.

El modelo de prevención islandés está enfocado en la modificación del ambiente social a través del involucramiento comunitario en función de un diagnóstico local del consumo en adolescentes y sus factores asociados. El modelo se basa en la retroalimentación de datos locales sobre el consumo de adolescentes a las comunidades para que se involucren y modifiquen los factores de riesgo y protectores identificados. Un aspecto de especial relevancia en la implementación descrita en la experiencia chilena ha sido el rol de la autoridad comunal en el abordaje de

esta temática y cómo gracias a ese compromiso se han estructurado mesas de trabajo intersectoriales y colaboración entre distintas unidades municipales y otros actores relevantes con un objetivo común.

Uno de los principales desafíos implicados en este proceso se relaciona con la transferencia de un modelo que ha mostrado efectividad en un contexto sociocultural diferente, proveniente de un país con características distintas. En Chile, comunas con diferentes características socioeconómicas están llevando a cabo este modelo, lo que resulta de especial importancia considerando la gran variabilidad en el acceso a recursos que existe entre las distintas comunas en nuestro país, y como esto puede afectar una implementación exitosa de la experiencia islandesa en un contexto diferente.

Algunas estrategias recomendadas por ICSRA están fuertemente centradas en el uso del tiempo libre y en el rol de los padres en la crianza de sus hijos. Con relación al desarrollo de actividades libres de consumo, Bickel W et al,[19] han planteado que, de acuerdo con la teoría de conducta económica, alternativas de refuerzo que compiten con el consumo de sustancias aumentan el costo de oportunidad del consumo de sustancias, disminuyendo el consumo, por lo tanto, de manera inversa, las personas con pocas alternativas al uso de sustancias tienen menos posibilidades de cambiar su consumo exitosamente. Ofrecer actividades alternativas al consumo que estén libres de alcohol y droga en los cuales las personas se involucren, participen, se motiven y las disfruten, actuarían como actividades reforzadoras que disminuyen la probabilidad de consumo de sustancias[20].

En cuanto a la parentalidad, los estilos parentales autoritativos (alta expectativa, reglas claras, y apoyo) son protectores; mientras padres poco involucrados tendrían adolescentes más propensos a consumir 10,21. Así mismo, los pares y familiares influyen

de manera importante en lo que es considerado como normativo, saludable y aceptable para los adolescentes[10, 22], y por consiguiente influyen en las conductas de consumo. En el contexto de cambios sociales y legales sobre el consumo de marihuana, los padres y equipos de salud se enfrentan a nuevo desafío con los adolescentes sobre como discutir y establecer reglas sobre el consumo[10, 23]. El bajo rechazo parental de consumo de marihuana se ha asociado a un aumento del consumo en escolares chilenos[4].

En el caso de Chile, se ha descrito que las normas familiares podrían ser más importantes que las sociales para las personas[24]. Esto está en línea con la importancia de la parentalidad que ha sido descrita en población hispánica cuando se la compara con caucásicos[25]. Por lo tanto, un enfoque familiar robusto, orientado a fomentar una parentalidad adecuada e involucrada podría resultar más apropiado a esta cultura que las normas y el control social.

Sin duda, los aspectos sociodemográficos y económicos, las capacidades de las municipalidades de fomentar el buen uso del tiempo libre en jóvenes, y factores de parentalidad, están relacionados con aspectos socioculturales. Para la implementación y adaptación apropiada de experiencias internacionales se debe tener en cuenta algunos factores socioculturales que influyen sobre el consumo de sustancias y por lo tanto sobre la prevención[26]. Las estrategias basadas en evidencia internacional deben ser transferidas de manera apropiada al contexto local. Además de lo mencionado, deben incorporarse otros factores socioculturales locales en el proceso de adaptación, como la propia opinión, participación y experiencia de los involucrados y de los profesionales que trabajan en prevención en el territorio. Una adecuada adaptación de las estrategias de prevención podría ofrecer mejores resultados, mayor aceptabilidad y menores dificultades en el momento de la implementación,

tal como ha sido descrito en el caso de otras dos intervenciones preventivas culturalmente adaptadas para latinos (keepin' it REAL y Families Preparing the New Generation) en Estados Unidos y en México[27, 28]. Otras experiencias de programas preventivos adaptados culturalmente son el programa Habilidades para la vida[29,30], Familias unidas[31] y Comunidades que se cuidan[32,33].

La magnitud del problema de consumo de sustancias en adolescentes, sus costos y consecuencias, exigen levantar evidencia científica sobre prevención del consumo de sustancias en el contexto latinoamericano, ya que la mayoría de la investigación proviene en general de países de altos ingresos[34,35]. Las diferencias de contexto sociocultural hacen necesario fortalecer y desarrollar la investigación en los lugares donde requieren ser aplicadas. El modelo PY puede ofrecer una importante oportunidad para prevenir el consumo de sustancias en jóvenes de manera efectiva, y su implementación piloto en seis comunas en Chile ha generado interés también en otros países de Latinoamérica.

Resumen

El consumo de sustancias en adolescentes es altamente prevalente en varias regiones del mundo, y especialmente en Chile, siendo su prevención un importante desafío para la salud pública. Este artículo describe el modelo islandés de prevención del consumo de sustancias en adolescentes "Planet Youth", su adaptación y factibilidad de implementación en Chile, como primera experiencia en Latinoamérica. Este modelo comunitario está enfocado en la prevención ambiental y en la promoción de la salud de niños, niñas y adolescentes, basado en un diagnóstico local y oportuno de factores protectores y de riesgo, con colaboración de la autoridad local y la academia. Seis comunas de la región metropolitana en colaboración con la Universidad de Chile y el Icelandic Centre for Social Research and Analysis inician su implementación en 2018. Se tradujo y adaptó la encuesta islandesa que fue aplicada a 7354 estudiantes de 2° medio, cuyos resultados se retroalimentaron a colegios y municipalidades para trabajar en la modificación de los principales factores de riesgo y protección. En 2020, el proceso ha requerido algunas adaptaciones debido a la pandemia por COVID-19. Se discute acerca de factores socioculturales relevantes en la adaptación de estrategias basadas en evidencia internacional que se transfieren a un país diferente. La implementación del modelo Planet Youth es factible en Chile y ofrece una importante oportunidad para prevenir el consumo de sustancias en jóvenes de manera efectiva en Latinoamérica.

Palabras clave: Prevención, Consumo de sustancias, Adolescentes, Comunitaria, Prevención ambiental.

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ETHIC DOCUMENTS

ACTA DE APROBACIÓN DE PROYECTO

(Documento en versión 3 corregida 30.05.2019)

Con fecha 22 de Julio de 2020, el Comité de Ética de Investigación en Seres Humanos de la Facultad de Medicina, Universidad de Chile, integrado por los siguientes miembros:

Dr. Manuel Oyarzún G., Médico Neumólogo, Presidente
Dra. Lucia Cifuentes O., Médico Genetista
Sra. Claudia Marshall F., Educadora, Representante de la comunidad.
Dra. Gricel Orellana, Médico Neuropsiquiatra
Prof. Julieta González B., Bióloga Celular
Dra. Maria Angela Delucchi Bicocchi, Médico Pediatra Nefrólogo.
Dr. Miguel O'Ryan, Médico Infectólogo
Dra. Maria Luz Bascuñán Psicóloga PhD, Prof. Asociado
Sra. Karima Yarmuch G., Abogada
Srta. Javiera Cobo R., Nutricionista, Secretaria Ejecutiva

Ha revisado el Proyecto de Investigación titulado: **"SUBSTANCE USE PREVENTION AMONG ADOLESCENTS AT THE COMMUNITY LEVEL IN CHILE, AND ITS RELATIONSHIP WITH SUBSTANCE USE PREVALENCE AND RISK AND PROTECTIVE FACTORS"**. Cuyo investigador responsable es el Dr. Nicolas Libuy Hidalgo, quien desempeña labores en la Clínica Psiquiátrica del Hospital Clínico de la Universidad de Chile.

El Comité revisó los siguientes documentos del estudio:

- Proyecto de Tesis para optar al grado de Doctorado en Psicoterapia
- Curriculum vitae del Investigador
- Carta Compromiso del investigador para comunicar los resultados del estudio una vez finalizado este.

El proyecto y los documentos señalados en el párrafo precedente han sido analizados a la luz de los postulados de la Declaración de Helsinki, de las Pautas Éticas Internacionales para la Investigación Biomédica en Seres Humanos CIOMS 2016, y de las Guías de Buena Práctica Clínica de ICH 1996.
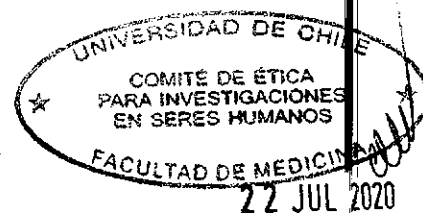
UNIVERSIDAD DE CHILE
COMITÉ DE ÉTICA
PARA INVESTIGACIONES
EN SERES HUMANOS
FACULTAD DE MEDICINA
22 JUL 2020

Sobre la base de esta información el Comité de Ética de Investigación en Seres Humanos de la Facultad de Medicina de la Universidad de Chile se ha pronunciado de la siguiente manera sobre los aspectos del proyecto que a continuación se señalan:

a) Carácter de la población a estudiar (cautivo/no cautiva; investigación terapéutico/no Terapéutica: no es población terapéutica ni cautiva, son escolares de diferentes comunidades

b) Utilidad del proyecto: Chile está poniendo en juego su capital humano como país en vías de desarrollo producto de los efectos de las drogas. Ostentamos cifras alarmantes de consumo de marihuana y alcohol en adolescentes. Se hace perentorio evaluar si están dando los resultados esperados la implementación de modelos internacionales para bajar la prevalencia de consumo. En este sentido la relevancia del estudio está asegurada.

c) Riesgos y beneficios: Bien balanceados

d) Protección de los participantes (asegurada por el Consentimiento Informado): Sí

e) Notificación oportuna de reacciones adversas: No aplica

f) Compromiso del investigador responsable en la notificación de los resultados del Estudio al finalizar el proyecto: adecuado y suficiente

g) Requiere seguimiento Visita en terreno: Si_____No___X_____Tiempo estimado:

N° de vistas:

Por lo tanto, el comité estima que el estudio propuesto está bien justificado y que no significa para los sujetos involucrados riesgos físicos, psíquicos o sociales mayores que mínimos.

Sin perjuicio de lo anterior, según lo establecido en el artículo 10 bis del D.S N° 114 de 2011, del Ministerio de Salud que aprueba el reglamento de la ley N° 20.120; es preciso recordar que toda investigación científica en seres humanos deberá contar con la autorización expresa del o de los directores de los establecimientos dentro de los cuales se efectúe, la que deberá ser evacuada dentro del plazo de 20 días hábiles contados desde la evaluación conforme del CEISH, siendo de responsabilidad del investigador enviar a este Comité una copia de la misma dentro del plazo señalado.
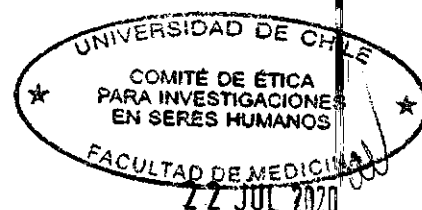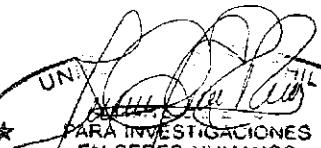
UNIVERSIDAD DE CHILE
COMITÉ DE ÉTICA
PARA INVESTIGACIONES
EN SERES HUMANOS
FACULTAD DE MEDICINA
22 JUL 2020

En virtud de las consideraciones anteriores el Comité otorga la aprobación ética para la realización del estudio propuesto, dentro de las especificaciones del protocolo.

Se extiende este documento por el periodo de **2 años** a contar desde la fecha de aprobación prorrogable según informe de avance y seguimiento bioético.

Lugar de realización del estudio:

- Análisis secundarios de encuestas en las siguientes comunas: Melipilla, Colina, Las Condes, Lo Barnechea, Peñalolen y Renca

Srta. Javiera Cobo Riveros
Secretaria Ejecutiva CEISH

Santiago, 22 de Julio de 2020.

Proyecto: N° 247-2019
Archivo acta: N° 219

2 2 JUL 2020

Carta de Enmienda a Proyecto de Investigación de Tesis Doctoral

Srs(as). Comité de Ética en Investigación en Seres Humanos
Facultad de Medicina
Universidad de Chile
Presente

Estimado Comité de Ética:

Junto con saludar, envío a ustedes la presente solicitud de enmienda al proyecto Nº247-2019 de tesis del Doctorado en Psicoterapia:
Título: "Substance use prevention among adolescents at the community level in Chile, and its relationship with substance use prevalence and risk and protective factors"

Cambios propuestos:

1. La encuesta planificada para este año 2020 ha sido modificada y abreviada desde un formato en papel, a un formato online para ser respondida a distancia por internet.
   El motivo de este cambio es que a raíz de la pandemia por COVID-19 las clases presenciales de los escolares que van a ser encuestados estan suspendidas de manera indefinida. Por lo tanto, se ha adaptado la encuesta a una versión online, disminuyendo la cantidad de preguntas y agregando algunas preguntas sobre COVID-19.
   Se adjunta archivo PDF de la encuesta online.
   La encuesta esta construida en la plataforma Jotform y será aplicada utilizando la versión profesional de la plataforma. Esta plataforma y su versión profesional permiten un manejo totalmente confidencial de la información, y su uso estará a cargo exclusivamente por miembros del equipo de investigación.

   Además, se han realizado cambios a la redacción de consentimientos informados pasivos debido al cambio a formato online. El consentimiento pasivo para estudiantes esta incorporado en la encuesta online, y el consentimiento pasivo para padres seguirá el mismo procedimiento descrito en el protocolo. Estos cambios han sido aprobados por el Comité de Ética del Hospital Clínico Universidad de Chile en el marco del proyecto FONIS SA19I0152 en que se encuentra el presente proyecto de tesis. Se adjuntan consetimientos.

2. El levantamiento de datos cualitativos cambia en su forma de recolección de la información desde grupos focales y entrevistas en modalidad presencial a modalidad a distancia en línea por internet a través de la plataforma Zoom.

Texto del Proyecto:

En la redacción del proyecto original, la pregunta de investigación original es: "Is community-based prevention associated to a decrease in the alcohol and cannabis use, and to changes in risk and protective factors associated to substance use in Chilean adolescents?". Y ahora se agrega la pregunta: "How does the COVID-19 pandemic and quarantine affect the prevalence of alcohol and cannabis and the associated factors in Chilean adolescents?"
El objetivo general se mantiene sin cambios.
En los objetivos específicos: Se elimina el objetivo 6.
Se agregar el objetivo: "To assess the impact of the COVID-19 pandemic on the use of alcohol and cannabis in Chilean adolescents."
Para las hipótesis:
Se elimina la hipótesis: "H5: The change of prevalence of substance use in the six municipalities is different from the trends of prevalence of substance use in other municipalities in Chile"
Se agrega la hipótesis: "The COVID-19 pandemic has changed the use of alcohol and cannabis in 2020 among adolescents"

Implicancias:

Respecto a la implicancia de los cambios, si bien por una parte el protocolo y los procedimientos propios de la tesis presentan algunos cambios menores, y se mantendrá gran parte de los objetivos; por otra parte los resultados que se obtengan y la interpretación de los resultados estarán afectados por la pandemia y se adecuarán por tanto a este contexto para ser discutidos y analizados en el marco de la pandemia por COVID-19 y la literatura científica correspondiente.

Los cambios solicitados ya han sido aprobados por el Comité de Doctorado en Psicoterapia de la Universidad de Chile.

Agradeciendo la revisión de esta solicitud, saluda atentamente,

Nicolás Libuy Hidalgo
Candidato a grado de Doctor
Programa Doctorado en Psicoterapia
Facultad de Medicina Universidad de Chile

Santiago, 12 de Noviembre de 2020.

Dr. Nicolas Libuy Hidalgo
Clínica Psiquiátrica del Hospital Clínico de la Universidad de Chile
Facultad de Medicina
Universidad de Chile
Presente

Ref.: Proyecto 247-2019

Estimado Dr. Libuy

El Comité de Ética de Investigación en Seres Humanos (CEISH), con fecha 12 de Noviembre de 2020, informa a usted de carta recibida con fecha 06/11/2020 referente a su proyecto: **"SUBSTANCE USE PREVENTION AMONG ADOLESCENTS AT THE COMMUNITY LEVEL IN CHILE, AND ITS RELATIONSHIP WITH SUBSTANCE USE PREVALENCE AND RISK AND PROTECTIVE FACTORS".**

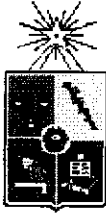Ref.: Enmienda al protocolo y Consentimientos informados

- Este comité toma conocimiento y aprueba enmienda al protocolo y a los consentimientos informados que se adjuntan timbrados y fechados

Sin otro particular, le saluda atentamente,

Sandra Rivas Araya
Secretaria

Proyecto N° 247-2019
Archivo.001

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Prof. Dr. Adrián Mundt
Hospital Clínico Universidad de Chile

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Tel: +56-9-50033439

ACEPTABILIDAD, FACTIBILIDAD Y EFECTIVIDAD DE UN MODELO DE PREVENCIÓN DE CONSUMO DE SUSTANCIAS EN ADOLESCENTES

DOCUMENTO DE ASENTIMIENTO INFORMADO

La municipalidad del colegio donde estudias ha decidido participar en un modelo de prevención de alcohol y drogas. Este estudio trata sobre factores de riesgo y protectores del consumo de sustancias en escolares, susceptibles de ser abordados mediante estrategias de prevención efectivas a nivel local, coordinado por la Universidad de Chile.

Esta investigación consta de una encuesta sobre las circunstancias y el bienestar de los jóvenes basada en el Modelo de Prevención Primaria de Islandia, cuyo objetivo es disminuir la probabilidad del consumo de alcohol y sustancias entre los jóvenes.

El objetivo de este estudio es evaluar la aceptabilidad, factibilidad y efectividad de las estrategias de prevención de consumo de alcohol y drogas en adolescentes basadas en el Modelo Islandés en 6 comunas de la Región Metropolitana.

Es vital que la participación sea buena, ya que la información obtenida es muy importante para la formulación de políticas en lo que respecta a las cuestiones relativas a los jóvenes en el país. Tu participación en el estudio no implica ningún riesgo. También debemos recalcar que tus calificaciones no se verán afectadas de ninguna manera por tu participación o por no participar. No diremos a otras personas que estas en ésta investigación y no compartiremos información sobre ti a nadie que no trabaje en el estudio de investigación. No es obligatorio que participes en esta investigación. Nadie se molestará contigo si dices que no quieres participar. Eres libre de tomar la decisión. Puedes pensar en ello y responder más tarde. Si quieres, puedes decir "sí" ahora y cambiar de idea más tarde y también estará bien. No recibirás ningún incentivo en dinero ni de otro tipo por participar de esta investigación.
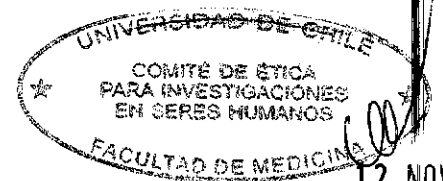
Se te pedirá que respondas esta encuesta online, lo que llevará unos 20 minutos aproximadamente.

Si luego de responder esta encuesta requieres recibir apoyo y/o orientación acerca de ciertos temas sensibles de esta encuesta, podrás hacerlo consultando al orientador del colegio o al mail prevencion@hcuch y si se requiere tomaremos las medidas necesarias para derivarte algún profesional de salud de la atención primaria.
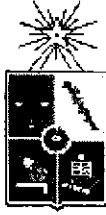
Si existe cualquier pregunta, por favor, realizarla a la persona de tu colegio que te ha contactado por la encuesta, o también te puedes contactar con el Doctor Adrián Mundt del Hospital Clínico de la Universidad de Chile al teléfono 229788601 o en el correo adrian.mundt@uchile.cl.

Agradecemos desde ya toda tu colaboración. Si continuas con la encuesta, quiere decir que leíste este asentimiento o alguien te lo leyó. Si NO quieres participar de la encuesta, puedes abandonar la encuesta ahora. Recuerda que tú decides participar y nadie se puede enojar contigo si no quieres contestar la encuesta o si cambias de idea y después de empezar el estudio, te quieres retirar.

Atentamente,
Adrián Mundt
RUT: 23.915.947-8
Universidad de Chile

COMITÉ DE ÉTICA
PARA INVESTIGACIONES
EN SERES HUMANOS
FACULTAD DE MEDICINA

12 NOV 2020

HOSPITAL CLINICO
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ACEPTABILIDAD, FACTIBILIDAD Y EFECTIVIDAD DE UN MODELO DE PREVENCIÓN DE CONSUMO DE SUSTANCIAS EN ADOLESCENTES

CONSENTIMIENTO INFORMADO PASIVO

Este documento de consentimiento informado es para padres y/o apoderados de alumnos que cursan 2° Medio y que se les invita a participar en la investigación "ACEPTABILIDAD, FACTIBILIDAD Y EFECTIVIDAD DE UN MODELO DE PREVENCIÓN DE CONSUMO DE SUSTANCIAS EN ADOLESCENTES" que lidera el Dr. Adrián Mundt de la Universidad de Chile.

La municipalidad del colegio donde estudia su hijo ha decidido participar en un modelo nuevo de prevención de alcohol y drogas. Estamos realizando un estudio de factores de riesgo y protectores modificables del consumo de sustancias en escolares chilenos, susceptibles de ser abordados mediante estrategias de prevención efectivas a nivel comunal y que es coordinado por la Universidad de Chile.

Esta investigación consta de una encuesta sobre las circunstancias y el bienestar de los jóvenes basada en el Modelo de Prevención Primaria de Islandia cuyo objetivo es disminuir la probabilidad del consumo de sustancias entre los jóvenes. Esta encuesta se ha implementado en Islandia desde 1992 y desde entonces se ha utilizado como base en la formulación de políticas preventivas y para mejorar la salud y el bienestar de los jóvenes.

El objetivo de este estudio es evaluar la aceptabilidad, factibilidad y efectividad de las estrategias de prevención de consumo de alcohol y drogas en adolescentes basadas en el Modelo Islandés en 6 comunas de la Región Metropolitana.
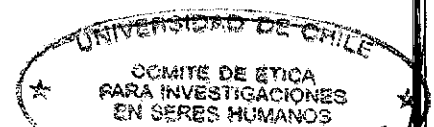
Es vital que la participación sea buena, ya que la información obtenida es muy importante para la formulación de políticas en prevención de consumo de alcohol y drogas.

Los alumnos no recibirán ningún incentivo monetario ni de otro tipo para participar en la encuesta. Sin embargo, los resultados ayudarán a estos y otros jóvenes en el futuro.

Se pedirá a los alumnos que completen una encuesta en línea (online) por internet de aproximadamente unos 20 minutos.

Los procedimientos de la encuesta han sido diseñados para proteger la confidencialidad del alumno. Así mismo, en el informe de resultados no se mencionarán los nombres de las escuelas o de los alumnos.

No compartiremos información sobre su alumno con nadie que no trabaje en el estudio de investigación.

Si luego de responder esta encuesta el alumno necesita apoyo y/o orientación acerca de ciertos temas sensibles de esta encuesta, podrá hacerlo consultando al orientador de su colegio, al mail prevencion@hcuch y si se requiere tomaremos las medidas necesarias para derivarlo a algún profesional de salud de la atención primaria.

Si usted NO ENVÍA este documento de vuelta firmando el rechazo en participar daremos por entendido que no se opone a la participación de su alumno en el estudio.

Si tiene alguna pregunta sobre éste proceso, por favor contácteme al teléfono 22978 86 01 o al e-mail: adrian.mundt@uchile.cl, con gusto responderemos cualquier pregunta que usted o su alumno tenga al respecto.

Atentamente,
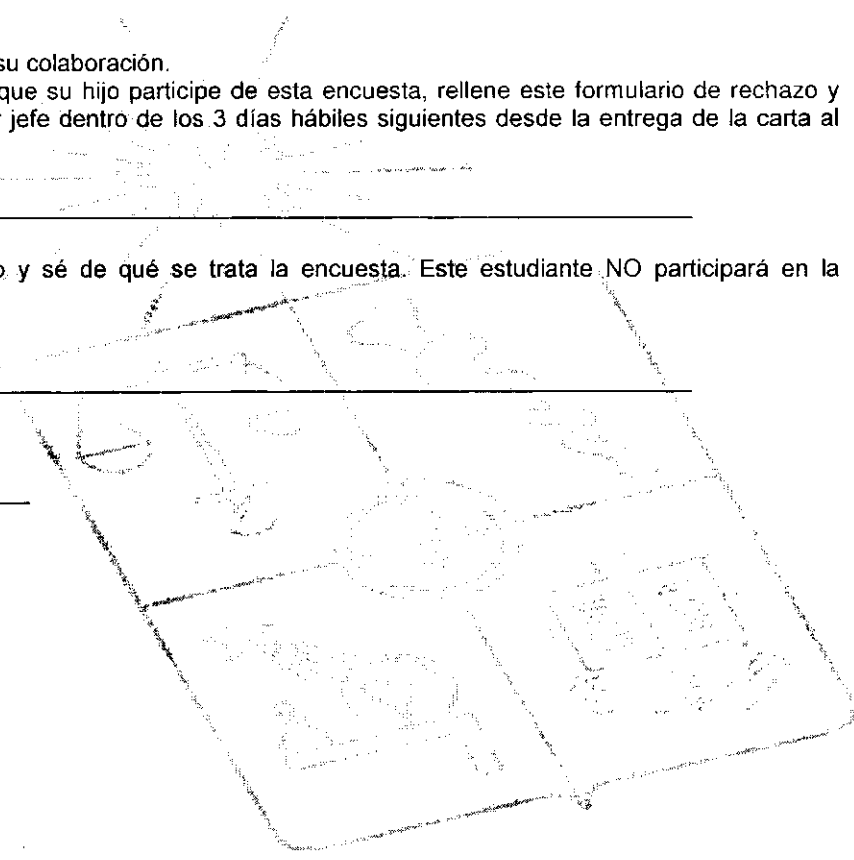Adrián Mundt
RUT: 23.915.947-8
Universidad de Chile

Agradecemos desde ya su colaboración.
Por favor, si NO quiere que su hijo participe de esta encuesta, rellene este formulario de rechazo y entréguela a su profesor jefe dentro de los 3 días hábiles siguientes desde la entrega de la carta al estudiante.

Nombre del alumno: _____

He leído este formulario y sé de qué se trata la encuesta. Este estudiante NO participará en la encuesta.

Firma del padre/tutor: _____

Fecha: _____

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Prof. Dr. Adrián Mundt
Hospital Clínico Universidad de Chile

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ACEPTABILIDAD, FACTIBILIDAD Y EFECTIVIDAD DE UN MODELO DE PREVENCIÓN DE CONSUMO DE SUSTANCIAS EN ADOLESCENTES

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Atentamente,
Adrián Mundt
RUT: 23.915.947-8
Universidad de Chile

14-10-2020

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Si tiene alguna pregunta sobre éste proceso, por favor contácteme al teléfono 22978 86 01 o al e-mail: adrian.mundt@uchile.cl, con gusto responderemos cualquier pregunta que usted o su alumno tenga al respecto.

Atentamente,
Adrián Mundt
RUT: 23.915.947-8
Universidad de Chile

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Firma del padre/tutor: _____

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Tel: +56-9-50033439

Aceptabilidad, factibilidad y efectividad de un modelo de prevención de consumo de sustancias en adolescentes

### CONSENTIMIENTO INFORMADO ESTUDIO CUALITATIVO

Estamos realizando un estudio en Santiago y queremos invitarle a participar como miembro de LA COMUNIDAD DE SU MUNICIPIO QUE PARTICIPÓ DEL PROYECTO BASADO EN EL MODELO ISLANDES PARA PREVENCIÓN DEL CONSUMO DE ALCOHOL Y DROGAS. A continuación, le explicaremos en qué consiste. Responderemos todas las preguntas que tenga. No es necesario que se decida en este momento. Puede pensarlo y consultarlo con otras personas si desea. Luego que yo le entregue información sobre este estudio usted puede decidir si participa o no.

El consumo de sustancias en adolescentes en Chile es el más alto en las Américas siendo un gran problema de la salud pública en el país. Intervenciones preventivas han sido poco exitosas y falta evidencia de efectividad en el contexto local para la mayoría de las intervenciones que se están realizando. El presente proyecto tiene el objetivo de evaluar la implementación, aceptabilidad y efectividad de un modelo islandés exitoso en la prevención de consumo en escolares. Se plantea la hipótesis que la implementación de este modelo en Chile es aceptable, factible y efectivo para reducir la prevalencia de consumo de sustancias.

Seis comunas de la región metropolitana se adscribieron a la implementación del modelo en 2018, El modelo se basa en la retroalimentación de datos de prevalencia a nivel local comunitario. Se realizaron encuestas del ICSRA a escolares en segundo medio de estas comunas sobre el consumo de sustancias y posibles factores de riesgo en el año 2018. En 2020 se realizará por segunda vez la aplicación de la encuesta ICSRA a estudiantes de segundo medio de los mismo colegios. Se propone en este proyecto realizar entrevistas cualitativas en profundidad con representantes de las seis comunas encargados de coordinar los programas, con directores de colegios y encargados de prevención en colegios y representantes de padres para evaluar la aceptabilidad y satisfacción con el programa y adaptaciones que se han realizado a nivel local.

Ud. No correrá ningún tipo de riesgo al participar en este estudio pues solo contempla su participación en una actividad grupal y usted tiene el derecho tanto de participar o no, o bien retirarse en cualquier momento sin que ello implique sanciones para usted. La actividad será grabada y luego analizada.

Al participar en esta investigación, usted debería estar dispuesto/a a participar en la actividad grupal la que será conducido por un profesional capacitado del equipo de investigación quien grabará todo lo que se converse. Esta actividad debería durar entre 60 y 90 minutos. Usted puede retirarse en el momento en que usted quiera.
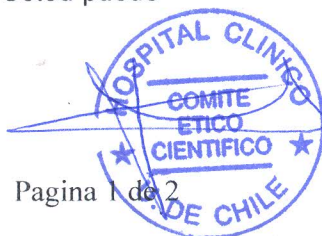
Toda la información que obtengamos en esta investigación será de uso exclusivo de los investigadores responsables del estudio lo que garantiza la confidencialidad de la información.

Se me ha dicho y entiendo que Mi participación en este estudio es **voluntaria**. Si yo decido **NO participar o retirarme** luego de haber aceptado participar, **NO** tendré ningún inconveniente y me aseguran que no habrá sanciones por parte de las autoridades del establecimiento donde yo trabajo. **Se me ha dicho y entiendo** que en este momento y en cualquier momento, **puedo** efectuar todas las preguntas que estime conveniente.

Además **se me ha dicho y asegurado que TODA** la información acerca de mí son confidenciales y solo puede ser consultada por el equipo de investigación, el equipo de salud tratante y por Comité Ético Científico o de Investigación del Hospital Clínico Universidad de Chile

De lo leído anteriormente Yo entiendo y acepto que si **Yo** acepto participar en este estudio, seré entrevistado/a y que esta entrevista será grabada.
Yo entiendo que puedo y tengo el derecho de terminar la entrevista en el momento en que yo lo estime conveniente.

Si tiene alguna pregunta sobre éste proceso, por favor contácteme al teléfono 22978 86 01 o al e-mail: adrian.mundt@uchile.cl, con gusto responderemos cualquier pregunta que usted o su alumno tenga al respecto.

Atentamente,
Adrian Mundt
RUT: 23.915.947-8
Universidad de Chile
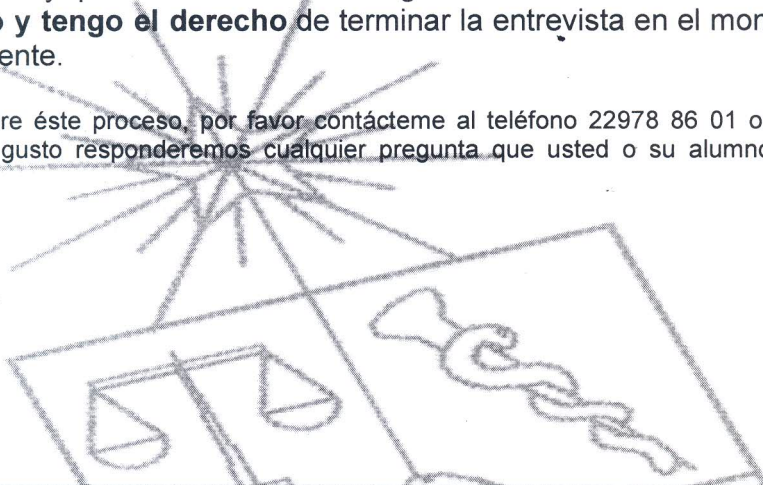
Nombre del participante: _____

RUT: _____   **Fecha y hora:** _____   **Firma:** _____

Nombre del investigador: _____

RUT: _____   **Fecha y hora:** _____   **Firma:** _____

Nombre del director o delegado: _____

RUT: _____   **Fecha y hora:** _____   **Firma:** _____