National Survey on Alcohol, Tobacco and Substance Use in the General Population in Georgia 2022

FINAL REPORT

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ACKNOWLEDGMENT

LIST OF ACRONYMS

ALTGEO	Alternative Georgia
AUDIT	The Alcohol Use Disorders Identification Test
CAPI	Computer Assisted Personal Interviewing
CI	Confidence Interval
CzDA	Czech Development Agency
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EMQ	European Model Questionnaire
EU	European Union
F2F	Face to face
GEL	Georgian national currency Lari
GPS	General population survey
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IQOS	Line of heated tobacco and electronic cigarette products
KI	Key indicator
LMP	Last month prevalence
LTP	Lifetime prevalence
LYP	Last year prevalence
LSD	Lysergic acid diethylamide
MDMA	3,4-methylenedioxy-methamphetamine
NAPR	The National Agency of Public Registry
NCDC	National Center for Disease Control and Public Health
NDO	National Drug Observatory
NPS	New Psychoactive Substances
PSU	Primary sampling units
RRT	Randomized Response Technique
SSU	Secondary sampling units
SD	Standard deviation
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

BACKGROUND

The extent and patterns of drug use in the general population is one of the 5 key indicators (KI) produced by the EMCDDA and the general population survey (GPS) can act as a sort of early warning system, perhaps not of new drugs but of new trends and possibilities. Universally, results of the GPS inform decision making regarding planning and implementing education, prevention, and treatment programs in the country. For researchers and field professionals it provides extremely useful data on the correlates of psychoactive substance use and associated potential risks/harms. Of no less importance is the contribution to the policy development process. Public opinion in relation to policy direction can support decision making process and contribute to the ongoing debates.

The overall goal of this survey is to provide valid, reliable, and comparable information on the extent, the distribution and the patterns of alcohol, tobacco and illicit substance use in the general population aged 18-64 years, which will support evidence-based decision-making and policy development process.

METHODS

A stratified multistage sampling was used. Eleven geographic regions of Georgia were stratified into 22 strata with an urban/rural indicator based on database of addresses. Primary sampling units (PSU) were streets/villages within each stratum. At the second stage of the sampling, all addresses in the PSU in 11 geographic regions, were randomly selected (secondary sampling units - SSU) within each PSU and composed 637 initial addressees (starting points).

The survey instrument covered all the domains of European Model Questionnaire (EMQ)[1]. The face-to-face Computer Assisted Personal Interviewing (F2F CAPI) was selected, which is the most popular and reliable form of survey data collection. The online platform SurveyCTO was used for data input, that gives the possibility to monitor the data collection process in real-time. Randomized Response Technique (RRT) was repeated again in this survey, as it was successfully implemented during previous 2015 GPS.

Some constrains should be considered when interpreting the study results. There are no population registers, housing registers, or postal address registers that can be used as sampling frames. The only database accessible to researchers was database of addresses provided by the National Agency of Public Registry (NAPR) of Georgia. There is internal and external migration and rapid change amongst the housing stock; there are no up-to-date state-wide small-scale maps available that could be used to help define areas as primary sampling unit areas for area sampling, instead the google map was used. Since drug use is a criminal offence in Georgia, participants may have underreported their illicit substance use.

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[1] EMQ (European Model Questionnaire) Questions Map: Questions used in National General Population Survey. Questionnaires, 2002–12. EMCDDA Epidemiology Unit 2013.
https://www.emcdda.europa.eu/system/files/attachments/10584/EMQ-Questionnaire-map.pdf

RESULTS

Response rate: In total 637 starting point addresses were issued to interviewers. In order to reach the desirable sample, interviewers visited 8,694 addressees. Of which 898 (10%) addresses were excluded from the study due to exclusion criteria being not inhabited, summer house, demolished or abandoned buildings/houses and others. The reached number of households was 7,796 of whom 382 (4.8%) were excluded due to different reasons leaving 7,414 eligible respondents. 4,382 interviews were conducted, but after field monitoring and quality check/filtering some data were excluded leaving the final sample of 4,076 respondents.

Respondents: Overall, 2,078 (51%) of GPS respondents were females, and 1,998 (49%) were males, with a mean age of 41 (SD=13.4). The majority were officially married (N=2,420; 59.4%). More than a third completed high school (N=1,493; 36.6%) and another third graduated from the university (N=1,390, 34.1%). More than a third reported being unemployed (N=1,519; 37.3%) and the same proportion didn't have an income (N=1,333; 32.7%).

Alcohol: The lifetime prevalence (LTP) of alcohol use was 93% (n=3,785). The prevalence of alcohol use during last year (LYP) was 67% (LYP 95% CI [65.5 – 68.4]) and the last month prevalence (LMP) was 48% (LMP 95% CI [46.4 – 49.5]). Based on results of AUDIT test, 0.6% (95% CI [0.4 – 0.9]) of the population is at high risk to develop alcohol dependence, therefore the brief counseling and continued monitoring is advised. The same proportion (0.6%; 95% CI [0.4 – 0.9]) of the population needs referral to diagnostic evaluation for alcohol dependence. Kakheti and Samtskhe-Javakheti regions showed the highest proportions of respondents requiring brief counseling (Risk Level Zone III) or referral to specialist for evaluation of dependence (Risk Level Zone IV).

Tobacco: More than half (57.1%) of the survey population have ever tried tobacco products (88.8% males and 26.5% females). Last month prevalence of smoking tobacco products was relatively high in Tbilisi (37.8%, 95% CI [35.2, 40.4]) and was followed by Samtskhe-Javakheti (34.5%, 95% CI [27.6, 41.9]) and Adjara (34.2%, 95% CI [29.6, 38.9]). The last month cigarette smoking was reported by 58.8% (95% CI [56.6, 61.0]) of males and by 7.8% (95% CI [6.7, 9]) of females. Respondents aged 40-49 and 25-29 made up the largest proportion of the current smokers, 38.8%, (95% CI [35.6, 42.1]) and 35.1%, (95% CI [30.7, 40.1]), respectively. In the last month, respondents smoked on average 18 (SD=10.6) cigarettes per day.

The lifetime prevalence of use of alternatives to smoking cigarettes, such as e-cigarettes and IQOS[2], was reported by 16.2% of the sample. Very small proportions reported using alternatives to smoking daily (1.1%, 95% CI [0.8, 1.4]) and less than daily (1%, 95% CI [0.7, 1.3]). More respondents (1.8%, 95% CI [0.8, 3.4]) from the 25-29 age group were current daily smokers of alternatives to smoking compared to other age groups.

One in six smokers (16.4%, 95% CI [15.3, 17.6]) tried to stop smoking without any intervention, while 0.5% (95% CI [0.3, 0.7]) switched to IQOS, and 0.3 %, (95% CI [0.1, 0.5]) replaced it with nicotine gum, sublingual tablets, patches, or spray. Almost none of the respondents reported use of smoking cessation mobile apps (except 2 respondents) or medications. Primary reasons for quitting tobacco were a willingness to stop smoking (7.9%, 95% CI [7.1, 8.7] or health problems (3.6%, 95% CI [3.0, 4.2]).

Psychotropic pharmaceuticals: Lifetime use of non-prescribed psychotropic pharmaceuticals was 4.1% (95% CI [3.5, 4.7]). The last year use was reported by 2.1% (95%

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[2] Line of heated tobacco and electronic cigarette products

CI [1.7, 2.6]) and last month use was reported by 1.2% (95% CI [0.9, 1.5]). No major differences were found in use of psychotropic pharmaceuticals across gender and age groups.

Cannabis products: Lifetime prevalence of cannabis use among survey participants was 20.9% (95% CI [19.7, 22.2]). The last year and last month use was 4.6% (95% CI [4.0, 5.3]) and 2% (95% CI [1.6, 2.4]), respectively. Similarly, both last month and last year cannabis use was prevalent among men if compared to women. Young people aged 25-29 were more likely to report using cannabis in their lifetime (24.8%, 95% CI [20.6, 29.1]), last year (9.7%, 95% CI [7.0, 12.8]), and last month (4.7%, 95% CI [3.0, 7.2]), while respondents from 50+ age category were least likely to use cannabis.

New psychoactive substances: Lifetime and last year use of NPS were reported by five people and made up only 0.1% (95% CI [0, 0.3]) in each period. Experience of NPS use was only mentioned by respondents from Tbilisi. Last month use of NPS was only reported by three people.

Inhalants: One male reported experience of inhalant use in his lifetime. Most participants (58%, 95% CI [56, 59]) had never heard about that group of substances.

Ecstasy/MDMA: Lifetime use of Ecstasy/MDMA was reported by 1.1% of respondents (43 people) with 10 times higher prevalence among men (2%, 95% CI [1.5, 2.7] (40 individuals)) than in women (0.2%, 95% CI [0.0, 0.4] (3 individuals)). Only 0.2% (95% CI [0.1, 0.4]) of respondents (10 people) reported use of this drug during the last year and it was highest in the 18-24 age group (1.3%, 95% CI [0.6, 2.6]). All respondents who had used Ecstasy/MDMA during the last 12 months were from Tbilisi and Imereti. Very small proportion of respondents (0.1% (95% CI [0.1, 0.3] (6 respondents)) reported use of Ecstasy/MDMA during the previous 30 days, all were males from Tbilisi.

LSD: Lifetime use of LSD was reported by 18 individuals (0.4%, 95% CI [0.3, 0.7]) – 16 males (0.8%, 95% CI [0.5, 1.3]) and 2 females (0.1%, 95% CI [0, 0.1]). Most of the respondents who reported ever using LSD were in the 25-29 age group (1.2%, 95% CI [0.5, 2.7]), Three respondents reported using LSD over the last 12 months (0.1%, 95% CI [0.0, 0.2], all of them were males from Tbilisi and were under 30 years of age. None reported using LSD during the last month.

Other hallucinogens: Use of other hallucinogen at least once in lifetime was reported by seven males (0.4%, 95% CI [0.2, 0.7]) and one female (0.1%, 95% CI [0.0, 0.2]). Only 4 respondents (0.1%, 95% CI [0.0, 0.2]) (2 males, 2 females) reported use of other hallucinogens during the last year and all of them were from Tbilisi. No other hallucinogens use was reported for the last month.

Cocaine /crack: Lifetime use of cocaine /crack was reported by 0.6% (95% CI [0.4, 0.9]) of the respondents (n=25). Last year use was reported by four respondents (0.1%, 95% CI [0.0, 0.2] and all of them were males from Tbilisi, while no one consumed them in the last month.

Amphetamines/methamphetamines: Thirteen males (0.7%, 95% CI [0.4, 1.1]) and one female (0.0%, 95% CI [0.0, 0.2]) reported ever using amphetamines/methamphetamines (in total 0.4%, 95% CI [0.2, 0.6]). Only 2 respondents reported use of amphetamines/methamphetamines during the last year. No use was reported for the last 30 days.

Anabolic steroids: Only one respondent reported lifetime use of anabolic steroids, but not in the last year. For most respondents, anabolic steroids were unknown substances.

Homemade stimulant: Total 3 respondents (all male) reported ever using homemade stimulants (0.1%, 95% CI [0.0, 0.2]). No use of homemade stimulants was reported over last year.

Methadone: use was reported by 18 respondents in lifetime (0.4 % 95% CI [0.3, 0.7]), last year use was reported by 8 respondents (0.2 % 95% CI [0.1, 0.4]), and 5 (0.1 % 95% CI [0.0, 0.3]) reported using it during last 30 days.

Buprenorphine: Twelve (0.3%, 95% CI [0.2, 0.5]) respondents reported use of buprenorphine in their lifetime, last year use was reported by 4 respondents (0.1%, 95% CI [0.0, 0.2]), and 5 (0.1 % 95% CI [0.0, 0.2]) reported using it during last 30 days.

Heroin: use was reported by 25 (0.6%, 95% CI [0.4, 0.9]) respondents (one female) in their lifetime; last year use was reported by 3 respondents (0.1%, 95% CI [0.0, 0.2]), and only one respondent (0.1 % 95% CI [0.0, 0.3]) reported using it during last 30 days.

Other opioids: The prevalence of lifetime use of other opioids was 0.3% (95% CI [0.1, 0.5]). No use in the last year was reported.

Any drugs: Almost the quarter of the sample (953; 23.4%) reported use of at least 2 out of 15 above listed psychoactive substances (except of tobacco and alcohol) in their lifetime, 5% (223) reported the same during the last year and 2% (87) during the last month

Comparing prevalence estimates between GPS 2015 and 2022: In 2022, the last year prevalence of alcohol use had decreased compared to 2015 (95% CI 67.0% - 73.3%, p<0.046). No change was observed in last month use of alcohol between these time periods. The prevalence of current smokers remained unchanged as well. Significant decrease was observed in use of psychotropic pharmaceuticals (LTP), but significant increase was observed in cannabis use (LT, LY and LM prevalence) and in LYP of NPS use.

Perceived beliefs: Cannabis, MDMA/Ecstasy and Methadone were more frequently named as substances used by at least one close person from social network out of 10. Somehow expectedly, if compared to other controlled substances, cannabis products were named to be most easy to obtain – 11% of respondents said they believe it was easy to obtain cannabis.

Gambling: More than one third of the sample (39.4%, 95% CI [37.9, 40.9]) reported involvement in at least one out of 10 types of games in their lifetime, 15.3% (95% CI [14.2, 16.4]) reported gambling during last year and 9.3% (95% CI [8.5, 10.2]) during last month. Almost half of people aged 25-29 reported ever gambling and quarter reported gambling in the past year. In the lifetime, the past year, and past month more men and young people reported gambling. Almost three per cent (2.9%, 95% CI [2.5, 3.5]) reported problem gambling during last 12 months. Men (5.6%, 95% CI [4.7, 6.7]) and adults aged 25-29 (6.7%, 95% CI [4.6, 9.6]) were more likely to have patterns of problem gambling. The majority of respondents have never heard that it was possible to exclude themselves[3] from betting or gambling services.

Opinions: The most endorsed opinion (37.7%, 95% CI [36.3, 39.2]) was that people who use drugs were not criminals. A significant proportion of the participants agreed that imprisonment of people who use or inject drugs should not be used as a measure of punishment. A closer examination of the results suggested that the participants were more tolerant to those who use cannabis products as opposed to people who inject drugs. Only one respondent out of 20 agreed that people who consume cannabis products should be sentenced to imprisonment, while more (18.1%, 95% CI [17.7, 19.3]) stated that people who inject drugs should be jailed. Three people out of ten disagreed that people who consume cannabis products should be punished even with administrative sanctions. More than half of the sample favored financial charges as a way of punishment for people who inject drugs.

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[3]Self-exclusion (self-banning) is when a person asks a gambling venue to exclude himself/herself from the venue or a gambling activity offered at the venue. By law, venues are required to assist any person requesting a self-exclusion.

Testing and treatment: Being tested for HBV at least once in their lifetime was reported by 28% (95% CI [26, 30]) of male respondents and 30.6% (95% CI [28.6, 32.6]) of females. Lifetime prevalence of HCV testing in males was 37.6% (95% CI [35.5, 39.7]) and in females was 42.4% (95% CI [40.3, 44.6]). Being ever tested for HIV was reported by 19.1% (95% CI [17.4, 20.9]) of males and 23.9% (95% CI [22.1, 25.8]) of females. The highest rates of HBV testing were reported by 30-39 (28.4%, 95% CI [25.6, 31.3]) age group.

Total 28 individuals (of them 1 female) reported ever being treated for alcohol use, 15 reported being treated for drug use (of them 1 female), and 2 (both males) reported being treated for both alcohol and drug use related problems. Fourteen (all males) individuals indicated they have been treated only for alcohol use and six (all males) reported they have been treated for drug use during last 12 months.

RRT: applying RRT approach to 6 questions resulted in the following prevalence of last 12-month use: Cannabis (5.7%, 95% CI [5.56, 5.84]), MDMA/Ecstasy (3.8%, 95% CI [2.98, 4.62]), Ketamine (4.5%, 95% CI [2.43, 5.57]), Heroin (0.1%, 95% CI [0.014, 0.74]), home-made Stimulant-Vint (2.3%, 95% CI [1.65, 2.95]), and injection of any substance (3.3%, 95% CI [2.52, 4.08]).

CONCLUSIONS

The current survey reports findings of the second national representative study on use of alcohol, tobacco and psychoactive substances, and attitudes towards illicit substance use among the general population of Georgia of 18-64 years of age. Standardized methodology, comprehensive sampling approach, large representative sample, and good response rate indicate that the outcomes of the survey can be treated as reliable, valid and generalizable findings.

Although, the overall rates of alcohol consumption remain high in general population, there was a reduction in the prevalence of alcohol use in the last 30 days among men – 70% in 2015 and 51% in 2022. The prevalence of problem drinking (identified using the AUDIT tool) has also decreased from 1.6% to 0.6%. It is challenging to find a definite explanation for these trends. One assumption can be that these reductions might be a continuation of the trend identified during the COVID-19 pandemic. Results of the online survey of a large representative sample in 2021 suggested that alcohol consumption was reduced during the pandemic related lock-downs.

The rates of tobacco use have remained largely similar in 2015 and 2022, with the only visible change in the share of smokers who smoked fewer cigarettes per day. If compared to 2015, remarkably larger share of current smokers in 2022 reported smoking 1-10 cigarettes a day – 7% vs 22.1 % in 2015.

We observed a significant reduction in the use of psychotropic medications (without doctor's prescription). For all time intervals (LT, LY, LM) fewer respondents reported using psychotropic medications in 2022 if compared to 2015. This reduction in the prevalence can in part be related to the tightened regulation over the control of psychotropic medications implemented in the country in recent years.

The prevalence of cannabis use has slightly increased between 2015 and 2022. For example, last year prevalence went up from 3.4% to 4.6%, and the last month prevalence did the same – 1.2% to 2.0%. For both waves, the age group 24-29 seems to be the one with highest prevalence of cannabis use, if compared to other age groups. In line with these results, the last year cannabis use among youth (as documented through the European School Project on Alcohol and Drugs) has also increased slightly from 8.1% in 2015 to 9.3% in 2019, with

boys reporting significantly higher rates of use compared to girls. It is however unclear whether such increases in reported cannabis consumption reflect the actual change in the rates of use, or should be attributed to the relaxations in the legal environment and resulting higher openness of respondents while reporting a sensitive behavior.

The prevalence of use of a home-made stimulant Vint was very low –3 respondents reported using Vint at some point in lifetime (25 reported so in 2015 GPS). Although general population surveys are not intended to provide reliable estimates of injection and/or "hard" drug use (because of a low frequency of such behavior), our results can be seen as an additional sign of a decline in the use of home-made stimulants in Georgia. The recent, 2022-year bio-behavioral surveillance survey (BBSS) among people who inject drugs reported the last month prevalence of 10% for Vint, which was a reduction from the 20% in the previous BBSS conducted in 2016.

We observed certain changes in public opinion in relation to approval or disapproval of legal responses to drug use and drug possession. If compared to 2015, there were more people in 2022 approving both the criminal sanctions and administrative fines for injection drug use, but also for cannabis consumption. More respondents (20% vs 14.3%) believed that people who use drugs should be treated as criminals rather than patients. We have no sensible explanation for this trend which rather contradicts expectations of the research team.

The GPS+RRT approach produced estimates that were larger in certain cases than corresponding estimates from the standard GPS approach, or produced estimates when the standard GPS approach did not yield a useable estimate other than a working approximation. In consequence, we offer a tentative suggestion that RRT results might suggest underreporting of drug use when standard questionnaire is used, and the utilization of RRT approach to the GPS context should be continued.

CHAPTER 1. INTRODUCTION

Background

The general population survey (GPS) on Drugs was implemented in Georgia only once in 2015 and the survey was conducted by Addiction Research Center Alternative Georgia in partnership with the National Center for Disease Control and Public Health of Georgia (NCDC). The survey was implemented with financial support from the United States Agency for International Development (USAID) and Czech Development Agency (CzDA). Since then, data on illicit drug use prevalence and patterns in general population has been virtually not available. Most studies conducted in the field of illicit drugs in the country have been focusing on specific populations (e.g., people who inject drugs, nightclub and festival visitors, individuals who use new psychoactive substances) and do not allow for understanding the broader picture of substance use in general population.

Current initiative is a timely endeavor that will allow to get reliable data on the current state of drug use in the population and to assess relevant time trends. Importantly, new data should also help examine the potential impact of the policy changes on patterns of use of specific substances. For example, cannabis related legislation was remarkably amended since the previous GPS (decisions of the Constitutional Court of Georgia in 2015-2018). In 2015, the Constitutional Court of Georgia overturned imprisonment as a sanction for possession of up to 70 grams of dried cannabis for personal consumption (Citizen of Georgia Beka Tsikarishvili v. the Parliament of Georgia, 2015). This decision was followed by the decriminalization of cannabis use in 2017 (Citizens of Georgia Givi Shanidze v. the Parliament of Georgia, 2017). Ultimately, in July 2018, the court abolished all administrative sanctions for cannabis consumption, except for cases when it is done in a public space or in the presence of minors (Citizens of Georgia Zurab Japaridze and Vakhtang Megrelishvili v. the Parlament of Georgia, 2018). However, cultivation, possession, or sale of cannabis products remain criminal offenses. Meanwhile, the law adopted in 2021 established small, the minimum threshold amount for criminal liability, large and particularly large amounts for eight types of drugs (Social Justice Center, 2021).

General Population Survey

GPS is a tool that provides information on the key indicator (KI) produced by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)[4] and adopted by EU Member States. The aim of this KI is to provide valid, reliable, and comparable information on the extent, the distribution and the patterns of substance use in the general population, the characteristics of individuals who use psychoactive substances and their perceptions.

This KI provides data on several domains:

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[4] www.emcdda.org

- Prevalence and distribution of the consumption of different substances in the general population, and in relevant subgroups of the population (e.g., young people, urban areas).
- Socio-demographic characteristics and patterns of use among those using drugs at present or in the past, including initiation and cessation of use, intensity of use, and others.
- Correlates of drug use such as lifestyles, other health factors, health status, mental health, social function.
- The attitudes and perceptions of different population groups with respect to drug use, (perception of risks or availability).
- And importantly, changes over time in these parameters.

GPS provides information on extents and patterns of psychoactive substance use. The availability of comparative data on these issues is a key requirement for the evaluation of progress and for further policy development. The possibility to compare results from Georgia with results from other countries on the ground of European average should allow more in-depth data interpretation and better understanding of the drug situation in the country. The study benefits from using comparable methodology and being as close as possibly to European standards developed under supervision of EMCDDA.

Rationale

The extent and pattern of drug use in the general population is one of the five KI produced by the EMCDDA[5] and in general, GPS can act as a sort of early warning system, perhaps not of new drugs but of new trends and possibilities. The results of the GPS in Georgia should be useful not only for the policy on a national level but should also contribute to the European scene of drug problems since they will be reported to EMCDDA.

Universally, results of the GPS will inform decision making regarding planning and implementing education, prevention, and treatment programs in the country. For researchers and field professionals it will provide extremely useful data on the correlates of psychoactive substance use and associated potential risks/harms. Of no less importance is the contribution to the policy development process. Public opinion in relation to policy direction can support decision making process and contribute to the ongoing debates.

Objective

The overall goal of this survey is to provide valid, reliable, and comparable information on the extent, the distribution and the patterns of alcohol, tobacco and illicit substance use in the

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[5] European Monitoring Centre for Drugs and Drug Addiction (2009). Drug use: An overview of general population surveys in Europe. ISBN 978-92-9168-375-8. https://www.emcdda.europa.eu/system/files/publications/967/EMCDDA-TP-gps.pdf

general population, which will support evidence-based decision-making and policy development process.

The specific objectives of the survey are as follows:

- To **estimate male-female** differences of alcohol, tobacco and illicit drug use epidemiology in the general population and in relevant subgroups of the population (e.g., young people, urban areas);
- To **understand socio-demographic characteristics and patterns of substance use** among those who report drug use at present (last month) or in the past (last year, lifetime), including initial use.
- To **measure the attitudes and perceptions** of different subgroups of the population with respect to drug policy approaches.
- To understand the extent of gambling problem/s in the general population and in relevant subgroups of the population.

This report presents the results of a household survey on alcohol and drug use in Georgia in 2022. The survey was carried out using the EMCDDA's European Model Questionnaire[6] with slight modifications that resulted from rigorous scientific procedure of adjustment of questions to linguistic and cultural specifics in country; those modifications, strongly recommended by the authors of the questionnaire and the methodology, improve the validity of the results, and support their comparability with other countries and populations. Face-to-face interviews were conducted with eligible, 18–64-year-old respondents from randomly selected households.

The study was conducted by the Addiction Research Center Alternative Georgia and the National Drug Observatory (NDO) in collaboration with the marketing, social and political research organisation Trajectory. The NDO was involved in all phases of the survey, starting from the development of survey design, review of survey instruments, and data collection, including the analysis and report writing. An expert working group was established to plan the design and implementation of the study, which included local experts and a scientist-analyst from the EMCDDA.

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[6] EMQ (European Model Questionnaire) Questions Map: Questions used in National General Population Survey. Questionnaires, 2002–12. EMCDDA Epidemiology Unit 2013.
https://www.emcdda.europa.eu/system/files/attachments/10584/EMQ-Questionnaire-map.pdf

CHAPTER 2. METHODOLOGY

Target population

According to the EMCDDA guidelines the target populations for the survey were all adults between ages 15 and 64, living in private households[7]. However, we excluded age group 15-17 due to the need for parental consent for underage (below 18) participants in Georgia. Taking into account the increase of cost related to additional work needed to contact parents, exclusion 15-17 years age group is found to be the optimal solution. The second age group which is excluded are people aged 65 and over. This group is excluded according to EMCDDA guidelines, responses from these age group may be less reliable (due to effects of memory), and in any case the prevalence of drug use amongst this group is not expected to be very high.

This situation is identical to that of several EU countries, and for comparison with those where inclusion of 15+ adolescents into GPS is possible, extraction of data (i.e., exclusion of the 15-17 age cohorts) can be done using the publicly available datasets at the EMCDDA website.[8]

Persons who were qualified to participate in the survey were as follows:
- Persons of all genders who were between 18 and 64 years of age at the time of the survey;
- Citizens and those who were permanent residents of Georgia, who had been living in the country for last 12 months;
- Individuals who could speak, read and understand Georgian language;
- Individuals who expressed voluntary participation

The following categories of population were excluded:
- Those who were below 18 years of age and above 64 years of age;
- Persons with mental, physical or other type of disability that may prevented their full and independent participation in the survey;
- Tenants/temporary residents who were not members of the interviewed households;
- Institutionalized people (elderly houses, hospitals, prisons);
- Persons who lived in Abkhazia and Tskhinvali regions occupied by Russia.

Sampling design

The survey sample was designed to be nationally representative of the adult (18-64 y.o.) population of Georgia and was selected using a stratified, multistage cluster method. Sample design involves the following stages of sample selection:

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[7] European Monitoring Centre for Drugs and Drug Addiction (2009). Drug use: An overview of general population surveys in Europe. ISBN 978-92-9168-375-8. https://www.emcdda.europa.eu/system/files/publications/967/EMCDDA-TP-gps.pdf
[8] Statistical Bulletin 2022 — prevalence of drug use https://www.emcdda.europa.eu/data/stats2022/gps_en

Stage 1: Selection of primary sampling units (PSU). For the first stage of the sampling, the 11 geographic regions of Georgia: (1) Tbilisi, (2) Adjara, (3) Guria, (4) Imereti, (5) Kakheti, (6) Mtskheta-Mtianeti, (7) Racha-Lechkhumi and Kvemo Svaneti, (8) Samegrelo-Zemo Svaneti, (9) Samtskhe-Javakheti, (10) Kvemo Kartli and (11) Shida Kartli were stratified into 22 strata with an urban/rural indicator. PSU were streets/villages within each stratum. As a result, 11 regions are viewed as the first level of stratification and as a variable for reporting estimates.

Stage 2: Selection of secondary sampling units (SSU). The sample frame was provided by The National Agency of Public Registry (NAPR) of Georgia, that started development of address registry from 2011 and completed in 2018 which has been updated permanently. In cooperation with NAPR, research team achieved to receive the complete list of addresses of Georgia, that included information about geographic areas by municipality, by types of area (urban/rural) with details of streets and building numbering.

The aim of the study is to disaggregate data by geographic region, with the exception of Racha-Lechkhumi, which is relatively small in population among other regions. Given this factor, we combine it with the data for Imereti (neighbor region) and analyze it in an aggregated way. The second smallest region is Mtskheta-Mtianeti and the minimum sample size considered is approximately 100 (10% error with 95% of confidence level for 50% variables). Previous research has suggested that a sample size of 100 or more interviews per group is adequate for reliable statistical inference and hypothesis testing (Krejcie & Morgan, 1970; Bujang & Baharum, 2017). Therefore, we determined that a sample size of 100 would be appropriate for Mtskheta-Mtianeti region. After creating initial strata (N=22) and calculating their proportion in population and in sample, respondents were distributed to initial strata using proportional criterion – percentage of respondents per stratum was proportional to its size, i.e., percentage of respondents in sample strata was the same as percentage of citizens in population strata (Table 1). When planning national representative samples, we were actually matching population strata proportions that we got from National Statisticis Office of Georgia[9] in order to get the sample structure that is identical to population structure.

Secondary Sampling units were enumeration blocks/private houses in urban areas and villages in rural areas. At this stage of the sampling procedure a certain number of starting addresses (or enumeration areas/household) were randomly drawn from the address lists provided by NAPR for each stratum based on the allocation of sampling effort between strata. The number of interviews between 22 strata resulted 4060 interviews in total (2,412 interviews in urban and 1,648 in rural settings). The number of enumeration areas (starting addresses) were calculated separately for each stratum, taking into account the differences between urban and rural areas. Specifically, it was determined that in urban areas, 5-6 households should be interviewed from each starting point, while in rural areas, 10-11 households should be interviewed from each starting point. Based on these calculations, a total of 637 starting addresses were identified (Table 1). The number of enumeration areas are the adresses of starting point (household) of secondary sampling units (SSU) within each PSU. Also, the address registry contained exact geographic coordinates that enabled us to spot the selected address (starting point) on a google map, for field work navigation.

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[9] https://www.geostat.ge/ka/modules/categories/41/mosakhleoba

Table 1. Sample size calculation and selection of regions

Regions	Population size			Distrubution %			Sample size			Number of selected PSU		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Tbilisi	1 172 010	30 721	1 202 731	31%	1%	32%	1277	33	1310	255	3	258
Adjara	203 513	151 392	354 905	5%	4%	10%	222	165	387	44	16	60
Guria	31 151	75 950	107 101	1%	2%	3%	34	83	117	6	8	14
Imereti	238 706	242 767	481 473	6%	7%	13%	260	264	524	52	26	78
Kakheti	70 933	238 645	309 578	2%	6%	8%	77	260	337	15	26	41
Mtskheta-Mtianeti	22 592	70 797	93 389	1%	2%	3%	23	77	100	4	7	11
Racha-lechkh & Kv. Svaneti	6 747	21 753	28 500	0%	1%	1%	7	24	31	1	2	3
Samegrelo & Zemo Svaneti	122 800	185 558	308 358	3%	5%	8%	134	202	336	26	20	46
Samtskhe-Javakheti	54 199	96 911	151 110	1%	3%	4%	59	106	165	11	10	21
Kvemo Kartli	192 333	245 014	437 347	5%	7%	12%	209	267	476	41	26	67
Shida Kartli	100 647	153 434	254 081	3%	4%	7%	110	167	277	22	16	38
Total	2 215 631	1 512 942	3 728 573	59%	41%	100%	2412	1648	4060	477	160	637

Stage 3: Selection of households at each SSU (address/dwelling). Households/dwellings were selected based on randomly selected starting address (SSUs) and following equal steps (skipping intervals from one household to another). The advantage of using this type of approach is that it reduces the fieldwork area so interviewer travel time and costs are reduced. Most addresses contained a single dwelling and a single household. However, at a small proportion of addresses (less than 3%) this was not the case.

There were standard procedures for interviewers to select one dwelling and/or one household when more than one was identified (in case of Italian courtyards[10], explained below) or moved to next building when selected address is non settlement building. The survey started with the second dwelling house from the selected starting address of the route. If starting point was located on the even side (houses with even numbers) of the street – interviewer followed even side in the direction of increasing numbering. If starting point was located on the odd side of the street – the survey followed odd side. In case houses on the selected side of the street ended prior to achieving a planned sample (5-6 interviews in urban setting and 10-11 interviews in rural settings from the starting point), interviewer moved to the opposite side of the street and followed the direction towards decreasing numbering. If an interviewer still could not achieve a required number of interviews, then interviewer continued walk straight ahead with the appropriate skipping interval, regardless of whether crossed the new street or not. The skipping interval used in this case is every second house/dwelling from the point where interview has been conducted successfully. Starting from selected starting point/address depending on the type of settlement (private house or apartment building) and the outcome of contact (no one lives, no one opens a door, refusal or succesfull interview) the next household selected with the fixed skipping intervals presented in Table 2.

Maximum number of interviews conducted in an apartment building was 5-6 regardless of the number of apartments. If the starting point/address is an apartment building, then

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[10] The type of settlements in old districts of Tbilisi

interviewer selects the 5th apartment of the first entrance of the building and conducts the interview. Using the standard skipping intervals, as shown on Table 2, an interviewer moves to the next households. If an interviewer could not reach a target number of interviews in one apartment building, then interviewer moves to next building, starting from the 5th apartment of the 1st entrance of the building. The similar skipping pattern is applied in the new building when choosing the households for the interview (Table 2). In the case of the "Italian courtyards", interviewer conducted only 1 interview in one household selecting it from the 5th far right apartment and following the standard skipping interval for the next household as in apartment building. If target number of interviews could not be reached an interviewer moved to next building and if this was again "Italian courtyard" the same methodology of selection of household with standard skipping intervals were applied.

Table 2. Skipping intervals for selection of households

Result	Apartment building/Italian courtyard	Private house
No one lives / doesn't live permanently	Skipping interval 1= move to next appartment in the same building	Skipping interval 1= move to next house
No one opens a door, no one is at home	Skipping interval 5 = move to next 5th appartment in the same building	Skipping interval 3 = move to next 3rd house
Refusal (doesn't want participation / without specification) / doesn't meet the criteria	Skipping interval 5 = move to next 5th appartment in the same building	Skipping interval 3 = move to next 3rd house
Successful interview / terminated interview	Skipping interval 5 = move to next 5th appartment in the same building	Skipping interval 3 = move to next 3rd house

Stage 4: Selection of respondents in each household. This stage units are household members. In selected household, we interviewed only one family member of this household according to the following selection procedure:

- The interviewer recorded the gender and date of births of all people living in the private house/one household in building apartment who were 18 years old and older up to 64.
- The youngest man was selected from them. If he was not at home, then the oldest man was selected, if he was not at home, then the youngest - woman, if she was not at home, then the - oldest woman. If all of the above-mentioned dwellers were not at home or only one person lived in the house, then the one who spoke with the interviewer was interviewed.

This methodology enabled us to reach the most hardly accessible group of young men and thus to decrease the scope of weighting. It did not require the interviewer to return to the respondent if he/she was not at home at the time of the visit[11]. Replacement of household or self-selection of respondents were not considered.

The design delivers a representative sample of households in Georgia for 2022 GPS. In total 637 initial addresses were issued to interviewers with pinned starting addresses on a

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[11] The reason for this is that if we return to the youngest man, we would get a large over-representation of the male population. Instead, in order to better reach respondents, interviewers in urban areas started work closer to the end of the working day (5–6 pm). In rural areas, work started in the afternoon

google map. In order to reach the desirable sample, interviewers visited 8,694 addressees. Interviews were attempted at all of the selected addresses.

Survey Instrument

The survey language was Georgian and questionnaire was developed in Georgia, but to allow international experts to comment the questionnaire, it was translated into English. For accuracy assurance questionnaire was translated back into Georgian. The questionnaire followed the EMCDDA's European Model Questionnaire (EMQ) that was modified in accordance to the Georgian context back in 2015. The GPS 2015 questionnaire was fully reviewed by a survey working group composed of ALTGEO and NDO researchers and EMCDDA experts.

The cognitive testing of the survey instrument enabled us to minimize the measurement error and bias, to reduce the respondent's burden. For this purpose, 20 randomly selected respondents with different socio-demographic and socio-economic groups were selected. Cognitive testing is used to evaluate the quality of responses or to determine whether a question provides the desired information[12].

The respondents' answers and interviewers' feedbacks were analyzed in order to further adjust the final questionnaire and instruction for interviewers. A number of suggestions were made to improve the phrasing of questions to avoid misunderstandings. As a result several questions were updated and couple of new questions were added such as smoking of E-cigarettes and IQOS. RRT questions were modified to match available national data. The survey instrument covered all the domains of EMQ and included following sections:

- Introductory section (warming up) about general health
- Alcohol consumption
- Tobacco and cigarettes
- Use of pharmaceuticals
- Use of cannabis, opioids, stimulants and hallucinogens; availability of drugs
- Gambling
- Treatment experience
- Opinions on drug use
- Socio-demographic section

Respondents were provided with pictures of one standard drink, where each portrayed alcoholic beverage represents one standard drink (or one alcoholic drink equivalent). The one standard drink according to World Health Organization[13] (WHO) defined as any beverage containing 14 grams of pure alcohol. The percentage of pure alcohol, expressed here as alcohol by volume (alc/vol), varied within and across beverage types. Given examples of alcoholic beverages include:

- Beer 425ml - with an alcohol content of 2.9% - This portion in everyday life is called 0.5ml - it is a regular beer;

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[12] Paul C. Beatty, Gordon B. Willis, Research Synthesis: The Practice of Cognitive Interviewing, *Public Opinion Quarterly*, Volume 71, Issue 2, Summer 2007, Pages 287–311, https://doi.org/10.1093/poq/nfm006
[13] World Health Organization. (2018). Global status report on alcohol and health 2018. Geneva: World Health Organization. page 18. Retrieved from https://www.who.int/publications/i/item/9789241565639

- Beer 285 ml - with a content of 4.9% alcohol - this portion is called 300 ml - this is a spirited beer with a higher alcohol content - this type is not common in our country, "Secondly Draft" beer is called in Europe;
- Wine 100 ml - 12% - ordinary wine, bottled or home-made;
- Wine 60 ml - 20% - so called Spirited wine, or Port Wine, has a higher alcohol content and therefore its smaller volume is the same as 100 ml of wine;
- Alcoholic beverages include - Vodka, Whiskey, Brandy, Cognac, Long Island, Tequila and other strong spirits.

We applied a RRT in this survey. This methodology was developed to ensure the privacy of respondents when studying sensitive issues and was successfully implemented during previous 2015 GPS. The RRT result provides a check on the accuracy and completeness of the self-report survey response validity[14]. The idea of the randomized response method is that respondents answer one out of two questions (sensitive vs non-sensitive), selected by a randomizing device (in our survey flipping a coin) and the interviewer does not know what question is answered by respondent, guaranteeing respondents privacy. Our RRT questionnaire was short (6 pairs of questions) and was interviewer-administered using the supporting show cards – two column RRT questions with common YES/NO responses.

Interviewing

Each interview was carried out in respondents' homes which meant interviewers could spend longer with respondents, building rapport and deeper engagement in the survey than would be possible in a telephone or online survey, improving the quality of responses.

The face-to-face Computer Assisted Personal Interviewing (F2F CAPI) was selected, which is the most popular and reliable form of survey data collection. The SurveyCTO[15] platform was used for data input, that give the possibility to monitor the data collection process in real-time, minimizes the missing data and cut the time spent on the process of data entry. The skip patterns and logic conditions prevent errors in data entry in real-time. As the internet connection was limited in some geographic areas the survey tool was accessible in both online/offline regimes. The presence of the interviewer made it easier for the respondent to either clarify answers or ask for clarification for some of the items on the questionnaire. Also, interviewers used visual aids (so-called show cards) to assist respondents. Additional, RRT questionnaire with some sensitive questions, was provided to respondents separately on a paper and was self-administered. The coin of one Lari was used for RRT questionnaire purposes.

Field work and quality check

The 2022 GPS study was conducted by Addiction Research Center Alternative Georgia (ALTGEO) in consortium with Trajectory - marketing, social and political research organisation. ALTGEO developed the study design, survey instruments, consent forms (short and long versions) and delivered the interviewer training sessions in collaboration with NDO.

[14] Gerty Lensvelt-Mulders & Joop Hox, Meta-analysis of randomized response research: 35 years of validation studies. (November 2004). Sociological Methods & Research 33(3):1-30. DOI: 10.1177/0049124104268664
[15] https://www.surveycto.com/

Trajectory carried out the fieldwork between 4 June – 3 August, 2022. The pilot study using both quantitative and qualitative methods was conducted for the purpose of testing of all aspects of the survey.

The interviewing instruction as well as training of interviewers was conducted for fieldworkers (interviewers and supervisors) mobilized by the Trajectory, who was in charge of field work for this survey. The training of regional interviewers was delivered via online using the Zoom-platform. Interviewers working in Tbilisi received face to face training at the premises of ALTGEO. Trainings covered main aspects of the field work, such as explanation of the questionnaire, use of the instrument on a tablet, informed consent forms, interviewing method with special focus on sensitive questions and possible difficulties during the interview, including instructions related to guaranteeing confidentiality of responses. The use of other survey materials (RRT and show cards) was discussed in detail with any issues or respondent queries that may arise. Specific topics related to logistics of the survey, quality control by supervisors and the project management team, including use of the interviewer's field log were discussed with field supervisors and project management team of Trajectory. Each interviewer received so called fieldwork pack, that consisted of:

- Printed interviewer's manual
- Printed consent forms (long and short versions)
- Instruments (paper based main/standard and RRT questionnaires)
- Printed show cards
- Printed contact sheets
- Tablets with preinstalled survey tool and map with selected starting points in each stratum (exact locations).

In total 37 interviewers, 4 supervisors and a project coordinator (Trajectory) were in charge of the field work, data collection and quality control, that involved the checking if the correct sampled dwelling was visited and if interview has been conducted. Interviewers were selected from different regions, so they were locals and had a good understanding of their respective areas. As a result, there was no need for one interviewer to travel from one region to another, and thus the number of interviews per interviewer did not pose any logistical challenges. Therefore, we did not conduct a sensitivity analysis specifically for the number of interviews per interviewer. Field monitoring of randomly selected cases (in total 10% of each interviewer) were permanently performed by quality assurance specialists of Trajectory. Within first week of field work each interviewer conducted at least 6 interviews, in total 240 successful interviews have been conducted and collected data were analyzed to check inconsistency.

In June and July 2022, the data collection process of the GPS was monitored and evaluated externally by ALTGEO and NDO together. The purpose of this was to conduct external monitoring of the data collection process, perform the quality evaluation of the work of interviewers. The external monitoring and evaluation process was carried out in two stages using a mixed quantitative and qualitative approach:

- quantitative method involved a statistical analysis of already collected unfiltered data according to different quantitative indicators;
- qualitative method involved engaged observation, without active interference in the interview process, intervention was allowed only at the time of necessary need.

The monitoring was carried out in Tbilisi and regions, in 6 different places. Based on quantitative analysis of the unfiltered dataset the following was analyzed:

- the duration of each interview
- the number of interviews conducted by one interviewer during the one business day

- duration of the interview in relation to the number of modules filled out in the questionnaire

Based on these above-mentioned indicators specific attention was paid to interviews with less than 11 minutes, as the piloting phase of the fieldwork demonstrated that interview cannot last less than 11 minutes taking into account all the requirements of the study protocol. Based on quantitative analysis of the unfiltered dataset 6 interviewers (4 in Tbilisi and 2 in Shida Kartli) were selected who had couple of interviews with less than 11 minutes long in their account. The monitoring group of ALTGEO & NDO performed monitoring of these interviewers to identify the reasons of the short interviews. The informed consent form was not introduced to respondents which was the main reason for short interviews and in some cases the show cards for respondents were not appropriately used. Based on these findings the recommendations to inform respondents about the study, to get their consent with signature and use show cards in all instances were elaborated and introduced to all interviewers.

Data processing

The Computer Assisted Personal Interview (CAPI) built in SurveyCTO platform was used. CAPI has numerous built-in checks for identifying obvious discrepancies so that they can be resolved by the interviewer during the interview. The discrepancies are resolved by either correcting a data entry error or by clarifying a response directly with the respondent. The CAPI checks include:

- range checks to identify where the answer falls outside a pre-specified range of responses, for example, an unusually high/low age of first drink or smoke is entered; where the interviewer cannot continue with the interview until they have changed the data entered in some way to remove the inconsistency.
- conflicting answers to different questions, for example, if the number of years drinking alcohol or smoking tobacco is greater than the respondent's age.

We used univariate and bivariate analysis - frequencies and descriptive statistics (i.e., mean, medians, standard deviations); cross-tabulation introduced when difference between two groups (by gender, region, age groups) and relationships between variables were measured. Confidence intervals of 95% were calculated for all variables and Pearson Chi-Square Tests run for categorical variables. The confidence interval calculation takes into account the effect of the weighting and stratification. Data analysis was done by Trajectory and ALTGEO together.

IBM SPSS Statistics Version 26[16] was utilized for data processing. The dataset extracted from SurveyCTO[17] platform was cleaned and the syntax along with dataset were shared with EMCDDA. The next stage involved post-stratification data weighting by age groups, gender and regions based on data provided by state statistical department - Geostat[18]. This methodology ensures that distribution of age groups and sex is not strongly skewed from the population distribution.

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[16] https://www.ibm.com/support/pages/downloading-ibm-spss-statistics-26
[17] https://www.surveycto.com/
[18] https://www.geostat.ge/regions/index.php

The following coefficients for weighting have been calculated for the GPS 2022 data:

Gender	Age group	Actual Percent	% from Geostat	Coefficients
Male	18-24	5,0%	6,8%	1,360245476
Male	25-34	7,1%	11,1%	1,564144479
Male	35-44	7,2%	11,2%	1,561634283
Male	45-54	7,5%	10,0%	1,341886500
Male	55-64	9,4%	9,9%	1,053145233
Female	18-24	5,0%	6,2%	1,241429371
Female	25-34	13,0%	10,9%	0,837204287
Female	35-44	14,3%	11,4%	0,798173560
Female	45-54	12,5%	10,6%	0,845439121
Female	55-64	19,1%	11,9%	0,625462021

These weights adjust the sample to correct for the over-sampling of the less prevalent tenure groups and reduce the bias from differential non-response. The resulting weights sum to estimated population totals, enabling the survey to provide estimates of the total population of households in Georgia. Weighted results are presented throughout the report.

To compare psychoactive substance use prevalence estimates between 2015 (P1) and 2022 (P2), we utilized standard errors for both time points and the Excel NORM.S.DIST function to calculate the standard normal cumulative distribution function.

Limitations

Some constrains should be considered when interpreting the study results. There are no population registers, housing registers, or postal address registers that can be used as sampling frames. The only database accessible to researchers was database of addresses provided by NAPR of Georgia. There is internal and external migration and rapid change amongst the housing stock. There are no up-to-date state-wide small-scale maps available that could be used to help define areas as PSUs for area sampling, instead the google map was used.

Another limitation was the expected uncertainty of the degree of honesty of respondents and willingness to provide truthful information regarding sensitive behaviors that the survey focused on. Since drug use is a criminal offence in Georgia, participants may have underreported their illicit substance use. In addition, the illicit substance use, specifically by females, is associated with severe social stigma. Therefore, respondents may have been reluctant to report it. They may have been more comfortable to report past use, but might have felt less safe to report current use. We anticipated possible problems of response validity in the GPS with respect to these drugs, and it was for this reason that we added the RRT as a

proposed solution, which has been designed for the purpose of decreasing social desirability bias, guaranteeing confidentiality, improving respondent cooperation and obtaining reliable estimates. But it should be admitted that RRT does not provide 100% accuracy in the response of non-compliant respondents. The most important claim of the benefits of using RRT is that it produces more valid point estimates of sensitive behavior. This conclusion relies solely on the assumption that "higher estimates of non-compliance" are better and not necessarily more accurate[19]. Since the RRT has not been confirmed against a known criterion (i.e., validity of direct response), the validations of this method are "weak" and therefore the conclusion that it is a superior method cannot be drawn[20].

Ethical considerations

The interviewers provided explanation of the study aim, informed consent to potential respondents. After the agreement, the respondents confirmed their voluntary participation in the study with their signature to inform consent. The study aims/objectives, informed consent and questionnaire were reviewed and approved by the Ethical Committee of Ilia State University on 8 April 2022.

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[19] Christopher S. Bova, Shankar Aswani, Matthew W. Farthing, Warren M. Potts (2018). Limitations of the random response technique and a call to implement the ballot box method for estimating recreational angler compliance using surveys, Fisheries Research, Volume 208, Pages 34-41, ISSN 0165-7836. https://doi.org/10.1016/j.fishres.2018.06.017

[20] Moshagen, M., et al., 2014. An experimental validation method for questioning techniques that assess sensitive issues. Exp. Psychol. 61 (1), 48–54. https://doi.org/10. 1027/1618-3169/a000226.

CHAPTER 3. RESULTS

Response rate

For this survey, 637 randomly selected addressees (starting points) were issued to interviewers. In total, 8,694 addresses were reached, of which 898 (10%) addresses were excluded from the study due to being not inhabited, summer house, demolished or abandoned buildings/houses. The reached number of households was 7,796 of whom 382 (4.8%) were excluded due to different reasons: age restrictions (N=264), language barrier (N=38), residency status/being a visitor or nanny of the family (N=48), not being sober/under influence of alcohol (N=10) and other reasons (N=22). Out of 7,414 eligible respondents, 1,156 (15.6%) refused to participate without any explanation, and 1,876 (25.3%) did not open the door or were not at home (Figure 1). In total, 4,382 interviews were conducted, but three respondents did not complete their interview, and 303 cases were deleted due to quality considerations (interviews lasted less than 11 minutes), leaving the final sample of 4,076 respondents. The average length of the interviews was 19.16 minutes (11.7 – 60 minutes).

Figure 1. Flow chart
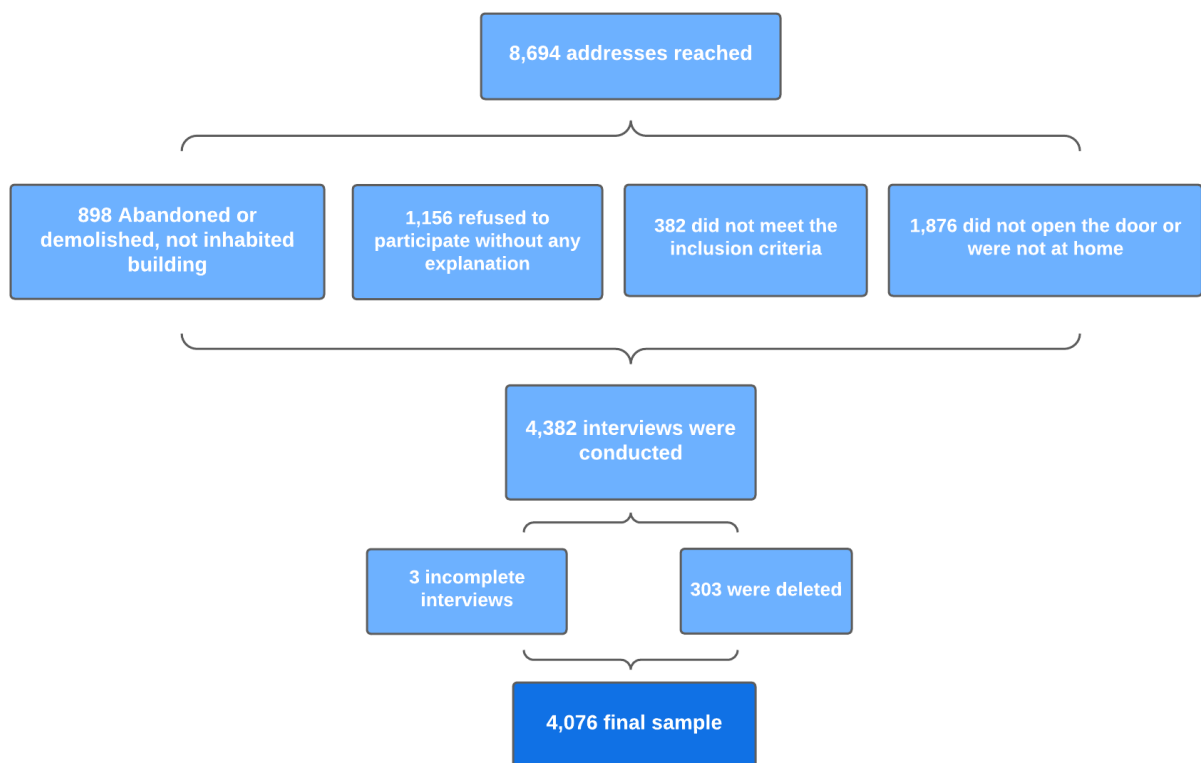
The response rate is calculated by dividing the number of complete interviews (4,076) by the sum of all addresses (8,694) minus ineligible addresses (898). The response rate therefore is 52%.

Characteristics of the Respondents

The Table 3 presents the distribution of demographic and socio-economic characteristics of the survey population (N=4,076). Overall, 2,078 (51%) of GPS respondents were females, and 1,998 (49%) were males, with a mean age of 41 (SD=13.4). The majority were officially married (N=2,420; 59.4%). More than a third completed high school (N=1,493; 36.6%) and another third graduated from the university (N=1,390, 34.1%). More than a third reported being unemployed (N=1,519; 37.3%) and not having the income (N=1,333; 32.7%).

Table 3. Distribution of survey participants by socio-demographic characteristics

	Before weighting N (%)	After weighting N (%)
Gender		
Male	1,473 (36.1)	1,998 (49)
Female	2,603 (63.9)	2,078 (51)
Non-binary	0 (0)	0 (0.0)
Age groups		
18-24	408 (10)	531 (13)
25-29	354 (8.7)	397(9.8)
30-39	910 (22.3)	964 (23.7)
40-49	822 (20.2)	858 (21.1)
50-64	1,582 (38.8)	1,325 (32.5)
Marital status		
Officially married	2,511 (61.6)	2,420 (59.4)
Informal marriage	268 (6.6)	278 (6.8)
Single	751 (18.4)	924 (22.7)
Divorced/separated	229 (5.6)	224 (5.5)
Widowed	301 (7.4)	211 (5.2)
Have a partner	8 (0.2)	11 (0.3)
Refused to answer	8 (0.2)	7 (0.2)
Education		
Incomplete school	67 (1.6)	72 (1.8)
Completed school	1,424 (34.9)	1,493 (36.6)
Incomplete University	262 (6.4)	275 (6.8)
Student	128 (3.1)	165 (4)
Vocational education	776 (19)	679 (16.7)
Completed University	1,418 (34.8)	1,390 (34.1)
Refused to answer	1 (0)	1 (0.02)
Occupation		
Unemployed	1,598 (39.2)	1,519 (37.3)
Employed (self-employed, partly, or temporarily employed)	1,956 (48)	2,100 (51.5)
Student (employed)	47 (1.2)	60 (1.5)
Student (unemployed)	88 (2.2)	112 (2.8)
Pension (social, disability pensions and retirement)	378 (9.3)	274 (6.7)
Refused to answer	9 (0.2)	10 (0.2)
Monthly income		
I do not have my own income	1,373 (33.7)	1,333 (32.7)
less than 250 GEL	278 (6.8)	268 (6.6)

250 - 500 GEL	799 (19.6)	678 (16.6)
501 - 1000 GEL	723 (17.7)	764 (18.7)
1001 - 1500 GEL	257 (6.3)	297 (7.3)
1501 – 2500 GEL	109 (2.7)	136 (3.3)
more than 2500 GEL	62 (1.5)	77 (1.9)
Don't know/remember	94 (2.3)	101 (2.5)
Refused to answer	381 (9.3)	424 (10.4)
Settlement type		
Urban area	2,423 (59.4)	2,431 (59.7)
Rural area	1,653 (40.6)	1,645 (40.3)
Geographic regions		
Tbilisi	1,310 (32.1)	1,325 (32.5)
Adjara	389 (9.5)	398 (9.8)
Guria	118 (2.9)	116 (2.8)
Imereti	524 (12.9)	515 (12.6)
Kakheti	338 (8.3)	331 (8.1)
Mtskheta-Mtianeti	100 (2.5)	100 (2.4)
Racha-Lechkhumi & Kvemo Svaneti	31 (0.8)	30 (0.7)
Samegrelo-Zemo Svaneti	338 (8.3)	338 (8.3)
Samtskhe-Javakheti	167 (4.1)	168 (4.1)
Kvemo Kartli	481 (11.8)	476 (11.7)
Shida Kartli	280 (6.9)	279 (6.8)

Alcohol use

Prevalence of alcohol use

The lifetime prevalence (LTP) of alcohol use was 93% (n=3,785). The mean age of first alcohol intake was 17.6 years (median 17, SD 4.4), although the reported minimum age of first alcohol intake was at age 4. The prevalence of alcohol use during last year was 67% (LYP 95% CI [65.5 – 68.4]) and the last month prevalence was 48% (LMP 95% CI [46.4 – 49.5]) (Figure 2). Both, the LYP and the LMP of alcohol consumption was highest in the 25-29 age group (Figure 3).

Figure 2. Lifetime (LT), last year (LY) and last month (LM) prevalence of alcohol use by gender
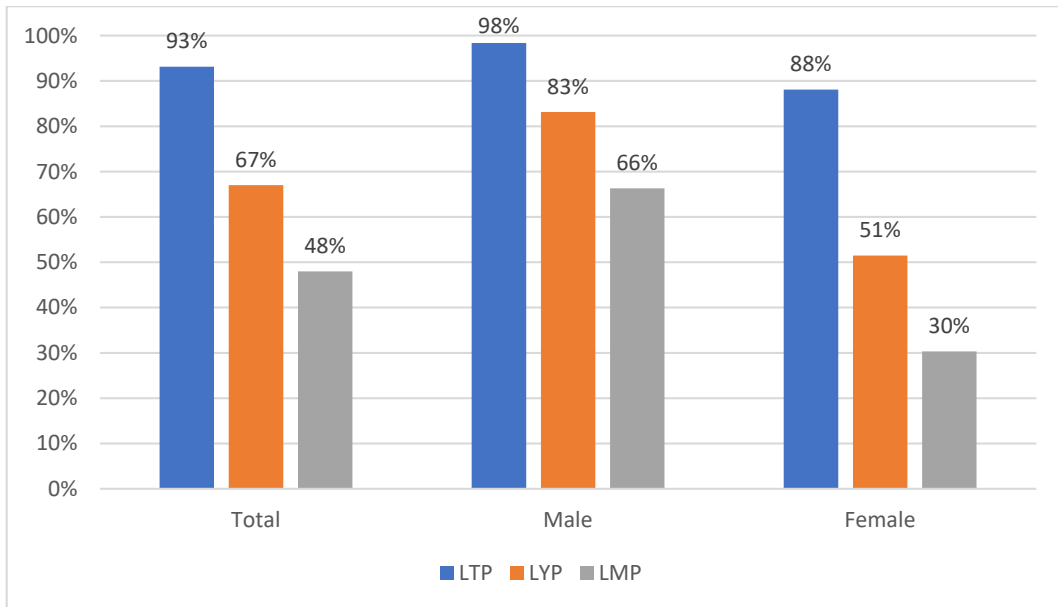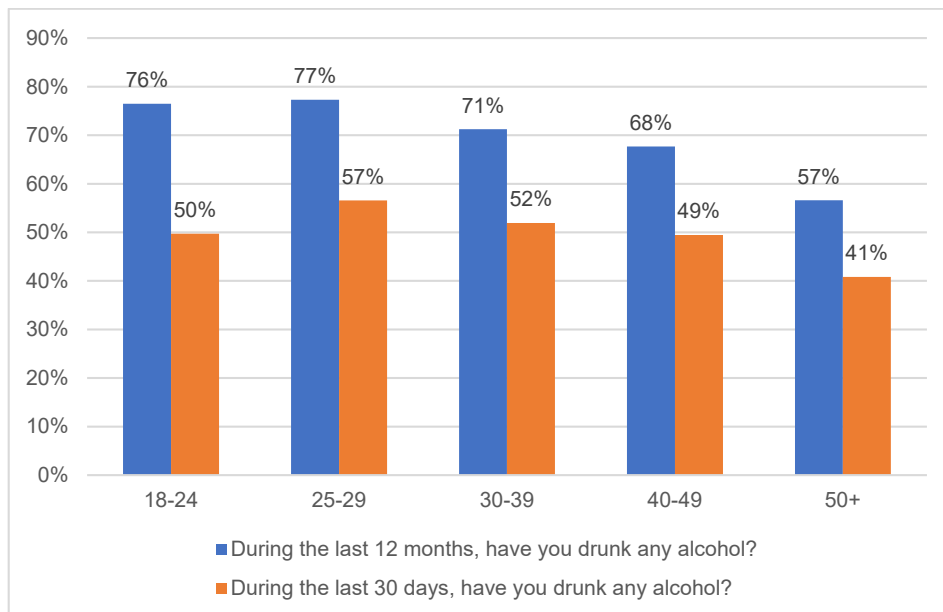

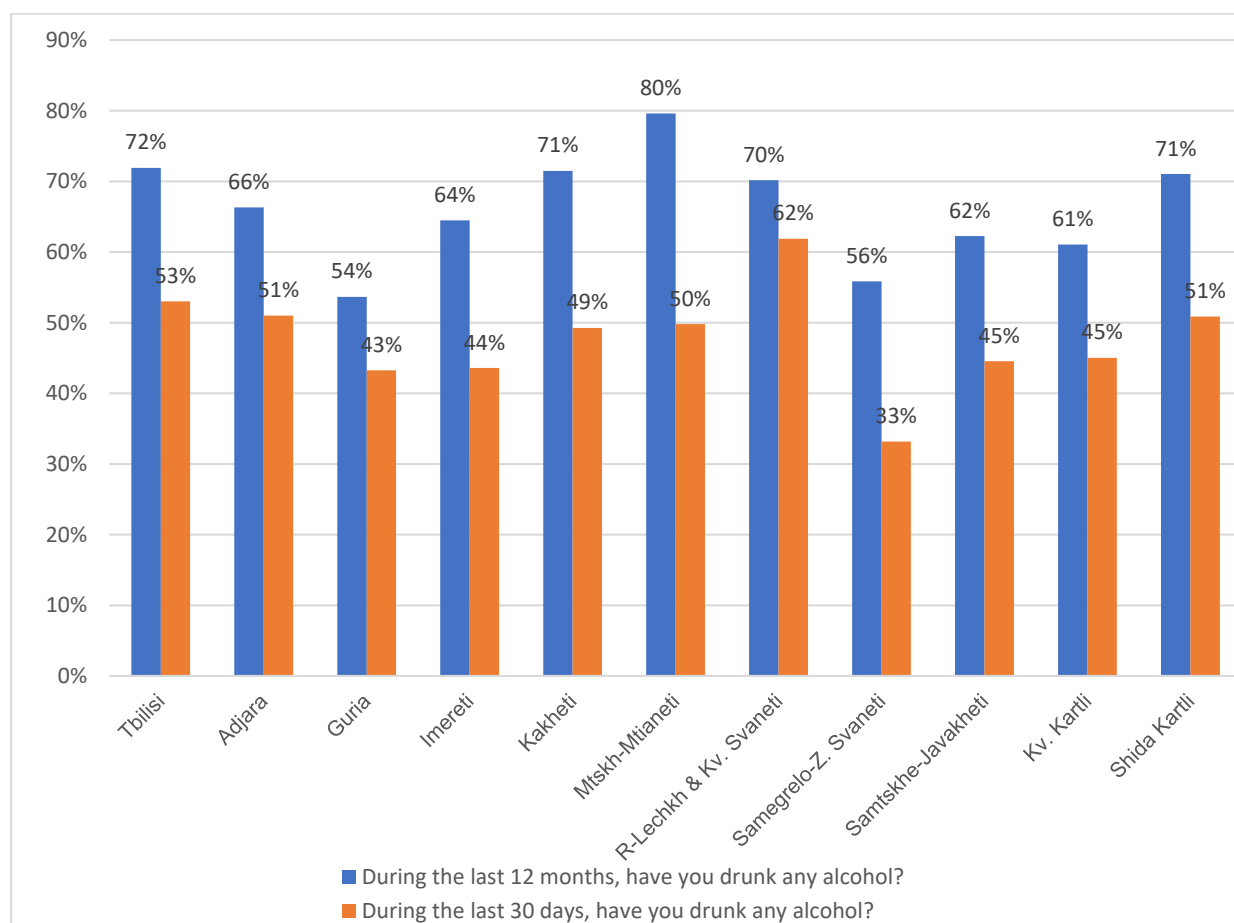**Figure 3. Last year and last month prevalence of alcohol consumption by age groups**

Older (50+ years) respondents were less likely to use alcohol (Figure 3) during last month (p<0.001). Compared to females, males were more likely to consume alcohol during lifetime, last year and last month with significant difference (LTP, LYP and LMP p<0.001). We found that age had an effect on a pattern of alcohol use with significant differences in the frequency of consumption - 50+ age group consumed alcohol less frequently than others (χ^2=141,74, df=20, p<0.001) **(**Table 4**)**.

Table 4. Frequency of alcohol consumption and amount of alcohol consumed during last 12 months disaggregated by gender and age

	Gender %		Age group %				
	Male	Female	18-24	25-29	30-39	40-44	50+
Frequency of alcohol consumption							
Never	7,1%	7,4%	6,2%	7,5%	7,7%	7,4%	7,2%
Monthly or less	34,1%	35,3%	43,0%	41,9%	34,6%	35,5%	28,8%
2 to 4 times a month	28,3%	6,5%	18,9%	20,3%	20,6%	17,5%	12,7%
2 to 3 times a week	10,2%	2,0%	6,5%	6,0%	6,4%	6,2%	5,4%
4 or more times a week	3,5%	0,3%	1,8%	1,6%	1,9%	1,0%	2,5%
NA	16,8%	48,5%	23,5%	22,7%	28,8%	32,3%	43,4%
Amount of alcohol consumed during last 12 months							
1 or 2	14,8%	31,7%	30,4%	27,6%	23,3%	22,0%	20,5%
3 or 4	22,1%	9,0%	21,5%	19,6%	16,8%	15,4%	10,7%
5 or 6	18,7%	2,9%	10,2%	9,4%	13,0%	11,5%	9,0%
7, 8 or 9	10,0%	0,4%	4,1%	6,5%	6,4%	4,3%	4,6%
10 or more	10,5%	0,1%	4,1%	6,7%	4,1%	7,1%	4,6%
NA	23,9%	55,9%	29,7%	30,2%	36,4%	39,7%	50,6%

Differences between age groups in a number of standard drinks consumed on average at a single drinking episode were also statistically significant - younger age groups consumed more alcohol than others (χ^2=149.87, df=20, p<0.001). Gender had a strong effect on patterns of alcohol consumption. Both, the frequency of alcohol consumption (χ^2=759.71, df=5, p<0.001) and the amount of alcohol consumed at a single drinking episode (χ^2=1134.31, df=5, p<0.001) were significantly higher among males compared to females (Table 4). Prevalence of current (past 30 days) use of alcohol was lowest in the Samegrelo -Zemo Svaneti region. Regional differences in prevalence rates of alcohol consumption are presented in Figure 4.

Figure 4. LYP and LMP of alcohol consumption disaggregated by regions

Legend:
- ■ During the last 12 months, have you drunk any alcohol?
- ■ During the last 30 days, have you drunk any alcohol?

Problem drinking

In GPS 2022 we used the Alcohol Use Disorders Identification Test (AUDIT[21]) a 10-item screening tool developed by the WHO to assess alcohol consumption, drinking behaviors, and alcohol-related problems. The AUDIT cut-off score may vary slightly depending on the country's drinking patterns and the alcohol content of standard drinks. Based on the previous GPS 2015 we used following AUDIT scores to identify the level of risk zone:

- **Zone I -** scores between 0 and 7 do not require medical interventions and alcohol education is sufficient (low risk).
- **Zone II -** scores between 8 and 15 require simple advice focused on the reduction of hazardous drinking (elevated risk, hazardous/risky).
- **Zone III -** Scores between 16 and 19 suggest brief counseling and the need for continued monitoring (harmful drinking, high risk).
- **Zone IV -** AUDIT scores of 20 or above indicate the need for further diagnostic evaluation for alcohol dependence (Probable dependence).

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[21] Babor, T., et al., The Alcohol Use Disorders Identification Test. Guidelines for Use in Primary Care, Second Edition. 2001, World Health Organization.

Based on results of AUDIT test, the 0.6% (95% CI [0.4 – 0.9]) of the population is at high risk to develop alcohol dependence, therefore the brief counseling and continued monitoring is advised. The same proportion (0.6%; 95% CI [0.4 – 0.9]) of the population needs referral to diagnostic evaluation for alcohol dependence. Kakheti and Samtskhe-Javakheti regions showed the highest proportions of respondents requiring brief counseling (Risk Level Zone III) or referral to specialist for evaluation of dependence (Risk Level Zone IV) (Figure 5).

Figure 5. AUDIT risk levels stratified by geographic regions
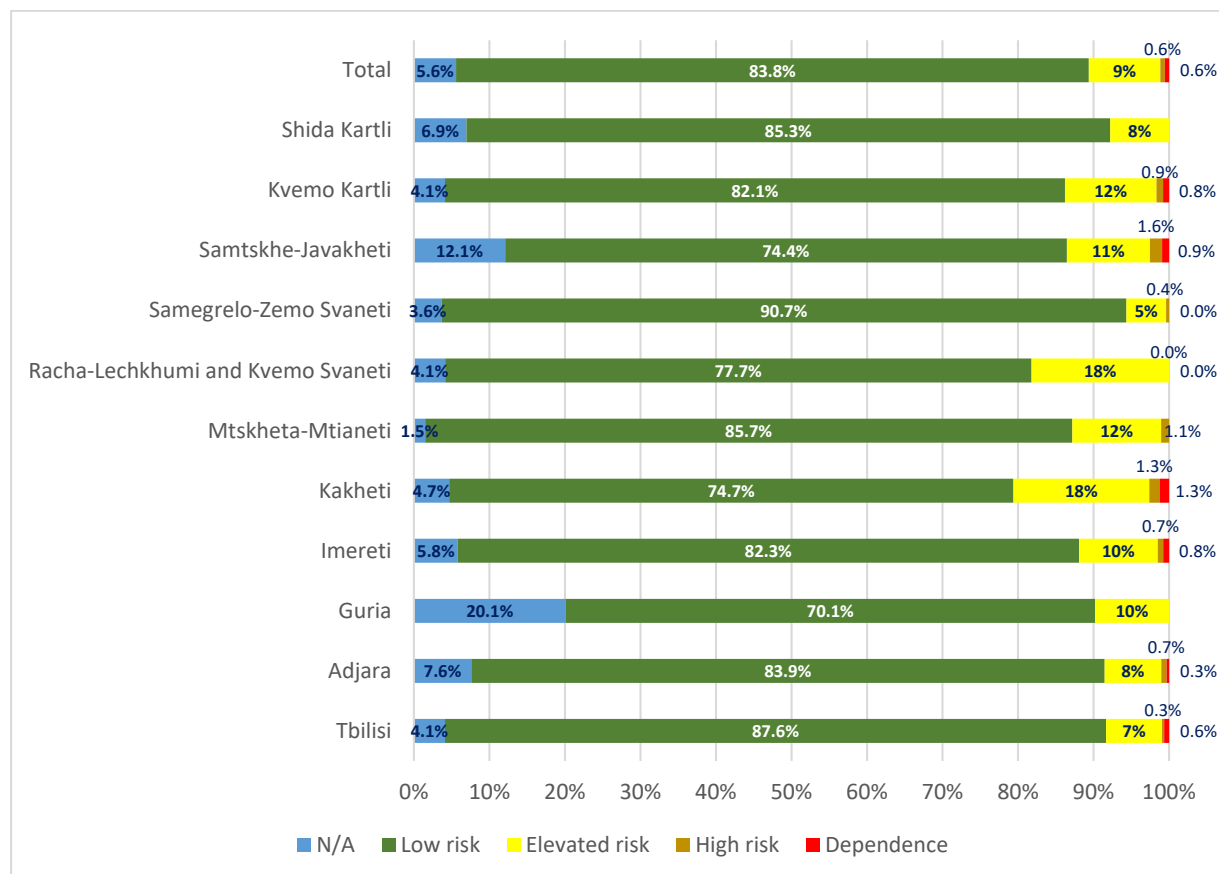
Tobacco use

Prevalence of tobacco smoking

Cigarettes, e-cigarettes, cigars, and other tobacco-related products, altogether were defined in this study as tobacco products unless otherwise specified. More than half (57.1%) of the survey population have ever tried tobacco products (88.8% males and 26.5% females). The mean age for the first tobacco products use was 18 years (min=5y; max=57 y; SD=5.2). Some 33% of respondents report current use of tobacco products (Table 5), and slightly less (29%, 95% CI [28.6, 31.4]) perceived themselves as smokers.

Table 5. Have you ever smoked tobacco?

Responses	%
No, never	43%
yes, I just tried smoking but never smoked afterwards	13%
yes, I previously smoked but now I don't smoke	11%
yes, I currently smoke but not on a daily basis	4%
yes, I currently smoke on a daily basis	29%

The LMP of cigarette smoking was reported by 58.8% of males (95% CI [56.6, 61.0]) and by 7.8% females (95% CI [6.7, 9]) (Figure 6). Respondents aged 40-49 and 25-29 made up the largest proportion of the current smokers, 38.8%, 95% CI [35.6, 42.1] and 35.1%, 95% CI [30.7, 40.1] respectively (Figure 7). Last month prevalence of smoking tobacco products was relatively high in Tbilisi (37.8%, 95% CI [35.2, 40.4]) and was followed by Samtskhe-Javakheti (34.5%, 95% CI [27.6, 41.9]) and Adjara (34.2%, 95% CI [29.6, 38.9]) (Figure 8).

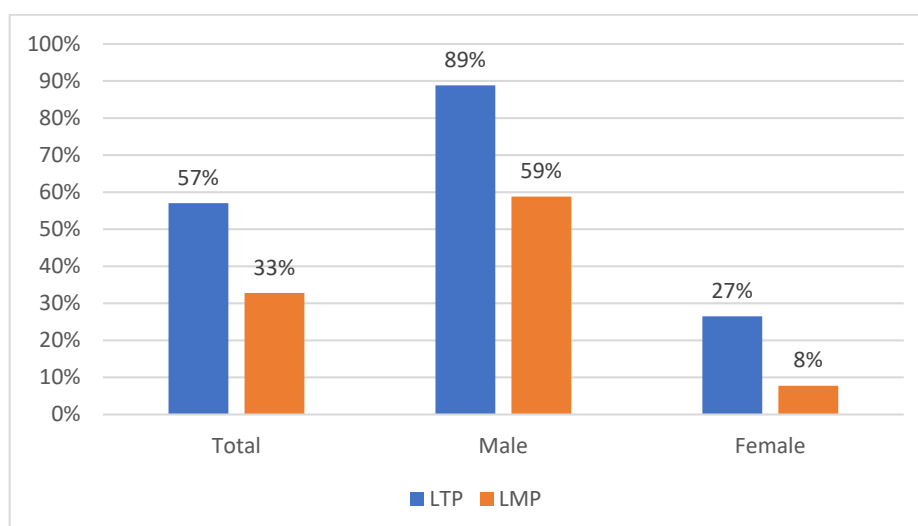### Figure 6. LTP and LMP of tobacco use stratified by gender

Figure 7. Lifetime and last month prevalence of tobacco use stratified by age groups
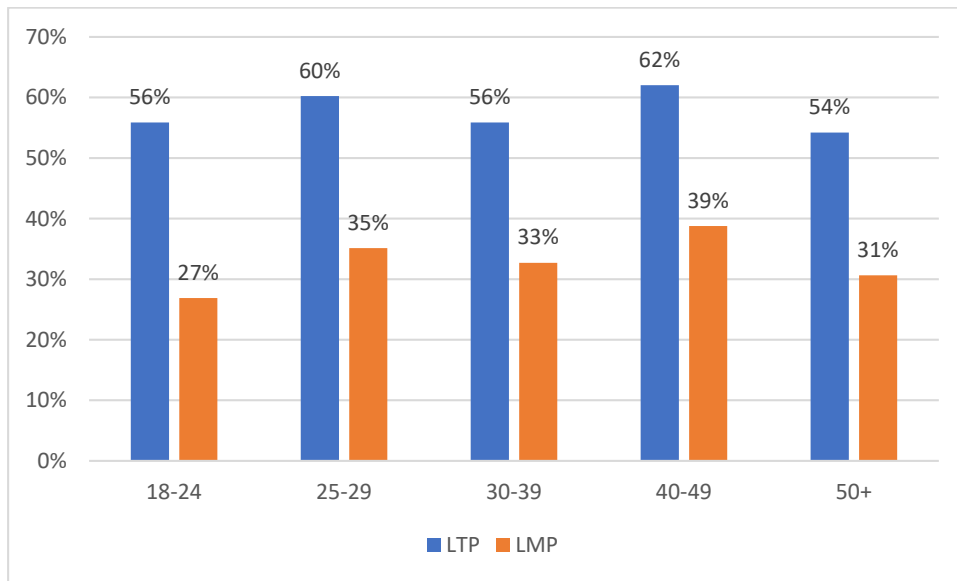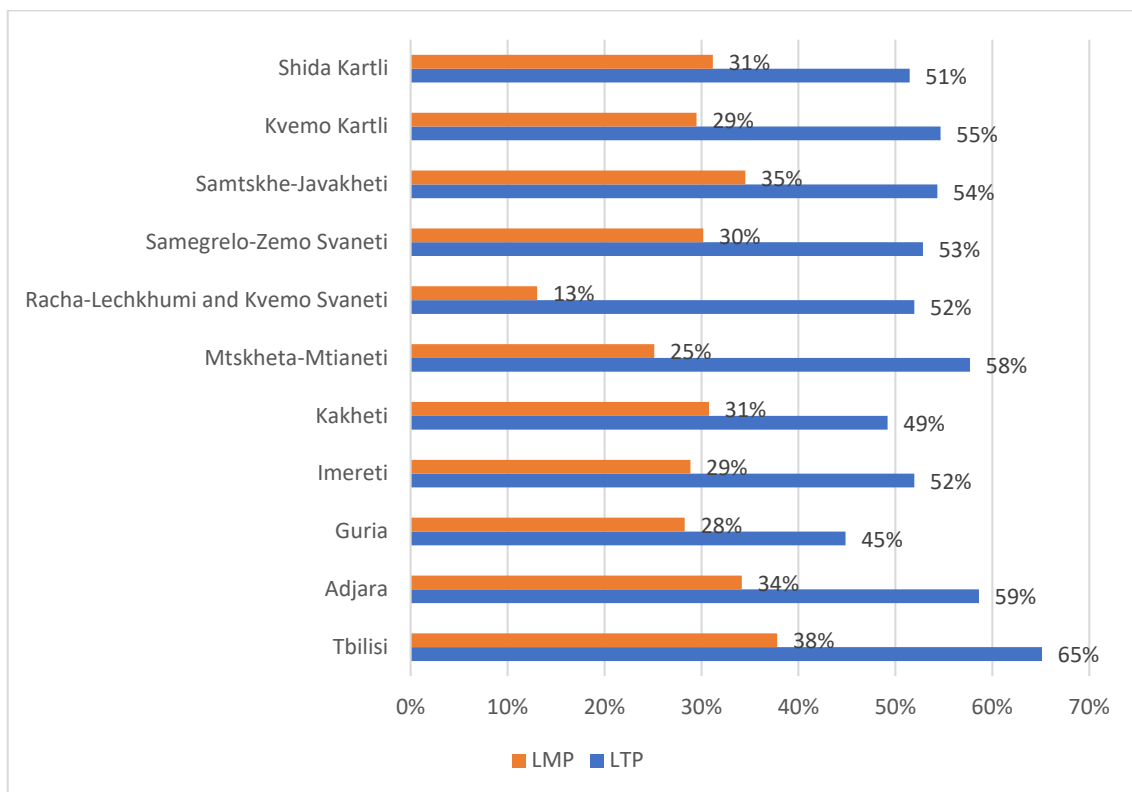

Figure 8. LTP and LMP of tobacco product use stratified by geographic regions

Patterns of tobacco smoking

In the last month, tobacco smoking respondents smoked on average 18 (SD=10.6) cigarettes per day. Most smokers smoked more than 10 cigarettes daily (86.6%, 95% CI [84.6, 88.4]).

Men (89.4%, 95% CI [87.5, 91.1]) and the 30-39 (88.5%, 95% CI [84.4, 91.6]) and 40-49 (87.9%, 95% CI [83.9, 91.1]) age groups tended to smoke more than 10 cigarettes on a daily basis (p<0.001) (Figure 9 & Figure 10).

Figure 9. Number of cigarettes smoked per day by current smokers
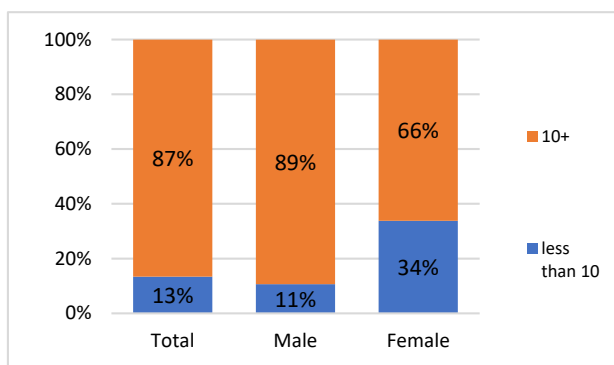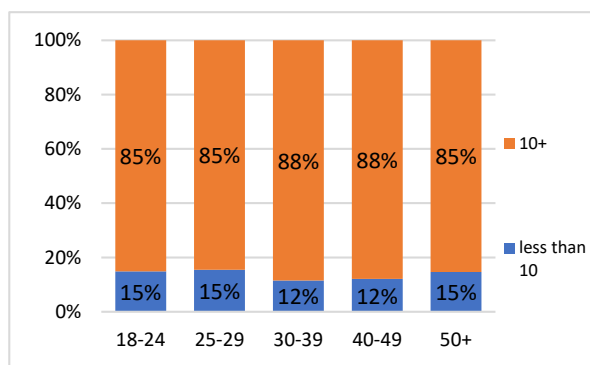

Figure 10. Number of daily cigarettes smoked per day disaggregated by age groups

Current smokers from Mtskheta-Mtianeti (94.6%, 95% CI [82.8, 99.6]) and Samegrelo-Zemo Svaneti (92.6%, 95% CI [85.5, 96.1]) were more likely to smoke more than 10 cigarettes daily, while people from Racha-Lechkhumi and Kvemo Svaneti (26.6% [2.8, 71.6) reported smoking less than 10 cigarettes daily (Figure 11).

Figure 11. Number of daily cigarettes smoked by current smokers stratified by region
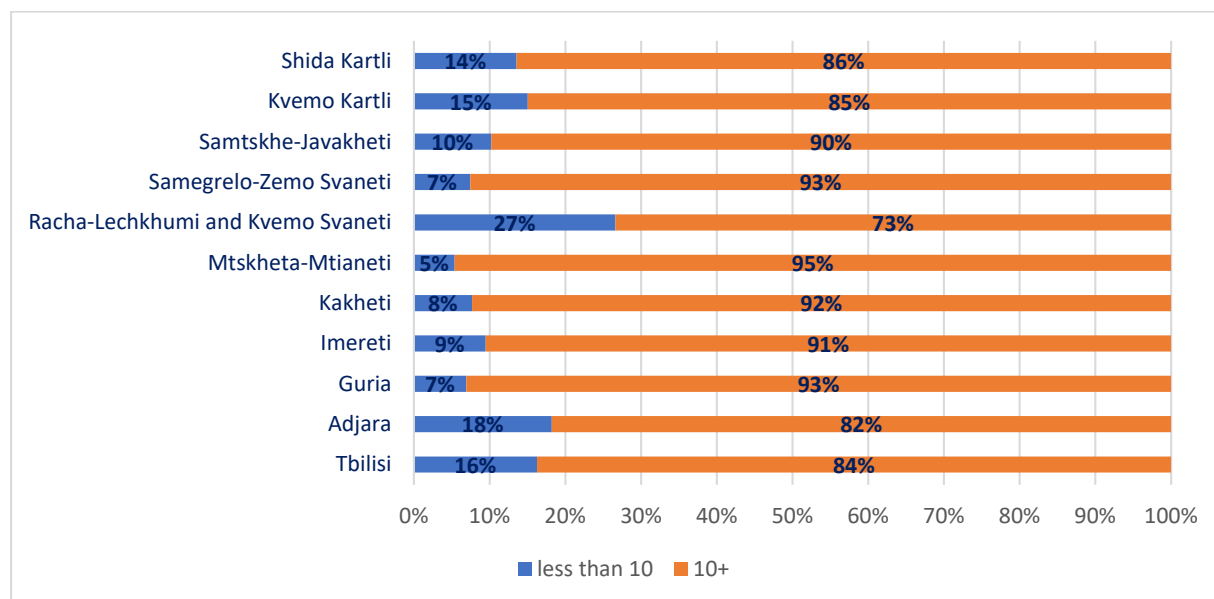
The lifetime prevalence of use of alternatives to smoking cigarettes, such as e-cigarettes and IQOS, was reported by 16.2% of the sample. Very small proportions reported using alternatives to smoking daily (1.1%, 95% CI [0.8, 1.4]) and less than daily (1%, 95% CI [0.7, 1.3]). More respondents (1.8%, 95% CI [0.8, 3.4]) from the 25-29 age group were current daily smokers of alternatives to smoking compared to other age groups. The difference in rates was statistically significant (p<0.001).

Seventeen percent (95% CI [16, 18.3]) of respondents tried to quit smoking tobacco during the last 12 months. One in six smokers (16.4%, 95% CI [15.3, 17.6]) tried to stop smoking without any intervention, while 0.5% (95% CI [0.3, 0.7]) switched to IQOS, and 0.3

%, 95% CI [0.1, 0.5] replaced it with nicotine gum, sublingual tablets, patches, or spray. Almost none of the respondents reported use of smoking cessation mobile apps (except 2 respondents) or medications. Primary reasons for quitting tobacco were a willingness to stop smoking (7.9%, 95% CI [7.1, 8.7] or health problems (3.6%, 95% CI [3.0, 4.2]) (Figure 11).

Figure 12. Primary reasons for trying to quit smoking during last 12 months
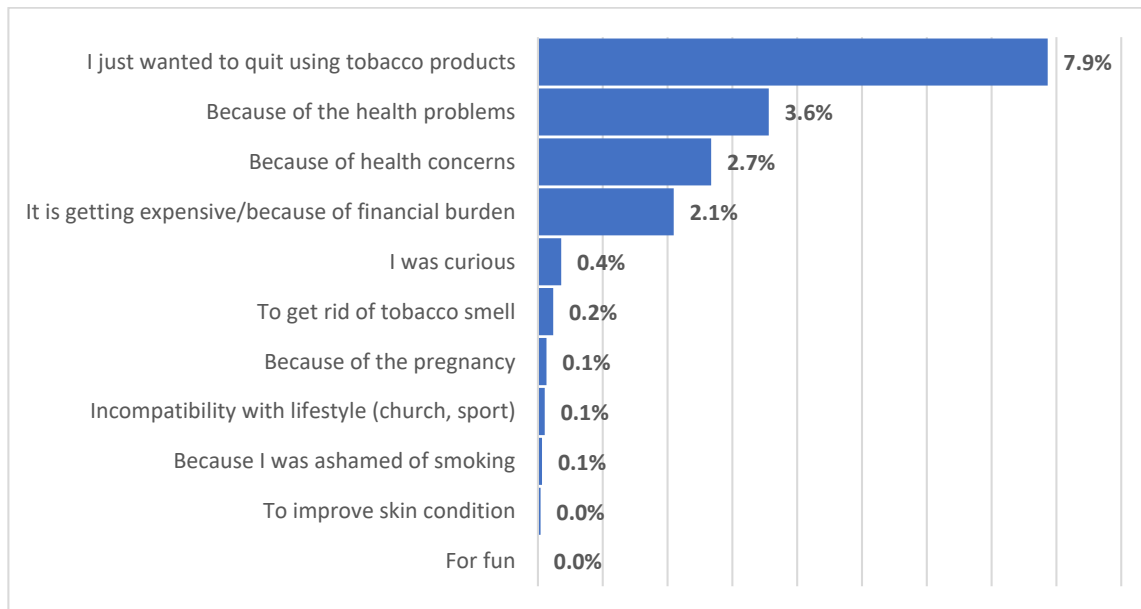
Use of psychotropic pharmaceuticals

This survey defined psychotropic pharmaceuticals (and accordingly explained to respondents) as medicines for calming down (sedatives, tranquilizers) that were taken without a doctor's prescription such as: Sibazon, Diazepam, Tazepam, Phenazepam, Seduxe, Baklosan, Gaba-Gamma, Relanium, Rivotril, Zolomax, Azaleptin, Optimal, Karbamazepin, Amitriptilin, Grimodin, Valium, Neuleptil, Finlepsin, Truxal, Reladorm, Xanax, Andante, Lyrica, Cyclodol or other. The first use of psychotropic pharmaceuticals without doctor's prescription was reported on average at the age of 30 (min=5 y; max=62 y; SD=12.2). Lifetime use of non-prescribed psychotropic pharmaceuticals was 4.1% (95% CI [3.5, 4.7]). The last year use was reported by 2.1% (95% CI [1.7, 2.6]) and LMP was reported by 1.2% (95% CI [0.9, 1.5]) (Figure 13). No major differences were found in use of psychotropic pharmaceuticals across gender and age groups (Figure 14, Figure 15).

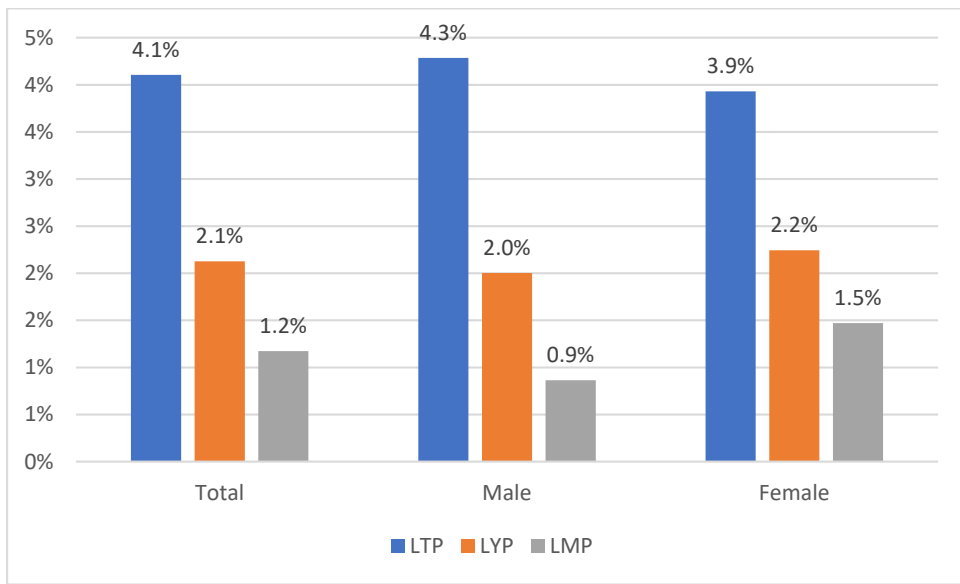**Figure 13. LT, LY and LM prevalence of use of psychotropic medications stratified by gender**

Figure 14. LT, LY and LM prevalence of use of psychotropic pharmaceuticals stratified by age groups
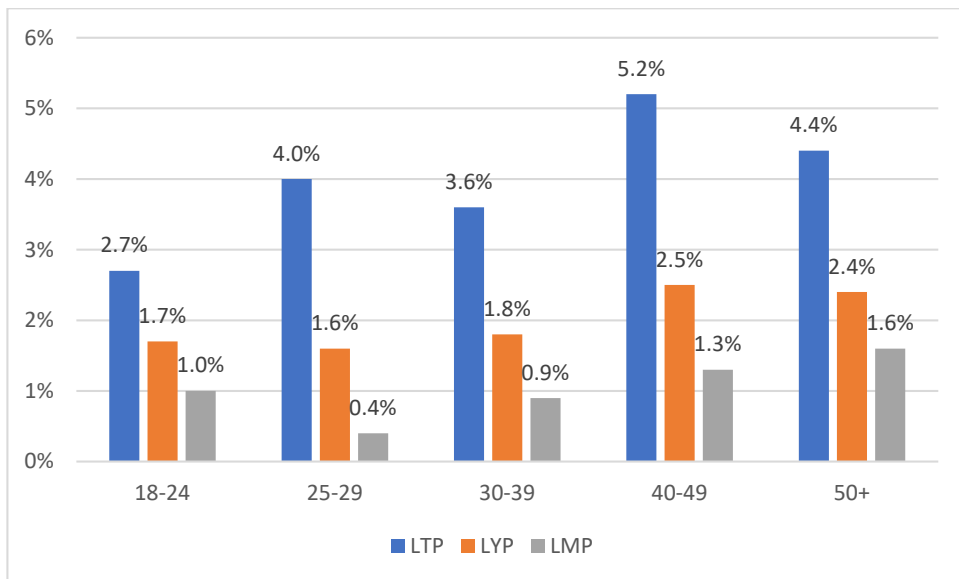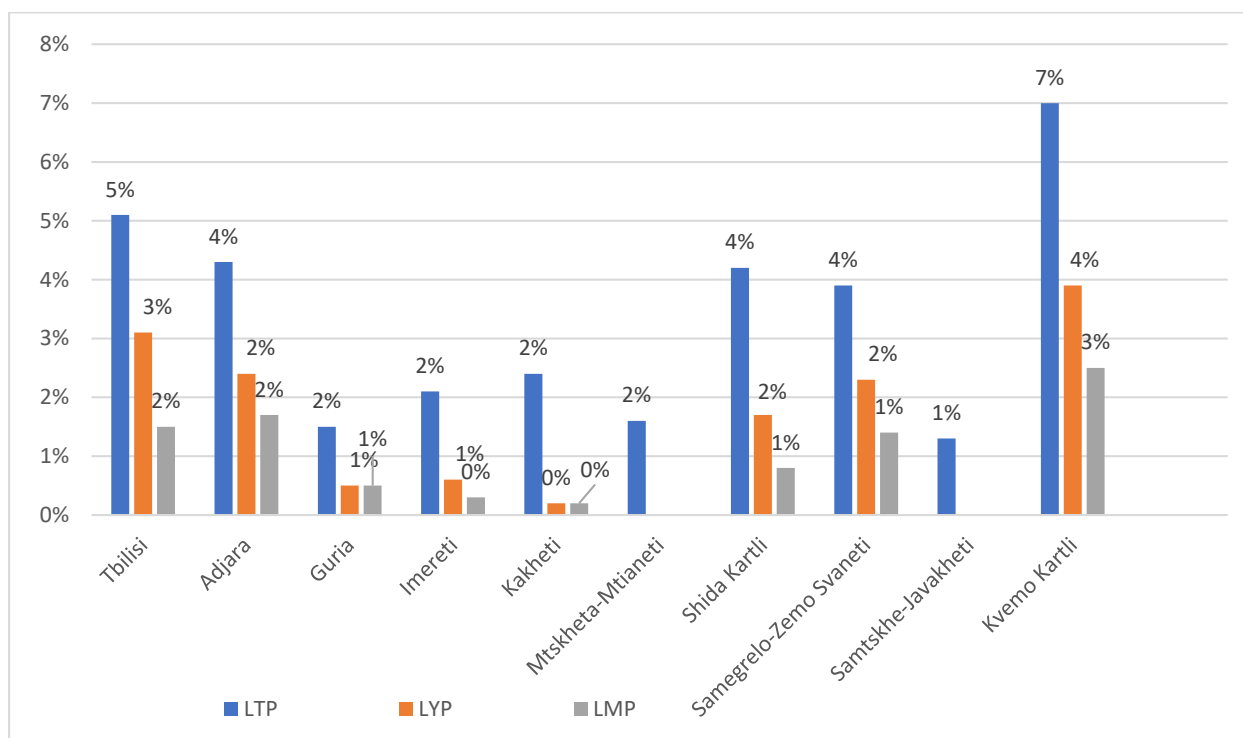
If compared to other regions, the lifetime prevalence of use of psychotropic pharmaceuticals was higher in Kvemo Kartli. Racha-Lechkhumi reported no use of psychotropic pharmaceuticals at all (Figure 15). Out of those who reported use of psychotropic medications within last month the average number of days medications were used was 13 days (min=1 day; max=30 days; SD=12.2).

The primary way of obtaining psychotropic pharmaceuticals was to buy them in a pharmacy without a prescription (1.7%, 95% CI [1.3, 2.1]). The main reason for using them without a doctor's prescription was pain relief (1.3%, 95% CI [0.9, 1.6]), to calm down (0.5%, 95% CI [0.3, 0.7]) and sleep (0.5%, 95% CI [0.3, 0.7]) or treating cardiovascular diseases (0.4%, 95% CI [0.3, 0.7]) and depression (0.2%, 95% CI [0.1, 0.4]).

Illicit substance use

Cannabis products

The mean age of the first use of cannabis products was 21 (min=10 y; max=48 y; SD=4.6). Lifetime prevalence of cannabis (herbal cannabis and hashish) use among survey participants was 20.9% (95% CI [19.7, 22.2]) and was much higher among men as opposed to women (39.9%, 95% CI [37.8, 42.1] vs. 2.6%, 95% CI [2.0, 3.4]). The last year and last month use was 4.6% (95% CI [4.0, 5.3]) and 2% (95% CI [1.6, 2.4]), respectively. Similarly, both last month and last year cannabis use was more prevalent among men if compared to women (Figure 16). Young people aged 25-29 were more likely to report using cannabis in their lifetime (24.8%, 95% CI [20.6, 29.1]), last year (9.7%, 95% CI [7.0, 12.8]), and last month

(4.7%, 95% CI [3.0, 7.2], while respondents from 50+ age category were least likely to use cannabis (Figure 17).

Figure 16. Lifetime, last year and last month use of cannabis products
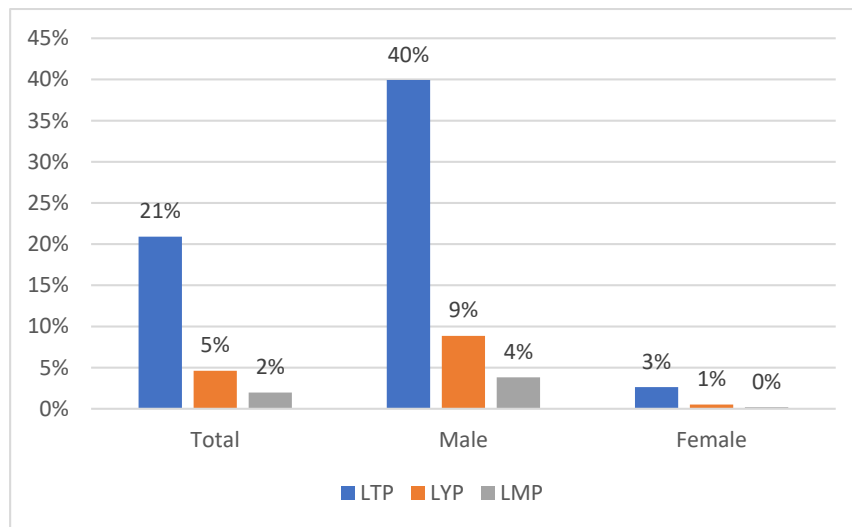
Out of those who reported using cannabis in the last month, the substance was consumed on average for six days in the last 30 days (min=1 day; max=30 days; SD=7.1). Last year and last month cannabis product use was not reported by Samtskhe Javakheti, and Racha-Lechkhumi-Kvemo Svaneti regions, and the last month use was not reported by additional 2 regions - Mtskheta-Mtianeti and Samegrelo-Zemo Svaneti (Figure 18). The highest prevalence of current use was reported in Tbilisi – 3.3% (95% CI [2.5, 4.4]).

Figure 17. LT, LY and LM prevalence of use of cannabis stratified by age groups
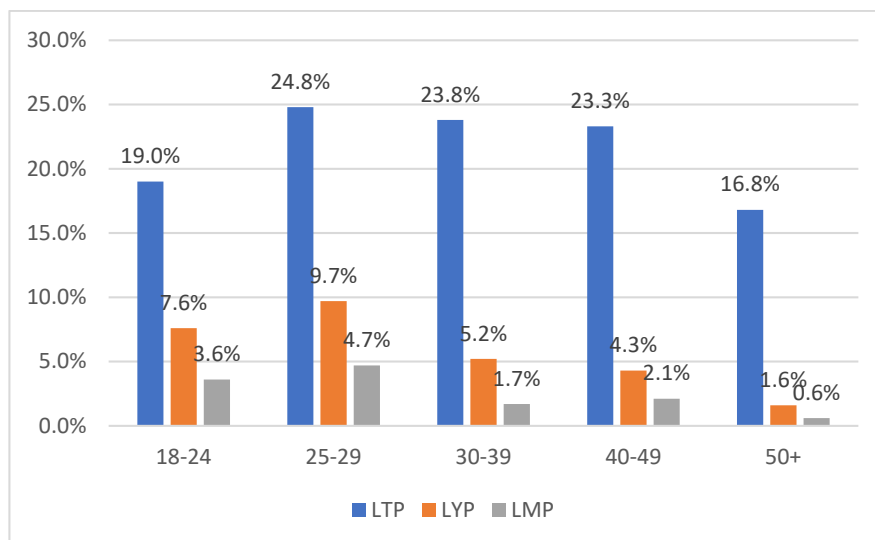
Figure 18. LT, LY and LM prevalence of Cannabis use stratified by region
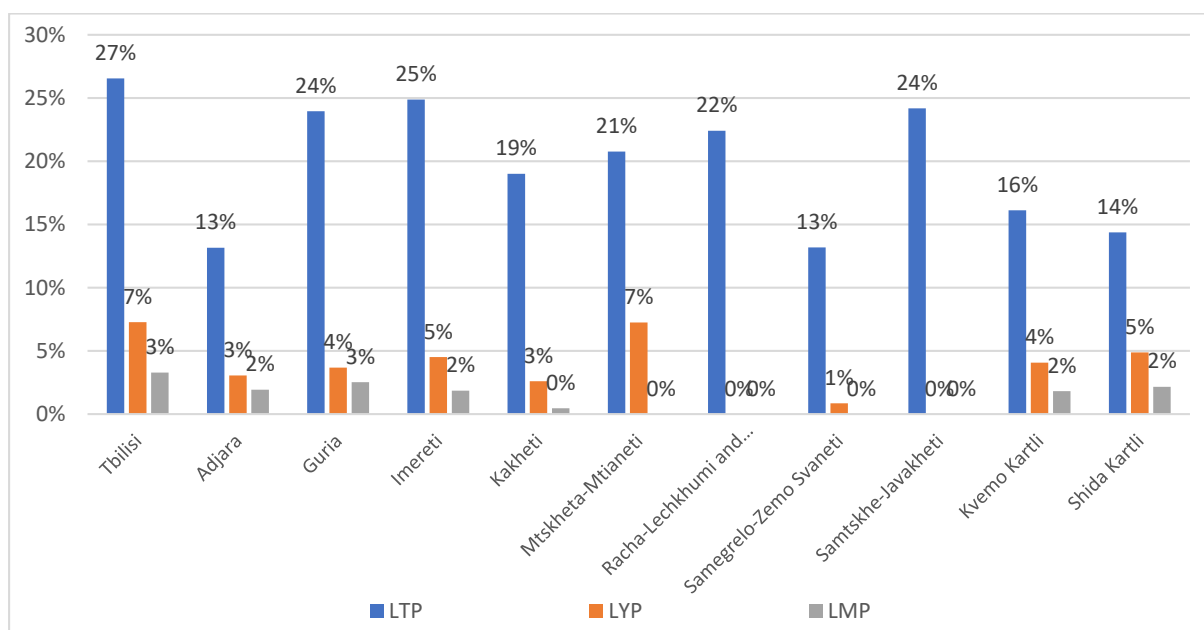
New Psychoactive Substances (NPS)

NPS are substances that mimic effects of illegal drugs, such as Cocaine, Cannabis, Ecstasy, and others. Typically, these substances can be herbal mixtures, powders, crystals, or tablets. The mean age for the first use of NPS was 31 (min = 16 y; max = 40 y; SD=11.8). Lifetime and last year use of NPS were reported by five people and made up only 0.1% (95% CI [0, 0.3]) in each period. Experience of NPS use was only mentioned by respondents from Tbilisi. Last month use of NPS was only reported by three people. Out of the last 30 days, respondents consumed NPS on average for one day.

Inhalants

The interviewers provided explanation for each substance. Inhalants were defined as Volatile solvents and organic solvents for household chemicals, which are consumed by fermentation (gasoline), gasoline, glue and the like. Only one male reported experience of inhalant use in his lifetime. Most participants (58%, 95% CI [56, 59]) had never heard about inhalants.

Ecstasy/MDMA

The mean age of first-time use of Ecstasy/MDMA in the survey was 23.6 years (min = 14 y; max = 38 y; SD=5.5). Lifetime use of Ecstasy/MDMA was reported by 1.1% of respondents (43 people) with the prevalence being 10 times higher among men (2%, 95% CI [1.5, 2.7] (40 individuals) than in women (0.2%, 95% CI [0.0, 0.4] (3 individuals)). Most of the respondents who ever tried Ecstasy/MDMA were from Tbilisi. Only 0.2% (95% CI [0.1, 0.4]) of

respondents (10 people) reported use of this drug during the last year and it was highest in the 18-24 age group (1.3%, 95% CI [0.6, 2.6]). All respondents who used Ecstasy/MDMA during the last 12 months were from Tbilisi and Imereti; no use of this particular drug was reported in other regions. Very small proportion of respondents (0.1% (95% CI [0.1, 0.3]) (6 respondents)) reported use of Ecstasy/MDMA during the previous 30 days, all were males from Tbilisi.

Lysergic acid diethylamide (LSD)

Lifetime use of LSD was reported by 18 individuals (0.4%, 95% CI [0.3, 0.7]) – 16 males (0.8%, 95% CI [0.5, 1.3]) and 2 females (0.1%, 95% CI [0, 0.1]). All were from Tbilisi (1.1%, 95% CI [0.7, 1.8]) and Kvemo Kartli (0.6%, 95% CI [0.2, 1.7]), and most were in the 25-29 age group (1.2%, 95% CI [0.5, 2.7]), (p<0.001). Three respondents reported using LSD over the last 12 months (0.1%, 95% CI [0.0, 0.2], all of them were males from Tbilisi and were under 30 years of age. None reported using LSD during the last month. The average age of first-time use of LSD was 24.5 (min = 19 y; max = 35 y; SD=5.7).

Other Hallucinogens

For the purpose of this study, we considered all hallucinogens other than LSD, such as Mescaline, Psilocybin or Magic Mushrooms, PCP, NBOMe, Ketamine, Belladonna. Use of other hallucinogen at least once in lifetime was reported by seven males (0.4%, 95% CI [0.2, 0.7]) and one female (0.1%, 95% CI [0.0, 0.2]). The average age of first-time use of other hallucinogens was 23.5 (min=16y; max = 35 y; SD=6.8). Only 4 respondents (0.1%, 95% CI [0.0, 0.2]) (2 males, 2 females) reported use of other hallucinogens during the last year and all of them were from Tbilisi. No other hallucinogens use was reported for the last month.

Cocaine/crack

Lifetime use of cocaine /crack was reported by 0.6% (95% CI [0.4, 0.9]) of the respondents (n=25) and was relatively high among 40-49 age group (1%, 95% CI [0.4, 1.8]; p<0.001) and those who resided in Mtskheta-Mtianeti (1.6%, 95% CI [0.4, 6.3]; p<0.001). Last year use was reported by four respondents (0.1%, 95% CI [0.0, 0.2] and all of them were males from Tbilisi, while no one reported consuming cocaine in the last month. The mean age of the first use of cocaine/crack was 24 (min =14y; max =35 y; SD=6.2).

Amphetamine/Methamphetamine

Thirteen males (0.7%, 95% CI [0.4, 1.1]) and one female (0.0%, 95% CI [0.0, 0.2]) reported ever using amphetamines/methamphetamines (in total 0.4%, 95% CI [0.2, 0.6]). Compared to other regions, the lifetime prevalence of amphetamines/methamphetamines use was highest

in the Mtskheta-Mtianeti region (1.6%, 95% CI [0.4, 6.3]). Only 2 respondents reported use of amphetamines/methamphetamines during the last year. Both were in the 25-29 age group and were from Tbilisi. No use was reported for the last 30 days. The average age of first-time use of amphetamine/methamphetamine was 29.5 (min = 18 y, max = 41y; SD=8.7).

Anabolic steroids

Anabolic steroids are anabolic hormones that are prescribed by a doctor, although often consumed by athletes (athletes) without a doctor's prescription. In the survey respondents were asked about consumption of anabolic hormones without doctor's prescription. Only one respondent reported lifetime use of anabolic steroids, but not in the last year. For most respondents, anabolic steroids were unknown substances.

Homemade stimulants

In Georgian context, homemade stimulants are injectable solutions produced by individuals who use drugs through reduction or oxidation of ephedrine or pseudoephedrine. The final products are amphetamine or methamphetamine, depending of a chemical process/reaction, and are known under street names "vint", "conifer vint" and "jeff". Total 3 respondents (all male) reported ever using homemade stimulants (0.1%, 95% CI [0.0, 0.2]). No use of homemade stimulants was reported over last year. Half of respondents never heard about such substance 51%, 95% CI [50, 53]), and only 2% (95% CI [1, 3]), reported that it would be easy for them to obtain this type of substance within 24 hours.

Methadone

This refers to methadone that is not prescribed by a doctor. It can be in the form of powder, crystals, tablets or syrup produced illegally and sold on a black market, or diverted from the opioid substitution program. Methadone use was reported by 18 respondents in lifetime (0.44 % 95% CI [0.3, 0.7]), last year use was reported by 8 respondents (0.2 % 95% CI [0.1, 0.4]), and 5 (0.1 % 95% CI [0.0, 0.3]) reported using it during last 30 days. One third of respondents never heard about such substance (29%, 95% CI [28, 31]).

Buprenorphine

Only 12 (0.3%, 95% CI [0.2, 0.5]) respondents reported use of buprenorphine in their lifetime, last year use was reported by 4 respondents (0.1%, 95% CI [0.0, 0.2]), and 5 (0.1 % 95% CI [0.0, 0.2]) reported using it during last 30 days. Almost half of respondents (45%, 95% CI [43, 46]) never heard about such substance.

Heroin

Heroin use was reported by 25 (0.6%, 95% CI [0.4, 0.9]) respondents (one female) in their lifetime, last year use was reported by 3 respondents (0.1%, 95% CI [0.0, 0.2]), and only one respondent (0.1 % 95% CI [0.0, 0.3]) reported using it during last 30 days.

Other opioids

Other opioids include opioids, tablet pharmaceuticals such as Tramadol, Terpincod, Codilac, Codeine, Codasan, Tetra; injectable drugs, such as Morphine or Fentanyl and home-made synthetic opioids, such as desomorphine (so-called "Krakadil"/Crocodile). The prevalence of lifetime use of other opioids was 0.3% (95% CI [0.1, 0.5]). No use in the last year was reported.

Any drugs

Based on the data reported above, this section reports about use of more than one psychoactive substance (from the list below) by a survey respondent during lifetime, last year and last month:

1. Psychotropic pharmaceuticals (without a doctor's prescription)
2. Cannabis (hashish or marijuana)
3. New psychoactive substances (NPS)
4. Inhalants
5. Ecstasy/MDMA
6. Lysergic acid diethylamide (LSD)
7. Other hallucinogens
8. Cocaine/crack
9. Amphetamines/Methamphetamines
10. Anabolic steroids (without a doctor's prescription)
11. Homemade stimulants (Vint, Jeff[22])
12. Methadone (without a doctor's prescription)
13. Buprenorphine (without a doctor's prescription)
14. Heroin (including sirets[23])
15. Other opioids

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[22] Local names of poor quality of homemade stimulants
[23] Poor quality of heroin, semi-finished product in which ballast substances make up 50% of the mass.

Almost half of the sample (1,997; 48.9%) reported current (LMP) illicit use of any psychoactive substances listed above, 68% (2,772) reported the same during the last year (*Figure 19*).

Figure 19. Any psychoactive substance used by respondents
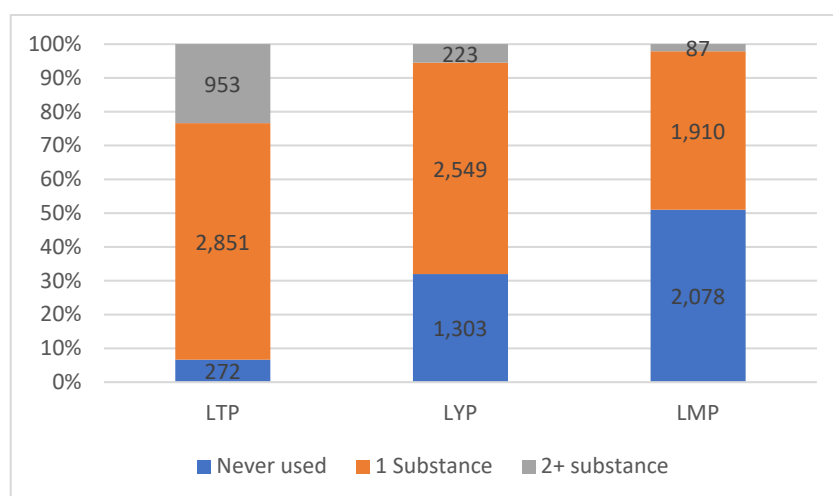
Comparing prevalence estimates between GPS 2015 and 2022

This section presents some observed differences of psychoactive substance use between GPS 2015 and 2022. To compare the prevalence estimates between two time points we used methodology described in the methodological resource book published by Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics[24].

In 2022, the last year prevalence of alcohol use had decreased (95% CI 67.0% - 73.3% $p<0.046$) compared to 2015. No change was observed in last month use of alcohol between these time periods. The prevalence of current smokers remained unchanged as well. Significant decrease was observed in use of psychotropic pharmaceuticals (LTP), and significant increase was observed in cannabis use (LT, LY and LM prevalence) and in LYP of NPS use. The table below provides comparison of prevalence estimates between 2015 (Period 1 - P1) and 2022 (Period 2 - P2) (Table 6).

Table 6. Comparing prevalence estimates of use of psychoactive substances in 2015 and 2022

Substance use	P1	P2	SE(P1)	SE(P2)	t	p
LYP alcohol	73,3%	67,0%	0,0%	0,7%	8,5025	**0,000**
LMP alcohol	49,2%	48,0%	0,0%	0,8%	1,6225	0,105
LTP & LMP tobacco						
No, never	46,5%	42,9%	0,0%	0,8%	4,5498	**0,000**
Yes, I just tried smoking but never smoked afterwards	9,6%	13,2%	0,0%	0,5%	-6,6821	**0,000**

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[24] Substance Abuse and Mental Health Services Administration Center for Behavioral Health Statistics and Quality Rockville, Maryland (2021). 2019 National Survey on Drug Use and Health (NSDUH). Methodological Resource Book. Section 13: Statistical Inference Report. pp: 43-50

Yes, I previously smoked but now I don't smoke	9,8%	11,1%	0,0%	0,5%	-2,6372	**0,008**
Yes, I currently smoke but not on a daily basis	4,2%	3,7%	0,0%	0,3%	1,8255	0,068
Yes, I currently smoke on a daily basis	29,7%	29,1%	0,0%	0,7%	0,9025	0,367
LTP pharmaceuticals	10,6%	4,1%	0,0%	0,3%	20,7282	**0,000**
LTP cannabis	16,8%	20,9%	0,0%	0,6%	-6,3971	**0,000**
LYP cannabis	3,4%	4,6%	0,0%	0,3%	-3,6007	**0,000**
LMP cannabis	1,2%	2,0%	0,0%	0,2%	-3,4274	**0,001**
LTP NPS	1,8%	0,1%	0,0%	0,1%	28,2025	**0,000**
LYP NPS	0,3%	0,1%	0,0%	0,0%	5,0220	**0,000**
LMP NPS	0,0%	0,0%	0,0%	0,0%	-0,0809	0,936
LTP MDMA/Ecstasy	0,6%	1,1%	0,0%	0,2%	-3,0413	**0,002**
LYP MDMA/Ecstasy	0,1%	0,2%	0,0%	0,1%	-2,3155	**0,021**
LMP MDMA/Ecstasy	0,0%	0,1%	0,0%	0,1%	-1,6504	0,099
LTP LSD	0,4%	0,4%	0,0%	0,1%	-0,2586	0,796
LYP LSD	0,1%	0,1%	0,0%	0,0%	0,4297	0,667
LMP LSD	0,0%	0,0%	0,0%	0,0%	-	-
LTP Cocaine/Crack	0,6%	0,6%	0,0%	0,1%	0,3144	0,753
LYP Cocaine/Crack	0,0%	0,1%	0,0%	0,1%	-2,0666	**0,039**
LMP Cocaine/Crack	0,0%	0,0%	0,0%	0,0%	-	-
LTP Amph/Methamphetamine	0,5%	0,4%	0,0%	0,1%	1,6789	0,093
LYP Amph/Methamphetamine	0,0%	0,0%	0,0%	0,0%	-0,4238	0,672
LMP Amph/Methamphetamine	0,0%	0,0%	0,0%	0,0%	1,0000	0,317
LTP Home made stimulants	0,4%	0,1%	0,0%	0,0%	9,1805	**0,000**
LYP Home made stimulants	0,0%	0,0%	0,0%	0,0%	-	-
LMP Home made stimulants	0,0%	0,0%	0,0%	0,0%	-	-
LTP Methadone	0,7%	0,4%	0,0%	0,1%	2,2348	**0,025**
LYP Methadone	0,1%	0,2%	0,0%	0,1%	-0,9008	0,368
LMP Methadone	0,1%	0,1%	0,0%	0,1%	-0,6933	0,488
LTP Buprenorphine	1,0%	0,3%	0,0%	0,1%	7,9536	**0,000**
LYP Buprenorphine	1,0%	0,1%	0,0%	0,1%	17,1707	**0,000**
LMP Buprenorphine	0,0%	0,1%	0,0%	0,0%	-1,6444	0,100
LTP Heroin	0,7%	0,6%	0,0%	0,1%	0,8123	0,417
LYP Heroin	0,0%	0,1%	0,0%	0,0%	-1,1856	0,236
LMP Heroin	0,0%	0,0%	0,0%	0,0%	-0,4616	0,644
LTP Other Opioids	0,3%	0,3%	0,0%	0,1%	-0,2643	0,792
LYP Other Opioids	0,1%	0,0%	0,0%	0,0%	38,0239	**0,000**
LMP Other Opioids	0,0%	0,0%	0,0%	0,0%	-	-

P1 – GPS 2015
P2 – GPS 2022
SE(P1) – Standard Error from GPS 2015
SE(P2) – Standard Error from GPS 2022
p (value) – statistical significance

Perceived beliefs

Along with the questions about personal use of psychoactive substances, we also asked about respondents' knowledge/beliefs regarding the use of psychoactive substances by members of their close social network. When comparing it to other substances, cannabis, ecstasy/MDMA, and methadone were more frequently named as substances used by at least one individual out of the 10 closest persons in the last 12 months (Table 7).

Table 7. Number (%) of survey respondents who reported at least one out of their 10 close people using drugs in the last 12 months

Psychoactive substance	Number of respondents	%
Cannabis	940	23%
NPS	20	0.5%
Inhalants	16	0.4%
Ecstasy/MDMA	107	2.62%
LSD	34	0.83%
Other Hallucinogens	62	1.5%
Cocaine/crack	61	1.5%
Amphetamine/Methamphetamine	28	0.7%
Anabolic steroids	14	0.34%
Homemade stimulants	37	0.9%
Methadone	75	1.84%
Buprenorphine	21	0.51%
Heroin	38	0.93%
Other opioids	16	0.4%

To measure the perceived availability of (ease of access to) psychoactive substances, respondents were asked how difficult/easy would be for them to get specific substance within 24 hours. Out of all substances, cannabis was reported to be most easily accessible – 21.1% of respondents said it would be easy or very easy for them to get it within 24 hours (Figure 20).

Figure 20. Perceived availability of/ease of access to substances within 24 hours

Figure 20. Perceived availability of/ease of access to substances within 24 hours
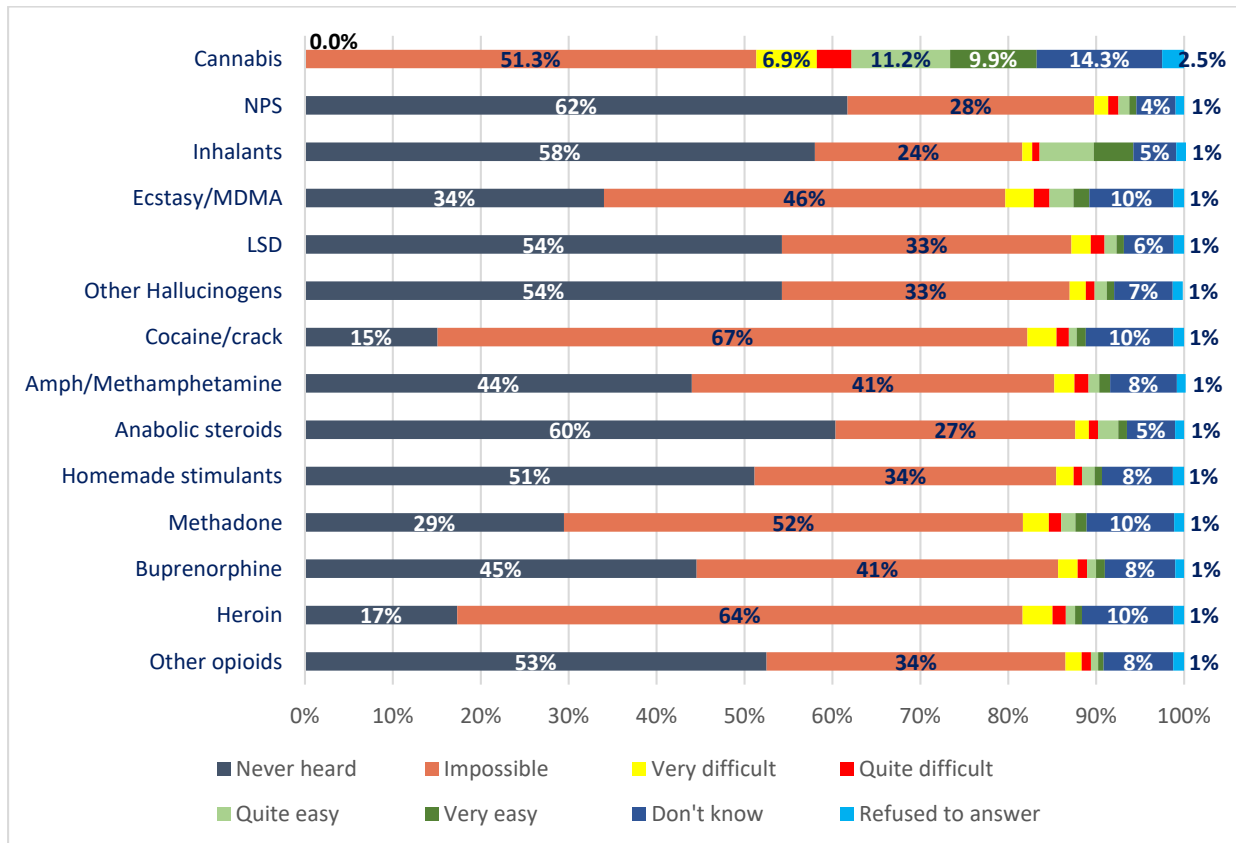
Gambling

Gambling was defined as involvement in different types of games such as slot machines, on-line slot machines, casino games, cards tournaments, sports and non-sports betting, on-line betting, lotteries (purchased by respondent) and private betting with friends for the purpose of winning the money. The average age of the first episode of gambling was 26 years (SD=10.4). More than one third of the sample (39.4%, 95% CI [37.9, 40.9]) reported engaging in some type of gambling in at least one type of gambling in their lifetime; 15.3% (95% CI [14.2, 16.4]) reported gambling during last year and 9.3% (95% CI [8.5, 10.2]) during last month (Figure 21). The instant lottery was the most prevalent (popular) type of gambling, while private betting was the least popular (Figure 21).

Figure 21. LT, LY and LM prevalence of specific types of gambling
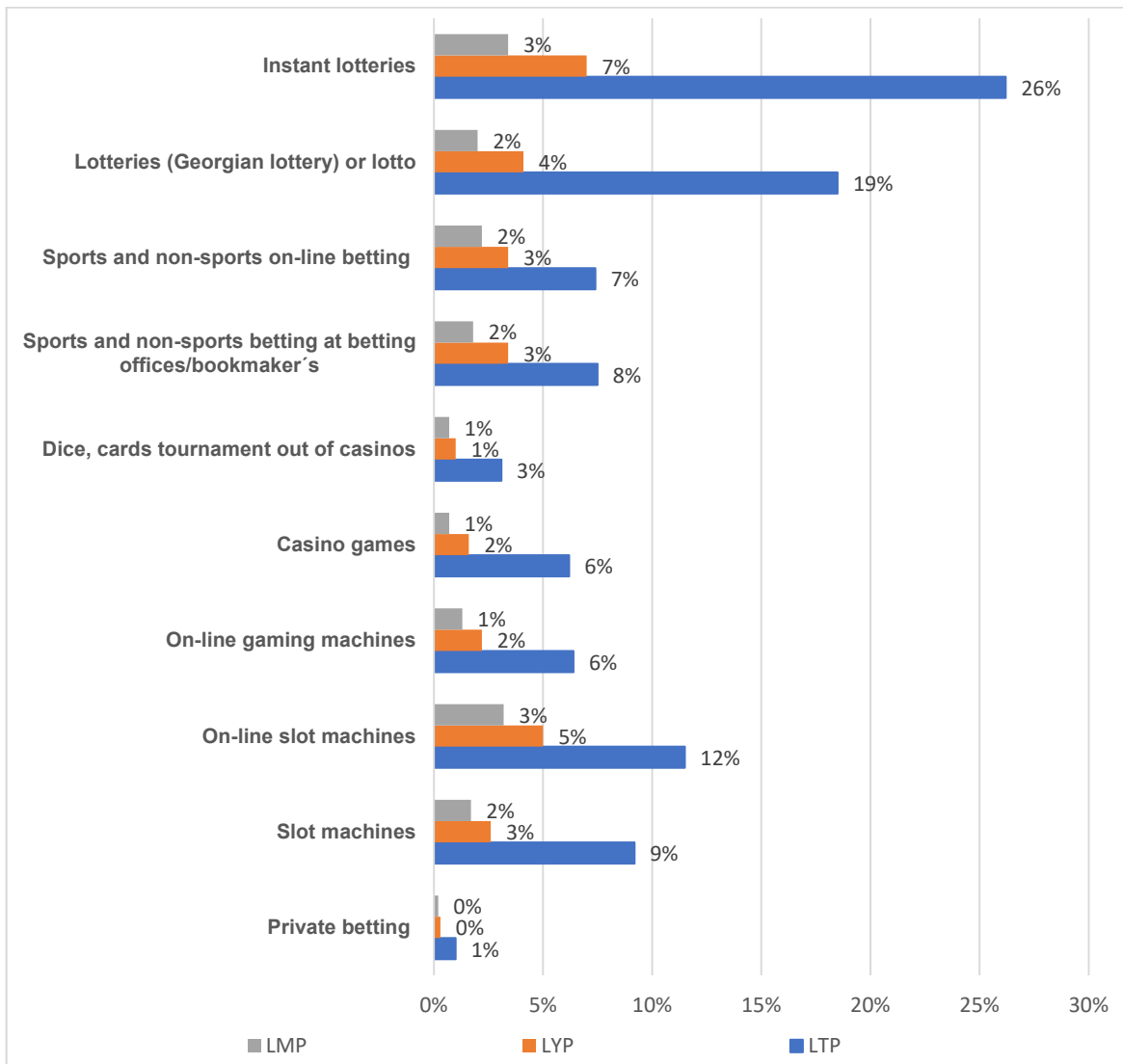
In the past year men were twice more likely to gamble compared to women (21.5%, 95% CI [19.8, 23.4] vs 9.3%, 95% CI [8.1, 10.6]) (Figure 22). Almost half of respondents aged 25-29 reported ever gambling and quarter gambled in the past year. In the lifetime, the past year, and past month more men and young people reported gambling (p<0.001) (Figure 23).

Figure 22. LT, LY and LM prevalence of gambling across gender

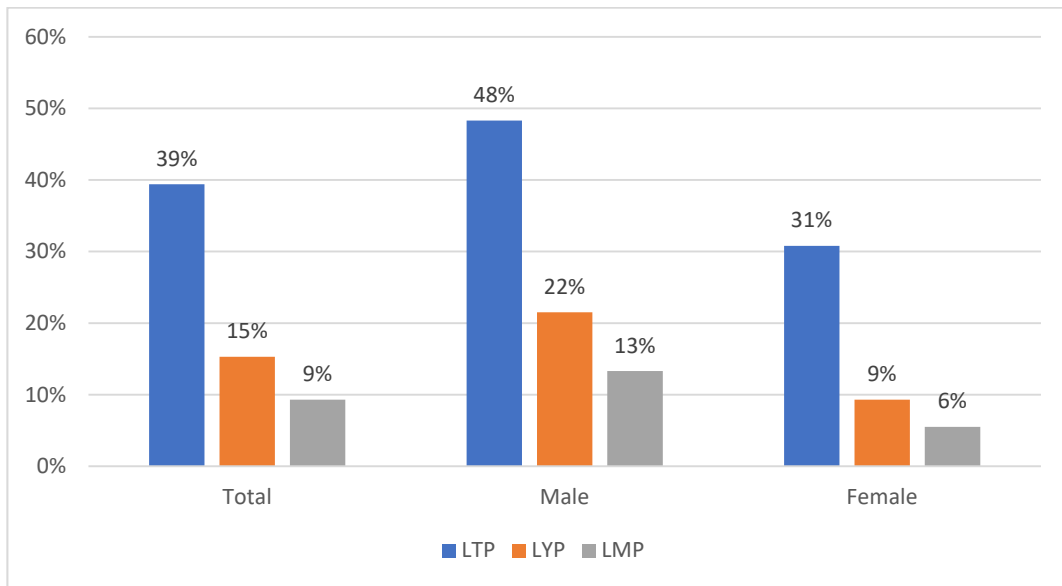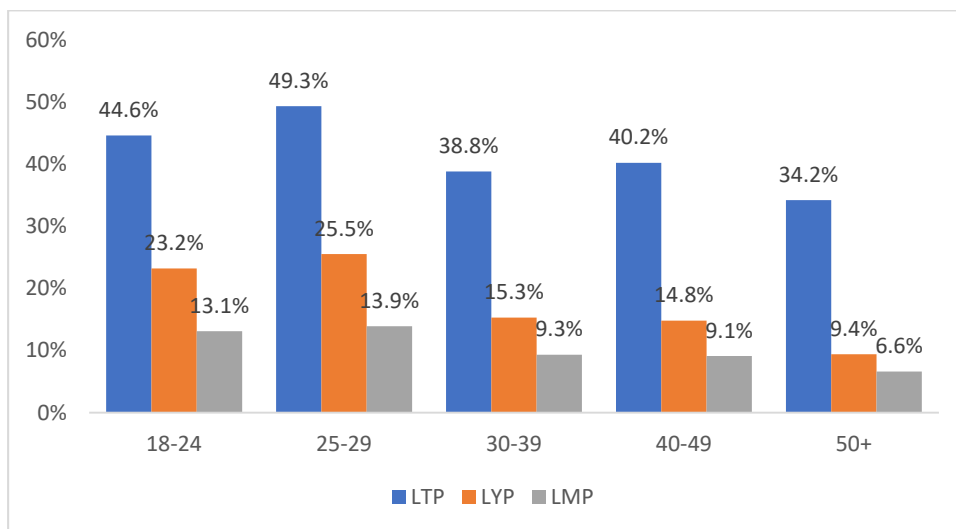*Figure 23. LT, LY and LM prevalence of gambling stratified by age*

Lifetime experience of gambling was highest in Mtskheta-Mtianeti (53.5%, 95% CI [43.2, 62.6]), while the past year prevalence was highest in Samtskhe-Javakheti (18.4%, 95% CI [13.2, 24.8]). Past month prevalence of gambling was highest in Guria (12.2%, 95% CI [7.1, 18.9]) followed by Samtskhe-Javakheti (11.5%, 95% CI [7,2. 16.8]) (Figure 24).

Figure 24. LTP, LYP and LMP of gambling stratified by regions
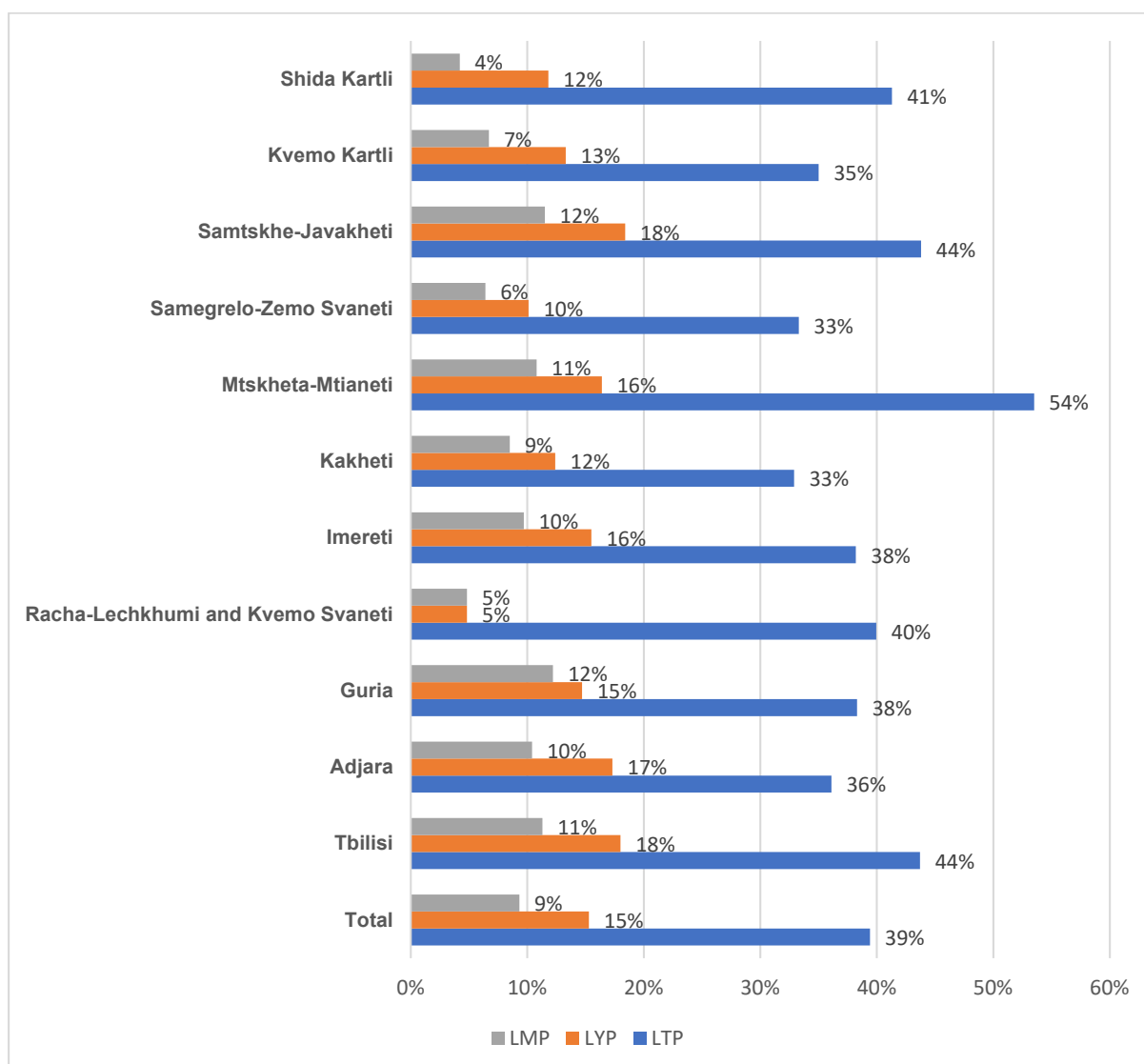
For individuals who participated in gambling activities within the past year, the average monthly amount spent on gambling was 93 GEL (with a minimum of 0, maximum of 5,000, and standard deviation of 351). Interestingly, the majority tended to spend less than 10 GEL per day of play, with the highest percentage being 7.4% (95% CI [6.7, 8.3]). Gambling reported at least once during the last year by 15.1% of the population and majority of them indicated gambling several times a year (4.9%), followed by gambling several times in a month (3.4%). One out of eight individuals who gambled in the last year reported daily gambling.

Within the survey, a problem gambler was defined as someone who reported gambling-related problems, including financial difficulties, or had to borrow money or sell personal belongings for gambling during last 12 months. Almost three per cent (2.9%, 95% CI [2.5, 3.5]) reported problem gambling during last 12 months. Men (5.6%, 95% CI [4.7, 6.7]) and adults aged 25-29 (6.7%, 95% CI [4.6, 9.6]) were more likely to have patterns of problem gambling (p<0.001). Employed people including students, or self or temporarily employed, were more likely to be problem gamblers (p<0.001). Higher proportion of respondents from Guria (7.3%, 95% CI [3.3, 12.6] and Samtskhe-Javakheti (6.4%, 95% CI [3.5, 11.0]) tended to have patterns of problem gambling than respondents from other regions (p<0.001). The

majority of respondents have never heard that it was possible to exclude themselves from betting or gambling services.

Opinions

Survey participants were asked several questions regarding their opinion/attitude towards illicit drug use and related legislative measures. The most endorsed opinion (37.7%, 95% CI [36.3, 39.2]) was that people who use drugs were not criminals. A significant proportion of the participants agreed that imprisonment of people who use or inject drugs should not be used as a measure of punishment. A closer examination of the data suggested that the participants were more tolerant to those who use cannabis products as opposed to people who inject drugs.

Figure 25. Attitudes towards illicit drug use and related legislative measures
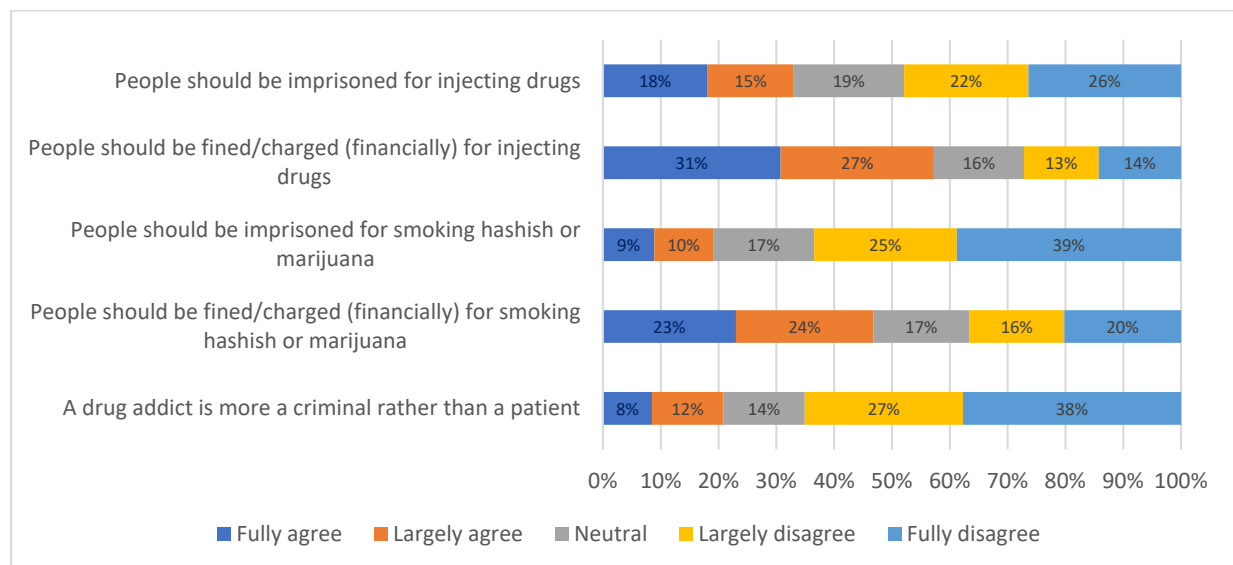
Only one respondent out of 20 agreed that people who consume cannabis products should be sentenced to imprisonment, while - more than one third of all respondents favor the idea of incarcerating injecting drug users. Vast majority reported that administrative sanctions should be used as a response towards drug use. More than half of the sample favored financial charges as a way of punishment for people who inject drugs. By contrast, when it comes to cannabis use, respondents' opinions varied. Three people out of ten disagreed that people who consume cannabis products should be punished even with administrative sanctions (Figure 25).

Testing and Addiction Treatment Experience

Testing on HIV, HBV and HCV

Among the population surveyed, the highest percentage (40.1%) reported being tested for HCV, while 29.3% reported being tested for HBV and 21.6% for HIV (Figure 26). Being tested for HBV at least once in their lifetime was reported by 28% (95% CI [26, 30]) of male respondents and 30.6% (95% CI [28.6, 32.6]) of females. The highest rates of HBV testing was reported in the 30-39 age group (37.8%, 95% CI [34.7, 40.9]) and in Racha-Lechkhumi and Kvemo Svaneti (37.6%, 95% CI [21.3, 54.5]) regions.

Figure 26. Reported prevalence of ever testing on HBV, HCV and HIV
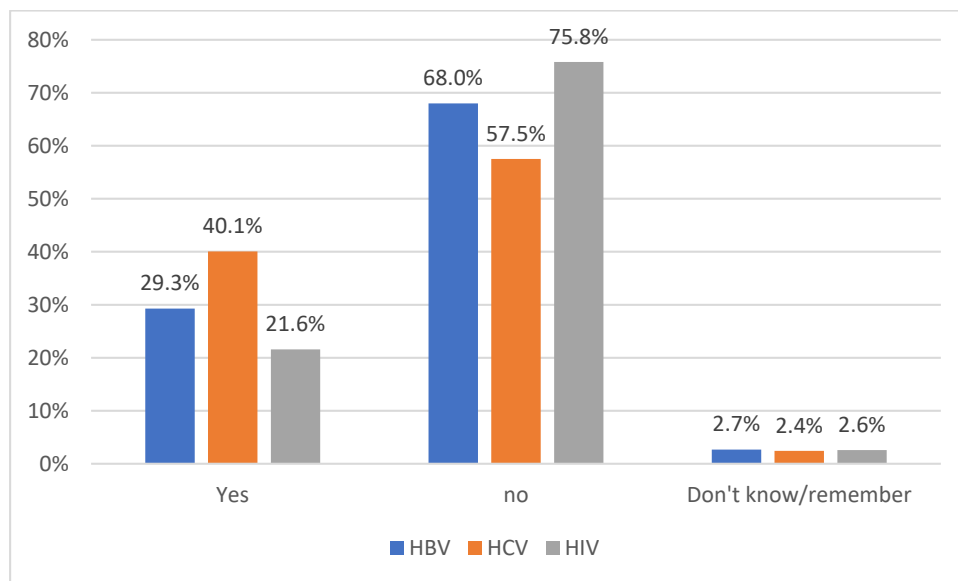
Regarding HCV testing, lifetime prevalence in males was 37.6% (95% CI [35.5, 39.7]) and in females was 42.4% (95% CI [40.3, 44.6]). The highest rates of HCV testing were reported in the 30-39 (49%, 95% CI [45.8, 52.1%]) age group and in Guria 63% (95% CI [53.9, 71.3]). Being ever tested for HIV was reported by 19.1% (95% CI [17.4, 20.9]) of males and 23.9% (95% CI [22.1, 25.8]) of females.

Treatment experience

Total 28 individuals (of them 1 female) reported ever being treated for alcohol use, 15 reported being treated for drug use (of them 1 female), and 2 (both males) reported being treated for both, alcohol and drug use related problems. Fourteen (all males) individuals indicated they have been treated only for alcohol use and six (all males) reported they have been treated for drug use during last 12 months. No treatment experience was reported within 30 days.

CHAPTER 4. RANDOMISED RESPONSE TECHNIQUE

BACKGROUND

When planning the GPS 2022 for Georgia, the issue of survey response validity was discussed. "Survey response validity" is of special concern in any survey of sensitive behaviors, including hazardous health practices such as heavy drinking, or illegal behaviors such as using a controlled substance. In previous GPS 2015 we used RRT and decided to apply this methodology in current study as well[25].

RRT provides a check on survey response validity and the completeness of the self-reported drug use Introduced decades ago, in social psychological and survey research on sensitive behaviors, this RRT approach does not disclose the true value for any specific individual, but it provides a check on whether the standard GPS prevalence estimate for a population might have a problem of survey response validity.

It was not our intention to produce "new and improved" GPS estimates based on the RRT approach. Rather, in this application to a large sample GPS, our goal was to check on the issue of survey response validity, and to get a crude sense of whether the standard GPS estimates should be regarded as "on mark" or whether they might be "conservative" due to under-reporting of sensitive and illegal behaviors. Here, by "conservative", we mean "lower" values than what is most likely to be true for the 18 - 64-year-old population of Georgia.

RRT Concepts and Principles as Applied in the Georgia GPS 2022

The RRT concept is based on the idea that some participants might not give a fully truthful answer to sensitive survey questions about illegal substance use, but they will give a more truthful answer to non-sensitive survey questions about other topics such as whether they have crossed the border, whether they got driver's license, and whether they got a new passport in the past year. In addition, for some of these non-sensitive topics, we turned to official statistics to give us an approximation of how many 18-to-64-year-olds got a new ID card in the past year, crossed border, etc[26].

Given the field conditions of the Georgia GPS and having an experience of RRT application back in 2015, we used a Lari coin for RRT randomization. At the end of the standard GPS survey questions, we gave each participant a Lari coin to toss, such that the expected outcome of the participant's coin toss would be 50:50, more or less equally likely to be a 'Logo' (heads) or a 'Number' (tails). In addition to providing this coin (our 'randomizer device'), we also presented to participant a printed sheet with two columns of Yes/No questions arranged in pairs, one question per column. We told the participant to use the result of the coin toss to determine whether to answer the question in the "Logo" column (all of which are about drug use) or to answer the paired question in the "Number" column (all of which are

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[25] Kirtadze I, Otiashvili D, Tabatadze M, Vardanashvili I, Sturua L, Zabransky T, Anthony JC. Republic of Georgia estimates for prevalence of drug use: Randomized response techniques suggest under-estimation. Drug Alcohol Depend. 2018 Jun 1;187:300-304. doi: 10.1016/j.drugalcdep.2018.03.019. Epub 2018 Apr 18. PMID: 29704851.
[26] Official statistics were received from Ministry of Internal Affairs, National Center of Disease Control and Public Health, Ministry of justice and National Statistics Office of Georgia – Geostat.

about non-sensitive topics). As we ended up with six functional pairs of questions (one sensitive, one non-sensitive), the participant had to toss the coin six times (Table 8). This sequence of six "Yes/No" questions in the RRT module of the survey questionnaire was well-tolerated by virtually all of the survey participants, as indicated by a low frequency of missing values. Some participants seemed to enjoy the coin tossing and this part of the interview process.

Table 8. RRT questions sheet

#	Answer if TAILS	Answer if HEAD
RRT1	During the last 12 months, have you taken cannabis?	In 2021 did you get a biometric passport?
		1 ☐ YES
		2 ☐ NO
RRT2	During the last 12 months, have you taken MDMA/Ecstasy?	In 2021 did you get a new ID card?
		1 ☐ YES
		2 ☐ NO
RRT3	During the last 12 months, have you taken Ketamin?	Did you get a B category driving license first time in your life in 2021?
		1 ☐ YES
		2 ☐ NO
RRT4	During the last 12 months, have you taken Heroin/Siretc?	In 2021 did you cross the Georgian border (out)?
		1 ☐ YES
		2 ☐ NO
RRT5	During the last 12 months, have you taken home-made Stimulant-Vint?	In 2021 did you get a vaccination for tetanus?
		1 ☐ YES
		2 ☐ NO
RRT6	During the last 12 months, have you injected any drugs?	In 2021 did you get a vaccination for rabies?
		1 ☐ YES
		2 ☐ NO

It is important to note that participants were told to keep the outcome of each of the six coin tosses a secret, and to answer either "Yes" or "No" without telling us which question was being answered. In this way, the participant knew the "Logo" versus "Number" result of the coin toss, and also knew which question to answer, but otherwise there was "blinding" to these details. The interviewer listened for a "Yes" or a "No" answer to the question, but did not know whether the coin toss produced a "Logo" or a "Number" result, and did not know which of the two paired questions was being answered.

In current study we used 2 questions in RRT that were not covered by standard GPS, these are   questions related to ketamine use (RRT3) during last year and injection use of any substance (RRT6) during last year. Also, standard GPS 2015 did not provide estimates for home-made stimulants while RRT was able to generate population estimates.

GPS 2022 RRT Approach as Applied to Drug Compounds

For illustration we use a lifetime history of cannabis use. The RRT1 sensitive and non-sensitive questions were: "Have you taken cannabis during the last 12 months? and "In 2021 did you get a biometric passport?" The expected share of 18-to-64-year-old adult Georgians who got biometric passport was about 6%, as reported to us by the Ministry of Internal affairs (168,365 biometric passports were issued in 2021).

— Out of total 4,076 RRT respondents, 238 answered "Yes" to the RRT1 question, representing a mixture of "Yes" answers to the "biometric passports" non-sensitive question plus "Yes" answers to the "last year cannabis use" sensitive question (Table 9).

— However, our expectation was that 50% of the 4,076 answered the "biometric passport" question because the outcome of a coin toss was "Number" in these cases (n =0.5*4,074= 2,038).

— Furthermore, an expected 6% of the 2,038 got biometric passport and answered "Yes" for that reason, so that the expected number of "Yes" answers generated by this question is 123, derived as 6% times 50% times 4,076.

— The actual observed number of "Yes" answers to RRT1 is 238, from which we subtract the expected number (123) to derive an observed 115 "extra" "Yes" answers.

— It follows that if the working assumptions of the RRT approach are correct, these 115 "Yes" answers were generated when the outcome of the coin toss was "Logo" rather than "Number" and all participants with this outcome answered the last year cannabis use question.

— From this point, we divide 115 by the expected number of participants who answered the sensitive question (i.e., by 2,038 = 0.5 * 4,076) to obtain the GPS+RRT estimate for the proportion with last year cannabis use (115/2,038 = 5.7%).

— That is, subject to its assumptions being correct, the RRT approach suggests that roughly one in twenty of the 18-to-64-year-old adults in Georgia have tried cannabis on at least one occasion in last 12 months.

The estimation results of applied abovementioned RRT methodology to all RRT questions are presented in Table 9. The methodology for calculation is provided in details in the previous GPS 2015 report and described elsewhere (Kirtadze at all, 2018).

Table 9. RRT Frequency Distributions (unweighted) to indicate how many "Yes" and "No" answers were given by participants to each of the six RRT items.

RRT question	Frequency	Percent
RRT 1: During the last 12 months, have you taken cannabis? In 2021 did you get a biometric passport?		
Yes	238	6%
No	3838	94%
Total	4076	100%
RRT 2: During the last 12 months, have you taken MDMA/Ecstasy? In 2021 did you get a new ID card?		
Yes	244	6%
No	3832	94%
Total	4076	100%
RRT 3: During the last 12 months, have you taken Ketamin? Did you get a B category driving license first time in your life in 2021?		
Yes	127	3%
No	3949	97%
Total	4076	100%
RRT 4: During the last 12 months, have you taken Heroin/Siretc? In 2021 did you cross the Georgian border (out)?		
Yes	182	4%
No	3894	96%
Total	4076	100%
RRT 5: During the last 12 months, have you taken home-made Stimulant-Vint? In 2021 did you get a vaccination for tetanus?		
Yes	73	2%
No	4003	98%
Total	4076	100%
RRT 6: During the last 12 months, have you injected any drugs? In 2021 did you get a vaccination for rabies?		
Yes	82	2%
No	3994	98%
Total	4076	100%

Conclusions Based Upon the Georgia GPS 2022 Experience with the RRT Approach

If we make standard assumptions about the RRT approach, judging that exaggeration is a minimal source of error, and that few participants made mistakes during the RRT process, these results from an application of the RRT approach in the Georgia GPS suggest that the standard GPS survey estimates for illegal substance use might be affected by under-reporting (Table 10).

In sum, applied to cannabis, and when compared with the standard GPS estimate of 4.6%, the GPS+RRT approach suggests that the actual proportion of adult Georgians in this study population with a last year use of cannabis on at least one occasion might be in a range from 5.6% to 5.8%, with a middle value of 5.7%. If the RRT assumptions are correct, the standard GPS approach was affected by some degree of under-reporting of last year cannabis use. A similar conclusion can be drawn for other drug compounds after a review of corresponding GPS+RRT estimates for those compounds, as presented in the table below. We used 2 sensitive questions in RRT that were not included in standard GPS – RRT3 and RRT6, therefore we are not able to provide GPS vs RRT comparisons.

Table 10. GPS and RRT estimations of different psychoactive substance use

RRT question			GPS	RRT
RRT 1: During the last 12 months, have you taken cannabis?				
	Estimate		4.6%	5.7%
	95% CI	Lower	4.0%	5.56%
		Upper	5.3%	5.84%
RRT 2: During the last 12 months, have you taken MDMA/Ecstasy?				
	Estimate		0.2%	3.8%
	95% CI	Lower	0.1%	2.98%
		Upper	0.4%	4.62%
RRT 3: During the last 12 months, have you taken Ketamin?				
	Estimate		**NA**	4.5%
	95% CI	Lower	**NA**	2.43%
		Upper	**NA**	5.57%
RRT 4: During the last 12 months, have you taken Heroin?				
	Estimate		0.1%	0.1%
	95% CI	Lower	0.0%	0.014%
		Upper	0.2%	0.74%
RRT 5: During the last 12 months, have you taken home-made Stimulant-Vint?				
	Estimate		0.0%	2.3%
	95% CI	Lower	0.0%	1.65%
		Upper	0.0%	2.95%
RRT 6: During the last 12 months, have you injected any drugs?				
	Estimate		**NA**	3.3%
	95% CI	Lower	**NA**	2.52%
		Upper	**NA**	4.08%
NA - question was not asked				

CHAPTER 5. MAJOR FINDINGS AND DISCUSSION

The current survey reports findings of the second national representative study on use of alcohol, tobacco and psychoactive substances, and attitudes towards illicit substance use among the general population of Georgia 18-64 years of age. Standardized methodology, comprehensive sampling approach, large representative sample, and good response rate (59% out of eligible household) indicate that the outcomes of the survey can be treated as reliable, valid and generalizable findings.

The use of a standardized methodology for GPS studies in Georgia in 2015 and 2022 allows for observing certain trends in relation to consumption of specific substances and public opinions. Below, we present the most interesting observations.

Although, the overall rates of alcohol consumption remain high in general population, there was a reduction in the prevalence of alcohol use in the last 30 days among men – 70% in 2015 and 51% in 2022. The prevalence of problem drinking (identified using the AUDIT tool) has also decreased from 1.6% to 0.6%. It is challenging to find a definite explanation for these trends. One assumption can be that these reductions might be a continuation of the trend identified during the COVID-19 pandemic. Results of the online survey of a large representative sample in 2021 suggested that alcohol consumption was reduced during the pandemic related lock-downs[27]. One possible explanation offered by authors was that Georgians generally consume alcohol at gatherings with friends or relatives, and rarely alone, and restrictions on physical contacts naturally limited options for alcohol consumption.

The rates of tobacco use have remained largely similar in 2015 and 2022, with the only visible change in the share of smokers who smoked fewer cigarettes per day. If compared to 2015, remarkably larger share of current smokers in 2022 reported smoking 1-10 cigarettes a day – 7% and 22.1 % respectively. Potentially, higher health literacy, but also higher prices for tobacco products could have contributed to this change.

We observed a significant reduction in the use of psychotropic medications (without doctor's prescription). For all time intervals (LT, LY, LM) fewer respondents reported using psychotropic medications in 2022 if compared to 2015. This reduction in the prevalence can in part be related to the tightened regulation over the control of psychotropic medications implemented in the country in recent years. Along with other regulatory amendments, these changes included the introduction of e-prescription system and stricter regulations for pharmacies over the sale of psychotropic medicines[28].

It was interesting to examine the trends in cannabis use because there were remarkable policy and legal changes implemented just between the two GPS waves. In 2017-2018 the Constitutional Court of Georgia issued a number of decisions that resulted in a drastic change in the criminal and administrative legislation towards abolishing punishment for use of cannabis products (unless in public space or in the presence of minors)[29]. The prevalence of cannabis use has slightly increased between 2015 and 2022. For example, last year prevalence went up from 3.4% to 4.6%, and the last month prevalence did the same – 1.2%

[27] Makhashvili N, Javakhishvili JD, Sturua L, Pilauri K, Fuhr DC, Roberts B. The influence of concern about COVID-19 on mental health in the Republic of Georgia: a cross-sectional study. Global Health. 2020 Nov 18;16(1):111. doi: 10.1186/s12992-020-00641-9. PMID: 33208153; PMCID: PMC7672175.
[28] Order on the approval of special rules for the use of electronic prescripption form #2 for prescribing psychotropic medications and farmaceutical products under the special control, (2022).

[29] Georgian National Drug Observatory. Drug Situation in Georgia 2019. Tbilisi, Georgia: Ministry of Justice of Georgia; 2020

to 2.0%. For both waves, the age group 24-29 seems to be the one with highest prevalence of cannabis use, if compared to other age groups. In line with these results, last year cannabis use among youth (as documented through the European School Project on Alcohol and Drugs) has also increased slightly from 8.1% in 2015 to 9.6% in 2019, with boys reporting significantly higher rates of use compared to girls[30] [31]. It is however unclear whether such increases in reported cannabis consumption reflect the actual change in the rates of use, or should be attributed to the relaxations in the legal environment and resulting higher openness of respondents while reporting a sensitive behavior. Somehow expectedly, if compared to other controlled substances, cannabis products were named to be most easy to obtain – 11% of respondents said they believe it was easy to obtain cannabis.

The prevalence of use of a home-made stimulant Vint was very low – only 3 respondents reported using Vint at some point in lifetime (25 reported so in 2015 GPS). Although general population surveys are not intended to provide reliable estimates of injection and/or "hard" drug use (because of a low frequency of such behavior), our results can be seen as an additional sign of a decline in the use of home-made stimulants in Georgia. The recent bio-behavioral surveillance survey among people who inject drugs (BBSS 2022) reported the last month prevalence of 10% for Vint, which was a reduction from the 20% in the previous BBSS conducted in 2016[32] [33].

Finally, we observed certain changes in public opinion in relation to approval or disapproval of legal responses to drug use and drug possession. If compared to 2015, there were more people in 2022 approving both the criminal sanctions and administrative fines for injection drug use, but also for cannabis consumption. More respondents (20% vs 14.3%) believed that people who use drugs should be treated as criminals rather than patients. We have no sensible explanation for this trend which rather contradicts expectations of the research. It was our assumption that the global processes towards the liberalization of drug related policies, but also Georgia's fresh experience with quazi-legalization of cannabis consumption would facilitate more tolerant attitudes to psychoactive drug use from the side of general population. Results of the current study do not seem to support such assumptions.

The GPS+RRT approach produced estimates that were larger in certain cases than corresponding estimates from the standard GPS approach, or produced estimates when the standard GPS approach did not yield a useable estimate other than a working approximation. In consequence, we offer a tentative suggestion that the utilization of RRT approach to the GPS context should be continued.

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