

## RESEARCH ARTICLE

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# Alcohol Drinking among Primary School Children in Trinidad and Tobago: Prevalence and Associated Risk Factors

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### Abstract

**Background:** Underage alcohol use is a pervasive problem with serious health, social and safety consequences. This study was undertaken to assess alcohol use by primary school children in Trinidad and Tobago, and to identify associated risk factors. **Methods:** We analysed data collected from 40 primary schools in Trinidad and Tobago by the National Alcohol and Drug Abuse Prevention Programme (NADAPP). The sample comprised of children aged 8 -15 years old, in standards 3, 4 and 5. **Result:** Out of the 2052 children, 648 (31.6%) have consumed alcohol in their lifetime, and same proportion reported ever being drunk (31.6%). Male gender was significantly associated with lifetime alcohol use (AOR=1.60, 95% CI= 1.25 - 2.05). Children not living with their father (AOR= 2.45, 95% CI=1.86- 3.24) and those whose fathers have either primary or secondary education (AOR = 1.88, 95%CI=1.07 - 3.31; AOR= 1.58, 95%CI=1.12 - 2.23 respectively) were at higher risk for lifetime alcohol consumption. However, age group 8 – 11 years was significantly inversely associated with lifetime alcohol consumption (AOR= 0.67, 95% CI=0.48 - 0.94). **Conclusion:** Being a male student, not living with father, and father attaining either primary or secondary education level were significantly associated with increased likelihood for lifetime alcohol use. However, children between 8 – 11 years were less likely to consume alcohol.

**Keywords:** Underage alcohol use- primary school- Trinidad and Tobago

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### Introduction

Alcohol consumption among school children is an important public health, social and economic concern (Razanamihaja et al., 2013). Underage alcohol use is a pervasive problem with serious consequences for children and adolescents. Age of onset of alcohol consumption is one of the major factors predicting a later long term negative outcome (Haan and Boljevac, 2009). Studies have shown an alarming increase in early age of onset of alcohol consumption (Razanamihaja et al., 2013).

Alcohol use early in life has been found to greatly increase the risks of developing alcohol use disorder and dependence in adolescence and adulthood (Bee and Boyd, 2007; Nixon and McClain, 2010). Violence and injuries among young people have also been equally attributed to alcohol consumption (WHO, 2011).

Although there is sparse literature on alcohol consumption among primary school children, the national survey by the Substance Abuse and Mental Health Services Administration [SAMHSA] (2016), reported that by 15 years of age, approximately 33 percent of

teenagers had consumed at least one alcoholic drink. The survey also revealed that the majority of youth between 12 and 14 years old had drunk alcohol within the past month and had gotten it for free (SAMHSA, 2016). In many instances, children had access to alcohol because it was available at home or they received it through a family member (National Institute on Alcohol Abuse and Alcoholism, 2017).

The National Secondary Schools Survey [NSS] (2013) on alcohol and drug use in Trinidad and Tobago showed that 2% of the students (4,176) first used alcohol at the age of 5 years; which increased to 88.2% and peaked between 13-15 years old (Government of the Republic of Trinidad and Tobago, 2018). Lifetime alcohol prevalence was higher (65.2%) than other substances, however, more females than males among the students consumed alcoholic beverages (Government of the Republic of Trinidad and Tobago, 2018)

The type of substances and age notwithstanding, studies have shown gender differences in alcohol consumption; while good and supportive family relationships with parental monitoring and communication

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have been linked to reduction of substance use among adolescents (Peterson et al., 2010; Bohnert et al., 2012; Center for Disease Prevention and Control [CDC], 2016; National Institute on Alcohol Abuse and Alcoholism, 2017). A longitudinal study on Australian children (Homel and Warren, 2016), explained that the combined effect of parental drinking, adolescents' and their friend's behaviors and parental monitoring of adolescents should be considered to understand what leads to drinking alcohol in early adolescence (12-13 years old). Peer approval or disapproval of drinking is particularly influential on most adolescents' drinking behaviours (Institute of Medicine and National Research Council [IOM and NRC], 2011; Elkington et al., 2011). However, in the United Kingdom Millennium Cohort Study, 78% of children who drank alcohol reported that they were not influenced by friends (Kelly et al., 2016).

Research on alcohol consumption among primary school children is very limited, despite a lot of attention given to alcohol consumption globally. Therefore, this study was undertaken to determine the prevalence and risk factors of alcohol consumption among primary school children. Results may be useful to policy makers to institute effective interventions to control alcohol use by primary school children.

## Materials and Methods

This was a cross-sectional study utilizing the inter-American Uniform Drug Use Data System (SIDUC). The study was conducted by the National Alcohol and Drug Abuse Prevention Programme (NADAPP), with technical support from the Organisation of the American States (OAS) Inter-American Drug Abuse Control Commission (CIDAD). Subjects were randomly selected from 40 primary schools all over the island. The random sample consisted of 2,052 students, in standards 3 to 5, and aged 8 - 15 years.

### Dependent Variables

Lifetime prevalence of alcohol consumption was assessed with a question on whether participant ever had an alcoholic beverage in their lifetime. Response options were: 0 = no, 1 = yes.

### Independent Variables

The demographic variables were the main measures examined. They included gender, which was assessed as 1 = male or 2 = female. The class the students were attending was assessed using the three response options: (a) standard 3, (b) standard 4 and (c) standard 5. Age was transformed into categorical variable by grouping them into two: (a) 8 - 11 years, and (b) 12 - 15 years. Parental educational level was assessed using the question 'what is the highest level of schooling your father and mother attained?' The responses were computed into three options: (a) primary school (b) secondary school and (c) post-secondary level. Those residing with their father and mother were assessed using the question "Who do you live with?" and students were expected to answer yes or no to "father" and "mother".

### Ethical Considerations

Approval for the study was received from the Ministry of Education and Divisions of the Schools Supervision. Parents were notified and their consent obtained via written informed consent for their children to participate in the study and assent /consent form signed by the minors. The questionnaire was devoid of personal identifiers. The students were also asked not to write any personal information on the questionnaire.

### Data Analysis

Descriptive analysis was done for sociodemographic characteristics, lifetime alcohol use and ever gotten drunk variables. Chi square was used to compare differences in proportions between the groups. P values < 0.05 were considered significant statistically. Multivariate analyses were carried out to determine factors associated with alcohol consumption among the respondents. All the

Table 1. Key Sociodemographic Characteristics of Primary School Children in Trinidad and Tobago

Variables	Total (N= 2052)	n (%)
Gender*	2,035 (99.2)	
Male		983 (47.9)
Female		1052 (51.3)
Age	2,052 (100)	
8 - 11 years		1612 (78.6)
12 - 15 years		440 (21.4)
Class	2,052 (100)	
Standard 3		714 (34.8)
Standard 4		597 (29.1)
Standard 5		741 (36.1)
Living with father*	2,040 (99.4)	
No		622 (30.3)
Yes		1418 (69.4)
Living with mother*	2,040 (99.4)	
No		243 (11.8)
Yes		1797 (87.6)
Fathers education*	1,401 (68.2)	
Primary school		148 (7.2)
Secondary school		662 (32.4)
Post-secondary		588 (28.7)
Mothers education*	1,460 (71.2)	
Primary school		137 (6.7)
Secondary school		688 (33.5)
Post-secondary		635 (30.9)
Lifetime alcohol use*	2,051 (99.9)	
No		1403(68.3)
Yes		648 (31.6)
Ever gotten drunk*	1,147 (55.9)	
No		470 (22.9)
Yes		648 (31.6)
Not stated		29 (1.4)

\*, Some data were missing for the variable and so values may; not add up to total and percentages may not add up to 100

data analysed were using Statistical Package for the Social Sciences (SPSS) version 20 (IBM Inc. Armonk, New York).

## Results

A total of 2,052 pupils aged 8 – 15 years participated in the study. The mean age of the respondents was 10.59 [SD: 1.176]. By gender disaggregation, 1,052 (51.3%) of the respondents were females while 983 (47.9%) were males. Majority of the respondents were in standard 5 (36.1%), followed by standard 3 then 4 (34.6% and 29.1% respectively). A large proportion (87.6%) of the children lived with their mothers. Most of the parents have secondary school as the highest educational attainment (mother: 688 [33.5%], father 662: [32.6%]) (Table 1).

Table 2 displays the association of the sociodemographic characteristics with alcohol drinking among primary school children. A significant relationship ( $X^2= 18.24$ ;  $P= 0.000$ ) was observed between gender and lifetime alcohol consumption. Bivariate analysis showed significant associations between age ( $P=0.000$ ), class at school ( $P=0.049$ ), living with father ( $P=0.000$ ), living with mother ( $P=0.008$ ), and father's educational

attainment (0.014) and lifetime alcohol consumption of their children (Table 2).

Table 3 shows the factors associated with lifetime alcohol consumption. The multivariate analysis revealed that male gender (AOR = 1.60, 95%CI= 1.25- 2.05), children not living with their fathers (AOR= 2.45, 95% CI= 1.86- 3.24), children whose fathers have either primary (AOR= 1.88, 95%CI=1.07 - 3.31) or secondary (AOR= 1.58, 95% CI= 1.12- 2.23) level of education were more likely to have consumed alcohol in their lifetime. However, children between the age of 8 and 11 years were significantly less likely to have consumed alcohol in their lifetime compared to children 12 – 15 years (AOR = 0.67, 95% CI = 0.48 - 0.94).

## Discussion

More than one quarter of the sample had consumed alcohol once in their lifetime. The same proportion that reported ever drinking alcohol also reported ever being drunk. This may be considered high among the age groups in this study. The reason for the result is not clear. However, the children in this study were in the preadolescence and adolescence stage, which is

Table 2. Association between Sociodemographic and Lifetime Alcohol Use among Primary School Children (N = 2052).

Variables	Lifetime Alcohol Consumption			X <sup>2</sup> (P Value)
	Total n (%)	No n (%)	Yes n (%)	
Gender*	2,034 (99.1)			18.240 (0.000)
Male	983	629 (45.1)	354 (55.3)	
Female	1051	765 (54.9)	286 (44.7)	
Age	2,051 (99.9)			17.336 (0.000)
8 - 11 years	1611	1,138(81.1)	473 (72.9)	
12- 15years	440	265 (18.8)	175 (27.0)	
Class*	2,051 (99.9)			6.016 (0.049)
Standard 3	714	513 (36.6)	201 (31.0)	
Standard 4	596	396 (28.2)	200 (30.9)	
Standard 5	741	494 (35.2)	247 (38.1)	
Living with father*	2,039 (99.3)			49.939 (0.000)
No	622	359 (25.8)	263 (40.8)	
Yes	1417	1,635 (75.2)	382 (59.2)	
Living with mother*	2,039 (99.3)			7.102 (0.008)
No	243	148 (10.6)	95 (14.7)	
Yes	1796	1,246 (89.4)	550 (85.3)	
Fathers education*	1,400 (68.2)			8.523(0.014)
Primary school	148	100 (10.5)	48 (10.5)	
Secondary school	664	424 (44.8)	240 (52.7)	
Post-secondary	588	421 (44.5)	167 (3.6)	
Mothers education*	1,459 (71.1)			3.279 (0.194)
Primary school	137	91( 9.1)	46 (9.5)	
Secondary school	687	445 (44.6)	242 (50.2)	
Post-secondary	635	441(44.2)	194 (40.2)	

\*, Some data were missing for the variable and so values may; not add up to total and percentages may not add up to 100.

Table 3. Logistic Regression Analysis of Factors Associated with Lifetime Alcohol Consumption

Variables	Lifetime Alcohol Consumption			
	COR	95% CI	AOR	95% CI
<b>Gender</b>				
Female	1		1	
Male	1.51	1.25 - 1.82	1.6	1.25 - 2.05
<b>Age</b>				
12 - 15 years	1		1	
8 - 11years	0.63	0.51 - 0.78	0.67	0.48 - 0.94
<b>Class</b>				
Standard 5	1		1	
Standard 3	0.78	0.63 - 0.98	0.92	0.66 - 1.29
Standard 4	1.01	0.80 - 1.27	1.285	0.94 - 1.76
<b>Living with father</b>				
Yes	1		1	
No	1.99	1.63 - 2.42	2.45	1.86 - 3.24
<b>Living with mother</b>				
Yes	1		1	
No	1.45	1.10 - 1.92	1.22	0.82 - 1.83
<b>Fathers education</b>				
Post-secondary	1		1	
Primary school	1.21	0.82 - 1.78	1.88	1.07 - 3.31
Secondary school	1.43	1.12 - 1.81	1.58	1.12 - 2.23
<b>Mothers education</b>				
Post-secondary	1		1	
Primary school	1.15	0.78 - 1.70	0.67	0.37 - 1.23
Secondary school	1.43	0.98 - 1.56	0.88	0.63 - 1.24

COR, crude odd ratio; CI, confidence interval; AOR, adjusted odd ratio

often associated with experimentation with substances, including alcohol.

Although in this study subjects' responses were not segregated by developmental stage or by the type of consumption (e.g. sipping, tasting, having a drink, binge), Donovan and Molina (2013) reported that sipping or tasting alcohol was common at age 8 years and having a drink was rare in middle childhood. Among the students in their study, however, drunkenness and experiencing negative consequences of drinking was more common as children moved into adolescence.

A natural instinct to affirm independence develops as children develop into teenagers, leading to taking on challenges, including risky behaviors, such as alcohol consumption, without having a full understanding of the negative effects it may have on their development and the dangers to their physical and mental health. As children enter adolescence, stress and the need to fit in coupled with peer pressure may be very influential in underage drinking (National Institute on Alcohol Abuse and Alcoholism, 2017). However, data on students' peer drinking status was not collected in this study, which could have shed some light on how influential this factor is in the context of the study.

Male gender was found to be significantly positively associated with alcohol consumption in this study. This is consistent with the finding in other studies among

adolescents/ young persons in Jamaica (Atkinson et al., 2015), which indicated that males were significantly more likely to engage in alcohol drinking than females. However, it is dissonant with the finding in Trinidad and Tobago, which revealed that female adolescents were more likely to consume alcohol than males (Government of the Republic of Trinidad and Tobago, 2018). However, this present study was done among primary school children while the two studies cited immediately above were among secondary school students. The researchers in this present study did not find previous studies of alcohol use among primary school children, with which to compare their findings.

In this study, children not living with their father were more likely to consume alcohol compared with those living with their father. This is similar to the findings in other studies, which revealed that living with one's parents is a protective factor against alcohol and other substance use (Bohnert et al., 2012; Homel and Warren, 2016). Father being present in a child's life and upbringing denotes power, authority and instilling discipline which the child may be afraid of, hence not engaging in deviant behaviour like alcohol consumption which may account for this finding. Indeed, as research has shown, parental monitoring as to where children go, the type friends they have, and control of the content to which they are exposed in the media has significant influence on their consumption of alcoholic beverages (Grenard et al., 2013). Furthermore, studies have shown that children whose parents are actively involved in their lives have a positive influence in their social and emotional development and therefore, such children will be less likely to drink alcohol (Homel and Warren, 2016; National Institute on Alcohol Abuse and Alcoholism, 2017).

Findings from this study show that children whose fathers have primary and secondary level of education were more likely to consume alcohol than those with post-secondary education. The reason is unclear, but may be related to differences in social control and parental monitoring among individuals with different educational levels.

The strength of this study lies in using a nationally representative sample data to assess the prevalence of alcohol use among primary school children, and determine the factors associated with it. The weakness includes recall bias and social desirability bias, which are inherent in cross sectional studies.

In conclusion, lifetime alcohol consumption was high among the primary school children in this study. Male gender was a risk factor for lifetime alcohol consumption. Children not living with their fathers and children whose fathers have either primary or secondary education were also at higher risk for lifetime alcohol consumption. Future studies in this population group should examine the behavior in the context of the developmental stage as well as to determine the exact nature of the consumption.

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The authors received no funding for the research. The authors declare no conflict of interest.

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