ALCOHOL CONSUMPTION AND ITS DETERMINANTS IN AFRICA: A QUANTITATIVE RESEARCH CONCERNING YOUNG CONSUMERS IN BRAZZAVILLE

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ABSTRACT

Alcohol consumption in the Republic of Congo is increasingly becoming a social phenomenon that arouses joy, envy, interest and leisure among young people that are difficult to explain and understand a priori. The objective of this study is to identify the determining factors of alcohol consumption among young people in Brazzaville. A total of 445 young respondents (men and women aged 15 to 35) were surveyed. The data is analyzed using a Logit model that shows that socio-economic factors and marketing-related aspects are the main determinants that influence the increase in alcohol consumption among the youth in Brazzaville. Youth with an income, consume as many times as they want because they get pocket money from their parents, and because they have odd jobs. It is recommended that
governmental authorities should put some sustainable policies to reduce the excessive alcohol intake by youth.

**Keywords**: Alcohol Consumption, Alcohol, Juvenile Environment, Alcoholic Beverages.

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**INTRODUCTION**

Alcohol consumption is a worldwide phenomenon that involves many factors and determinants as long as it is the psychoactive substance (such as beer, wine, whiskey and other alcoholic beverages that have addictive properties and which have been widely used in many cultures for centuries\(^1\)). This consumption leads to multiple health effects and risks, such as cancers and liver disease, risky sexual behavior, accidents and injuries. In return, it greatly affect the quality of life of individuals, families, as well as nations.

The World Health Organization (WHO) estimates that in 2016 about three million people died from alcohol. This represents 5.3% of all deaths worldwide, or more than one in 20 deaths. These statistics on alcohol-attributable deaths show that, more than a quarter (28.7%) are due to accidents, 21.3% to digestive pathologies, 19% to cardiovascular diseases, 12.9% to infectious diseases and 12.6% consecutive to cancer. This disease burden is unevenly distributed around the world, and is much higher in developing countries (Gavidia et al., 2011; Nassè, 2019).

In Africa, the prevalence of alcohol consumption was 39.1% in South Africa among secondary school adolescents, 15% in Kenya, and 57.7% and 19.2% in Ethiopia and Southern Africa, respectively (Kebede and Alem, 2006; Madu and Matla, 2003; Kuria, 1996).

In the Republic of Congo, data from the study by Gassaye et al. (2014) on the prevalence of alcohol consumption in the city of Brazzaville showed that out of 517 respondents; 61% and 22% of adults and adolescents respectively consumed alcohol and that they drank out of cravings, worries and were dependent on alcohol.

Alcohol consumption in Congo Brazzaville can be attributed to environmental, socio-economic, socio-demographic, individual factors as well as aspects related to marketing (the use of aggressive advertising strategies by the alcohol industry to promote its products to young people). These factors have been linked to increased alcohol consumption and abuse, and greater acceptability of alcohol consumption as a social norm among youth. Youth correspond to individuals with age between 15 and 24. This definition does not give a consensus in relation to the social reality between countries. Thus, it is difficult to determine an exact definition of youth.

However, our study being circumscribed in an African context, we opt for the definition of youth given by the African charter, which stipulates that being called young corresponds to any individual aged 15 to 35 years.

Given the profound effects of alcohol on morbidity and mortality around the world, a certain amount of literature examines the factors affecting alcohol consumption in developed countries and other developing countries (Jernigan et al., 2016; Sy, 2017; McClure et al., 2018; Jackson and Bartholow, 2020; Dunklin, 2021; Nassè et al., 2023a; Nassè et al., 2023b).

On the other hand, little attention has been devoted to examining this topic in the Republic of

Congo and in particular in Brazzaville, where alcohol consumption is widespread, the non-existence of a regulatory framework for alcohol, no minimum drinking age, no limitations on the sale or advertising of alcohol and low taxes on alcoholic products. Therefore, the present research attempts to fill this gap by providing an answer this question: **What are the determinants of alcohol consumption among youth in Brazzaville?**

Finally, the objective of this research is to identify the determinants of alcohol consumption among young people in Brazzaville.

**LITERATURE REVIEW**

Our review of the literature is presented in two phases. First, we give the theoretical explanations of the relationship between alcohol consumption and the factors related to this consumption. Second, we presented the empirical work.

- **Theoretical Explanations**

  Several theories can explain the relationship between alcohol consumption and related factors. We have works that provide explanations of factors related to alcohol marketing, socio-economic factors and environmental factors.

  Works explaining alcohol consumption from the effects of alcohol marketing, environmental factors include the social cognitive theory of Bandura (2004), the self-determination theory of Deci and Ryan (1985) on the one hand. On the other hand, works explaining alcohol consumption from socio-economic factors include consumer economic theory.

  Bandura's social cognitive theory (2004) is based on the assumption that human behaviors can be affected by environmental influences, learning, observation and social reinforcement. Applied to the context of alcohol consumption among young people in Brazzaville, environmental influences refer to the accessibility of alcohol or the density of points of sale, the usual place of alcohol consumption, the district of residence and the proportion of young people aged 15 to 35 in the district. Thus, population-wide alcohol consumption may be higher in neighborhoods with higher density of alcohol outlets (Ayuka et al., 2014; Bryden et al., 2012). Conversely, a small number of drinking establishments in an area are often responsible for a large proportion of alcohol-related harm, suggesting that certain characteristics of these establishments may aggravate behavior problems (Rowe et al., 2010).

  With regard to the habitual place of alcohol consumption, Hobbs et al. (2003) state that places of consumption constitute a principal site for the promotion and proliferation of excessive alcohol consumption.

  The district of residence or zone of residence corresponds in the literature to the place of residence; whether urban or rural. By analogy, the rural environment in this study may correspond to the pericenter and peripheral. Thus, the alcohol consumption behavior of young people varies in these different environments. People living in rural areas drink alcohol more frequently and experience higher rates of alcohol-related injuries (Chan et al., 2016; Snow et al., 2006). A contradictory finding was presented by the authors Feltzer and Ramlagan (2009), Assanangkornchai et al. (2010), who believe that alcohol consumption was higher in urban than rural areas and was associated with living status and social activity. In contrast, Madruga et al., (2012) believe that in urban and rural areas, the frequencies of alcohol abuse or dependence were similar among adolescents, but drunkenness was more frequent in urban areas.
Finally, with regard to the proportion of young people aged 15 to 35 in the borough, the context of the neighborhood where one can find a small proportion of young people can mean that this neighborhood is not animated by socialization around alcohol because young people like to drink among themselves. Conversely, a proportion of young people brought up in the neighborhood; can cause this neighborhood to be very hectic with problematic alcohol consumption. Young people can leave their quiet neighborhood to create atmosphere in busy neighborhoods.

Moreover, Bandura (op.cit.), points out that human behavior is also affected by learning, observation and social reinforcement. Learning, observation and social reinforcement may suggest in this study that young people consume because they observe and imitate the behavior of their peers to do like them and for fear of being excluded from the group. All this leads them to social reinforcement because it is rare to see a young person consuming alone. They always do it by group effect. In this sense, Third and colleagues (2021) showed that following a group discussion on the influence of peers on drinking behavior, which students often described that they drank more to show their limit of tolerance or to be part of the peer group. In other words, these students drank out of a need for group affiliation and competence. Conversely, Monahan et al. (2009), Sumter et al. (2009), and Steinberg and Monahan (2007) show that despite the influence of peer groups on the consumption of psychoactive substances, the latter also have the capacity to resist the consumption of psychoactive substances even if their peers are consumers.

In addition to Bandura's social cognitive theory (op.cit.), Deci and Ryan's self-determination theory (1985) explains how individuals engage in certain behaviors through psychological needs which are the need for competence, d affiliation and autonomy. Also, this theory makes it possible to measure the impact of internal and external factors on motivated behaviors and according to the level of a person's self-determination. Self-determination is defined by the need for every subject to be in control of choosing the appropriate behavior, of feeling like the main cause of his own behavior. This self-determination is the result of a psychological need but it is influenced by the social context in which the consumer is immersed.

In this study, the internal and external factors that can motivate the drinking behavior of young people are explained by the marketing influence, types of preferred drinks and the frequency of alcohol consumption. Extrinsic motivation, that is to say motivation external to the individual, defined by Déci and Ryan in their model, can be understood in this research as being the external influence exerted by alcohol marketing on the drinking behavior of young consumers. For example, young people who are exposed to alcohol marketing, become aware of and receptive to this marketing and ultimately develop an interactive relationship with the brand (Henriksen, 2008). Also, branded alcohol products or alcohol promotional items represent another way for alcohol companies to increase brand exposure among youth (Jones, 2016). Alcohol marketing also influences young people's attitudes and perceptions towards alcohol, which are linked to expectations and intentions to consume alcoholic beverages (Fleming et al., 2004).

The types of preferred drinks are understood according to the model of Déci and Ryan (op.cit.) as part of an internal motivation to the young person, because he freely chooses the types of preferred drinks depending on whether they are made locally at BRASCO, whether imported or traditionally manufactured. The young person here feels like the main cause or
master of his behavior. For example, reporting alcohol dependence has shown a strong association with drinking any type of alcohol, which makes people feel energetic, sexy, and confident, whether at home or on the go outdoors (Ashton and Colleagues, 2017).

As regards the frequency of consumption corresponds either to the number of times during the year; or the number of times during the same period that an individual consumed alcohol or got drunk. This frequency of alcohol consumption can be moderate or excessive and it depends on the context in which the young person finds himself. Here again, the decision of the individual to consume the number of times belongs to him and what corresponds well to what Déci and Ryan (op.cit.) stipulates by the intrinsic or internal motivation to the individual. The consumer economic theory that explains the influence of socio-economic factors through income on alcohol consumption states that the consumer is a rational buyer; that is, he has perfect knowledge about the market, his wants and needs and is able to determine the best way to satisfy them. The price is considered the strongest motivation. In this sense, Nasse (2012) used the economic theory of consumer behavior to highlight how price and income are determining factors in consumer choice decisions.

Moreover, brewing companies in Brazzaville, having understood this theory, offer alcoholic beverages to young people at promotional prices to influence their decisions and choices. The economic theory of consumer behavior further emphasizes that when the economic agent's income increases, he tends to increase his consumption. Also, young people with a higher income tend to increase their alcohol consumption. But this trend is also controversial, as it turns out that young people who do not have a higher income or no income may find themselves getting into problems with alcohol consumption because they are being bought by friends, or elders.

**Empirical Work**

Much of the empirical literature on understanding factors related to young people's drinking behavior has been explored in high-income countries. Within the framework of this study, three determining factors were retained to give us a good understanding of this phenomenon:

As for the marketing factors, the marketing influence, types of preferred beverages, and the frequency of consumption were taken into account. Influence marketing refers to all the marketing techniques used by alcohol users to influence young people to drink. Thus, young people who are exposed to these techniques are likely to consume alcohol as demonstrated by Jernigan et al., (2016), Jackson and Bartholow (2020), Tanski et al., (2015) for the cases of the USA, the United Kingdom, Australia, Colombia and Lebanon. In revenge, Dunklin (2021), argues that, that he could not show that higher exposure to alcohol marketing has a higher impact on alcohol consumption among young people in Uganda.

With regard to the types of favorite drinks, this study alludes to the fact that young people identify with the brand of favorite drinks, whether they are traditionally produced, in breweries, imported, whether they are wine, whisky, etc… McClure et al. (2018), Lin et al. (2012), as well as Tanski et al. (2011) have highlighted that brand preference is seen as an explanatory factor for alcohol consumption among youth. According to these authors, brand marketing has an influence on young people's choice of brand and is linked to consumer behavior.

Finally, on drinking frequency, Sy (2017) observed from Canada that adolescents in the highest drinking frequency trajectory groups were more likely to practice episodic binge
drinking at age of young adult. In France, Spach (2016) stipulates in his study that the influence of the peer group on the consumption of psychoactive substances in adolescents would be a strong predictor of experimentation and the frequency of consumption of alcohol, tobacco and cannabis.

In all of the environmental factors, the following were distinguished: alcohol-consuming peers, accessibility of alcohol, usual place of alcohol consumption, district of residence and proportion of young people aged 15 to 35 in the borough. Recent studies have found some relationships between peer influence and alcohol consumption. Among these studies, we can cite that of Osisiogu and Mmahi (2022) in Nigeria, Mayanna et al. (2021) in Chad, which have shown a statistically significant relationship between the fact of having consumer companions and the excessive consumption of alcohol. Alcohol consumption was prompted by peer influence. Conversely, Monahan et al. (2009), Sumter et al. (2009), and Steinberg and Monahan (2007) show that despite the influence of peer groups on the consumption of psychoactive substances, the latter also have the capacity to resist the consumption of psychoactive substances even if their peers are consumers.

A positive relationship was observed between the level of alcohol accessibility or the density of outlets with alcohol-related problems. Among these studies, we have those made by Brenner et al., (2015), Ahern et al., (2013) and Toomey et al., (2012) which stipulate that the increase in the density of points of sale drinking has been associated with greater alcohol consumption, alcohol-related problems (e.g., cirrhosis of the liver, sexually transmitted infections, traffic accidents), and crime/violence in the US. Also, living in areas with a high density of outlets was associated with higher weekly alcohol consumption. In other words, it is as if to say that people who live near alcohol establishments or drinking places have a more positive view of alcohol consumption and are more likely to participate in this activity. However, a contrary opinion was given in the conclusions of the work of Hughes et al., (2011), Rowe et al., (2010); which show that a small number of drinking establishments in an area are often responsible for a large proportion of alcohol-related harm, suggesting that certain characteristics of these establishments may aggravate behavior problems. In other words, one could say that the fact that the young person lives where there is no drinking establishment does not mean that they are not heavy consumers of alcohol. For further Nassè (2019) and Nassè et al. (2023a) have demonstrated that excessive alcohol consumption is a source of conflictual issues in the streets, in the household and in the religious setting. However, Nassè (2019) has also emphasized that alcohol intake is a source of diseases such as cardiovascular disease, liver disease, diabetes and cancer.

With respect to the habitual location of alcohol consumption, many researchers claim that places of consumption are a primary site for the promotion and proliferation of excessive alcohol consumption (Hobbs et al., 2003). In addition, Nassè (2018) emphasizes that proximity to a drinking spot is one of the factor that draws religious consumers to drinks intake. Similarly, a significant proportion of risky drinking takes place in nocturnal environments such as bars, pubs and nightclubs (Hughes et al., 2012; Tutenges et al., 2013; Nassè, 2019; Nassè, 2020). Furthermore, in the United Kingdom, Holloway et al., (2008) explain that the participants of their study revealed that they considered drinking at home to be safe.
As for the zone of residence or district of residence, Fatima et al. (2017) on the one hand, found that there was no significant relationship between the use of the different psychoactive substances and the place of residence of the student (internal or not) in Morocco; while Dixon and Chartier (2016), Fagan et al., (2015), Bryden et al., (2013), Donath et al., (2011) on the other hand found that adolescent alcohol consumption varies by neighborhood across neighborhood characteristics in the United States, Germany, and the United Kingdom. Their research showed that neighborhood characteristics and adolescent alcohol use are typically concentrated in urban environments. Also, adolescents residing in rural areas tend to consume alcohol at higher rates than those in urban areas.

As for the proportion of young people aged 15 to 35 in the borough, the context of the neighborhood where one can find a small proportion of young people can mean that this neighborhood is not animated by socialization around the alcohol because young people like to drink among themselves. Conversely, a proportion of young people brought up in the neighborhood; can cause this neighborhood to be very hectic with problematic alcohol consumption. Young people can leave their quiet neighborhood to create atmosphere in busy neighborhoods. Thus, Jackson et al. (2016) in New Zealand point out in their study that adolescents are also exposed to and influenced by the characteristics of their surrounding neighborhoods.

Finally, the young person's income was retained in the group of socio-economic factors. Indeed, the authors Murakami and Hashimoto (2019), Bartoli et al.(2014 ), and Siliquini et al., (2012) concluded in their work for the cases of Europe and Japan that, young people who have high financial means are more likely to exhibit binge drinking behavior (heavy drinking). In other words, having a high income exposed young people to excessive consumption. On the other hand, the opposite conclusions have also been found in Germany, Korea and Chad by the authors Mayanna et al. (2021), Chung and Joung (2013), and Donath et al. (2012) who think that a status low economic status would be associated with a lower likelihood of engaging in drinking behavior.

Considering the above, extrinsic factors have attracted our attention more. It appears that young people are more influenced from the outside than from the inside. In other words, young people's drinking decisions depend more on extrinsic motivations. To explain the behavior of individuals, we should therefore refer not only to extrinsic characteristics but also to their own intrinsic characteristics (Déci and Ryan, 2000; Cooper, 1994). In addition, another observation made from this literature is that much of the work on the determinants of alcohol consumption has been done in America, Europe and Asia. But very little work comes out of African countries. Thus, it would be wise to empirically test that its determinants of alcohol consumption may be similar in the Congolese context and in particular among young people in Brazzaville.

Finally, the hypothesis of this work is as follows: alcohol consumption among young people in Brazzaville is directly influenced by environmental, socioeconomic factors, and aspects related to marketing.

**METHODOLOGY**

**Study Design:** This is a survey with a cross-sectional study that is both descriptive and explanatory.
Study Population: Within the framework of this study, the population consisted of all male and female individuals aged 15 to 35, living in Brazzaville at the time of the survey. Any individual over the age of 35 is excluded.

Sample Size and Sampling Technique: To determine the sample size in this study, the following mathematical formula was applied: 

\[ n = \frac{Z_{\alpha/2}^2 p q}{E^2}, \]

with

- \( n \) = the minimum sample size;
- \( p \) = the proportion of individuals aged 15-35;
- \( q \) = the complement to one (1) of the proportion \( p \);
- \( E \) = the margin of error (accuracy);
- \( Z_{\alpha/2} \) = the quantile of order 100(1-\( \alpha/2 \)) of the reduced centered normal law.

Taking into account the non-response rate of 10%, corresponding to 40 individuals, at least 440 individuals were needed for the analysis. Also taking into account the cluster effect, the minimum number of individuals to be surveyed would therefore be \( n = 2 \times 440 = 880 \) individuals.

In this study, individuals were recruited at the household level. The 3-stage cluster random sampling technique was used to select study participants. The first degree corresponds to the districts, the second degree corresponds to the districts and the third degree corresponds to the block of ten inhabited plots of land.

Collection of Data: Data collection was done through a structured semi-directive questionnaire. The structured questionnaire was developed from the literature review of various sources of information. These data were then coded to allow the responses to be categorized. The questionnaire is divided into four parts containing different research themes. The first part contains questions that allow us to identify the socio-demographic characteristics of young people. These are age, sex, level of education. The second part of the questionnaire concerns alcohol consumption behavior among young people in Brazzaville. It includes, in particular, questions on the frequency of consumption, taste preferences in relation to the origin of the drink, the quantities consumed on average per occasion. This part allows us to identify the different aspects related to the practice of alcohol marketing. Based on this part, and certain criteria, we can see whether or not alcohol marketing practices influence the increase in alcohol consumption. The third part, for its part, allows us to collect information on the explanatory factors of the variation in alcohol consumption. And, finally, the last part of the questionnaire contains questions that allow us to identify the different ways of reducing alcohol consumption; in order to enable the public authorities to set up public policies to combat alcoholism.

Presentation of Variables: There are two type of variables.

- The explained variable
  - The dependent variable of the empirical model is alcohol consumption. This dichotomous qualitative variable is coded Consaljeune and takes the value 1 if the young person increases his consumption and 0 otherwise.

- Explanatory variables
The explanatory variables of the model are: Income; TypeB; InfluenceMarketing; Quantity of Beverage C; Number of times; peercons; AreaR; PropAgedA; AccessLevelAl; UsuPlaceofCon.

* Income: This variable refers to the economic power of the young person. The income available to a young person can allow him to buy an alcoholic drink in order to have the desired effects. It includes: 1- Without income; 2- Less than 50000; 3- 50000 and more.

* Type B: This variable refers to the types of beverages preferred. It gives young people the possibility or freedom to choose different brands of alcoholic beverages that are made in breweries or imported. The terms taken into account are: 1- Beverages manufactured at BRASCO; 2- Imported drinks; 3- Traditional drinks.

* Influence Marketing: This variable refers to marketing influence. It is used by alcoholics to influence the choice of young people. In particular advertising techniques on any communication medium; sales promotions. This qualitative variable is binary and takes the modality 1 if alcohol marketing practices influence the consumption of young people and 0 if there is no influence.

* Quantity of Beverage C: This variable designates the quantity of drink consumed. It provides information on different types of consumers depending on whether they drink a high or low quantity. It is a binary variable that includes two modalities: 1-low; 2-high.

* Number of Times: This variable designates the frequency of consumption to assess the usual consumption of drinks by young people according to whether they drink in number of times per day, per week, per month, per quarter. It includes the following modalities: 1- every day; 2- once a week; 3- at least twice a week; 4- once a month; 5-once per quarter.

* Peer Cons: This variable designates the fact that young people drink with peer consumers (young people like them, friends, parents, etc.) and are under the influence of the latter while imitating them. This variable takes the value 1 if he drinks with peers and 0 if not.

* Zone R: This variable designates the zone of residence, the district, the district or the sector of the city where the young people live. This variable includes three modalities, namely: 1-Centre-urban; 2-pericenter; 3-device.

* PropAgeA: This variable designates the proportion of young old people in the district. It is a question of even the rate of young people whether it is high or low in the different districts, neighborhoods or sectors. This variable is binary and includes two modalities: 1-Low; 2-High.

* LevelaccessAl: This variable designates the level of access to alcohol or drinking establishments where young people can drink near where they live. It is a qualitative variable which takes four modalities: 1- None; 2- little; 3- Sufficiently; 4- Too much.

* UsuPlaceofCon: This variable designates the usual place of alcohol consumption or the usual place of socialization of young people around alcohol. Four modalities were filled in: 1- with friends, 2- at home, 3- at bars, 4- at the VIP/in a nightclub.
a) Statistical Analysis of Data

For data analysis, descriptive statistics are applied to describe the profiles of young consumers. On the other hand, binomial logistic regression is used to detect associations between variables at the level of significance by a p value of 0.05. For an OR greater than 1 in a category will show that young people in this category have OR times or 100*(OR-1)% more risk of increasing alcohol consumption compared to the reference group. An odds ratio of less than 1 means that young people in the category considered have 100*(1-OR)% less risk of increasing alcohol consumption compared to the reference group. The recourse to the models with increasing steps made it possible to identify the mechanisms of action of the explanatory factors at the level of Brazzaville.

The model used in this work is taken from the model adopted in the work of Danelutti and Brühlhart (2003) on alcohol consumption in Switzerland: 

\[ P = x \beta_i + \varepsilon \]

The analytical model used is in the form:

\[ \ln \left( \frac{p}{1-p} \right) = \text{logit}(p) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_n X_n + \varepsilon \]

To carry out this work, four (04) software programs are used, namely: SPSS, Stata, SPAD and Excel. In the case of this study, the SPAD software made it possible to produce the profile of young people who increased their alcohol consumption. Finally, the STATA software helped in the implementation of logistic regression and the ranking of determinants.

Ethical Considerations

The research is carried out with the authorization of the Dean of the Faculty of Science and Management, head of the Laboratory for Research and Economic and Social Studies (LARES). Each subject investigated freely gave their consent. Finally, respect for the privacy and confidentiality of the subjects was observed.

RESULTS AND DISCUSSION

In this part the descriptive statistics and the results of the model are presented.

Descriptive statistics

Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Modality</th>
<th>Obs.</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consalyoung (Alcohol consumption)</td>
<td>0</td>
<td>263</td>
<td>59.10</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>182</td>
<td>40.90</td>
</tr>
<tr>
<td>Income (Economic power of the youth)</td>
<td>0</td>
<td>164</td>
<td>36.85</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>133</td>
<td>29.89</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>148</td>
<td>33.26</td>
</tr>
<tr>
<td>Type B (Type of favorite drinks)</td>
<td>0</td>
<td>55</td>
<td>12.36</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>7</td>
<td>1.57</td>
</tr>
<tr>
<td>InfluenceMark (Influence Marketing)</td>
<td>0</td>
<td>157</td>
<td>41.10</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>225</td>
<td>58.90</td>
</tr>
<tr>
<td>Beverage Quantity C (Amount of drink consumed)</td>
<td>0</td>
<td>218</td>
<td>57.07</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>164</td>
<td>42.93</td>
</tr>
<tr>
<td>Number of times</td>
<td>0</td>
<td>211</td>
<td>55.24</td>
</tr>
</tbody>
</table>
The descriptive statistics of our qualitative variables show that out of a total of 445 young people surveyed, 182 consume alcohol, i.e. a percentage of 40.90% and 263 do not consume, i.e. 59.10%. Indeed, against all expectations, we expected to have a higher percentage of young people who use drugs. The fact that there are fewer young people who drink in our sample could be explained by the fact that these young people are in the age category where they gradually reduce their alcohol consumption. Because the literature tells us that the older we get, the more we become aware of the effects of consumption and the less we consume (Tessier and Collab, 2014). Alcohol consumption decreases with age. Moreover, certain religious beliefs can also lead them to consume less.

Regarding income, there is a predominance of young people who have no income, i.e. 164 out of a proportion of 36.85% compared to those who have an income below 50,000 FCFA and above 50,000 FCFA, respectively 29.89% and 33.26% out of a workforce of 133 and 148. This predominance can be explained by the fact that in Congo, the youth unemployment rate is equal to 30% of the population aged 15 to 29 (ETVA, 2015).

In relation to the types of drinks consumed, the vast majority of young people surveyed, i.e. 383, out of a proportion of 86.07% consume drinks made at the Brasserie. 12.36% (55) consume imported drinks and only a small proportion, 1.57% (7) consume traditional drinks. This great preference for drinks made at the brewery can be explained by the fact that in the Congolese context and in particular in Brazzaville, these drinks are close at hand and there is a certain proximity to places of residence, school, or work. In addition, with the theory of planned behavior, the managers of these brewing companies have planned a behavior that these young people must adopt, for example with MOPIKO techniques (for the price of two beers, you get three (03) beers).

About the quantity of drink consumed variable, more than 50% of young people have a low quantity of drink consumed, i.e. a number of 218. On the other hand, 164 young people have a high proportion (about 43%) of alcohol consumption. An explanation for this may stem from the fact that in Congo young people are hit hard by unemployment, since 30% of the population aged 15 to 29 is unemployed (ETVA, 2015)2; do not have enough income to buy alcohol, so they can only drink small amounts.

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2 Survey on the transition to working life (ETVA Congo 2015). This survey was carried out in 2015 by the Directorate General for Skills Training and Employment (DGFQE), with technical support from the National Institute of Statistics (INS) and financial support from the International Labor Office (ILO),
Nearly 45% of young people are used to consuming alcohol out of a workforce of 171, compared to 55% out of a workforce of 211 who are not used to drinking. Symmetrically, the explanation that emerges from the low quantity of drink consumed has an impact on alcohol consumption habits or the frequency of alcohol consumption.

The observation made on the variable drinking with consumer peers shows us that more than 76% (n=293) of young people drink with their peers against 23.30% (n=89) who do not drink with pairs. This result can be explained by the fact that most young people drink to socialize. It also proves that drinking in Congo is a social rite because the young Congolese never drink alone, because drinking alone does not create the mood. Also, the fact of drinking with their consumer peers allows them to identify.

Regarding the influence of marketing, more than half of young people (58.90%) are influenced by marketing techniques against 41.10% (n=157) who are not subject to this influence. Indeed, one reason for this result could be that Congo has no legal framework for alcohol consumption, no limitations on the sale or advertising of alcohol, and low taxes on alcoholic products. Hence, young people are exposed to all alcohol marketing practices including advertising and constant promotions of alcohol.

According to the area of residence variable, we observe a high proportion of young people who live on the ring road (62.25%) compared to 37.75% who live in the center of the city. This result could be justified in the Congolese context by the fact that one encounters more atmosphere in outlying areas than in residential areas such as the city centre. Also many young people concentrate in these circles because of the economic cost of living, there is less surveillance when it comes to creating the atmosphere. The city center is designated as a residential area. So synonymous with monitoring and control.

The results of the analyzes concerning the proportion of older young people in the arrondissement who consume alcohol illustrate almost identical prevalences; whether low or high and respectively 50.79%, 49.21%.

Concerning the level of access to alcohol consumption, we observe that there are 68.85% enough places where young people can get alcohol. Conversely, only 31.15% of places where young people cannot get enough alcohol. A high prevalence of drinking establishments could be explained by the lack of regulations on drinking establishments and the opening hours of these establishments, which the Congo does not have.

Finally, concerning the relationship between the fact of consuming alcohol in the usual places of consumption; 69.63% of young people say they consume alcohol outside the home, compared to 30.37% who drink at home. Indeed, one of the reasons which could explain this result is that consuming outside the home, for example in bars, nightclubs and in our context we can add the "VIP" (discreet place, air-conditioned, where the music is soundproof, basically a place where you find responsible people), are places of consumption aimed at young people (including the age group of approximately 15 to 35 years), designed as staged consumption atmospheres where the latter are seduced and forced to buy alcohol (Tutenges & Bohling , 2019). In addition, when young people use outside the home, they avoid being under parental control or a family member.
Table 2

Model Estimation Results

<table>
<thead>
<tr>
<th>Youth Consumption</th>
<th>Coefficients</th>
<th>Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>0.306</td>
<td>0.032</td>
</tr>
<tr>
<td>Type B</td>
<td>-0.363</td>
<td>0.208</td>
</tr>
<tr>
<td>Quantity C</td>
<td>0.125</td>
<td>0.626</td>
</tr>
<tr>
<td>Number of Times C</td>
<td>0.837</td>
<td>0.001</td>
</tr>
<tr>
<td>Peers Consumption</td>
<td>0.178</td>
<td>0.545</td>
</tr>
<tr>
<td>Influence Marketing</td>
<td>-0.256</td>
<td>0.299</td>
</tr>
<tr>
<td>Zone of Residence</td>
<td>0.300</td>
<td>0.245</td>
</tr>
<tr>
<td>Proportion of Youth Old A</td>
<td>-0.149</td>
<td>0.522</td>
</tr>
<tr>
<td>Access level</td>
<td>0.326</td>
<td>0.202</td>
</tr>
<tr>
<td>Usual Place of Consumption</td>
<td>-0.305</td>
<td>0.288</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.27</td>
<td>0.005</td>
</tr>
<tr>
<td>R2</td>
<td>0.089</td>
<td></td>
</tr>
<tr>
<td>Pro&gt;chi2</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>Wald. ch2</td>
<td>42.09</td>
<td></td>
</tr>
</tbody>
</table>

*= significance at 10%, **= significance at 5%, ***= significance at 1%

Source: Fieldwork data (2021)

Regarding the determinants of alcohol consumption among young people in Brazzaville, after adjustment with logistic regression, only income and frequency of consumption are significant. This means that these two variables have an influence on alcohol consumption. First, with regard to the socioeconomic variable; the positive relationship between income and alcohol consumption corroborates the results of some studies obtained in Europe and Japan by Bartoli et al. (2014), Siliquini et al. (2012), and Murakami and Hashimoto (2019) who conclude that young people with high financial means are more likely to exhibit binge drinking behavior (heavy drinking). This result confirms the economic theory of consumer behavior, which states that when the economic agent's income increases, he tends to increase his consumption. In addition, such a result also holds in the Congolese context and in particular among young people in Brazzaville; who have a high socioeconomic status allow themselves to consume and buy alcohol from others; especially in places of consumption where alcohol is expensive, for example in nightclubs, discotheques. Regarding aspects related to marketing, the positive association between the frequency of alcohol consumption and alcohol problems can be explained by the fact that in Brazzaville, young people are often exposed to alcohol promotion. and take advantage of these moments to consume with their peers as many times as they wish. This result is consistent with that found by the study of Bellis (2012), who stipulates in his study that the influence of the peer group on the consumption of psychoactive substances in adolescents would be a strong predictor of experimentation and the frequency of consumption of alcohol, tobacco and cannabis in France.

**Study Limitations**

The results of this study have certain limitations and should be interpreted with caution. First, the cross-sectional nature of the study did not allow us to establish causality between alcohol consumption and the determinants identified. Then, a recall bias could also influence the results of this study; because young people cannot remember exactly how much they have eaten in the past 30 days.
Despite these limitations, this is one of the first primary studies in the field of marketing to use big data to examine youth alcohol consumption with a representative sample and advances our knowledge of the determinants of alcohol consumption. alcohol consumption and to propose possible solutions in Congo Brazzaville.

CONCLUSION AND RECOMMENDATIONS

Our research aimed to identify the determining factors of alcohol consumption in the city of Brazzaville in the Republic of Congo. This objective is achieved by using data from a primary survey carried out by the Laboratory for Economic and Social Research and Studies (LARES) in 2021 in the city of Brazzaville and a Logit model. Socio-economic factors and marketing-related aspects were the determining factors identified. This research may have important implications for social marketing (prevention science, guidance, awareness) and alcohol policy research. Thus, to reverse these observed trends, there is a need for the government to regulate and control the sale and consumption of alcohol through the National Alcohol Policy to reduce youth alcohol consumption. This will help to regulate the alcohol industry sector and to add a value to the global chain (Carbonell et al., 2020). To do this, the national alcohol policy must address the following issues: the labeling and packaging of alcoholic beverages, the sale or marketing of alcohol to minors, the control of advertising, the promotion of alcohol, tax policies (Excise taxes on the increase in the price of any alcohol product), alcohol education, to create endowment funds to help and finance research on the problems of alcohol consumption.

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