

**Tonga**  
**2010 Global School-Based Student Health Survey**

**Final Report**

December 2012

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The acknowledgement is given for completion of the Global Tobacco Youth Survey (GYTS) as has been sampling from CDC for the same forms. The staff has rotated for both surveys. The classes chosen for conducting GYTS was also doing the Refractive Error Survey. Sr. Meleane Eke and Mele Vuki of the Eye Clinic were responsible for refractive error survey.

## Executive Summary

Tonga was fortunate to participating in the Global School-based Health Survey initiated by World Health Organization (WHO), in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the U.S. Centers for Disease Control and Prevention (CDC).

### Purpose:

The purpose of the GSHS is to obtain systematic information from students to support school health and youth health programmes and policies globally. The GSHS is a school-based survey conducted primarily among students aged 13 – 15 years. It includes modules which measure the main health behaviours and protective factors among students related to the leading causes of morbidity and mortality among youth and adults worldwide. The core modules include alcohol use, drug use, dietary behaviours, hygiene, mental health, physical activity, protective factors, HIV infection and other STI infection, unwanted pregnancy, tobacco use and violence and intended injury. Tonga has only chosen HIV infection on the GSHS excluding Sexual Behaviour, STI infection and unwanted pregnancy as advising from the Education Department.

### Methodology:

CDC has randomly selected the sampling of 24 schools in Tonga where 14 in Tongatapu, 5 in Vava'u, 3 in Ha'apai and 2 in 'Eua. The form 2 - 4 was chosen whereas most likely to capture the targeted age group.

The Global School-Based Student Health Survey (GSHS) was completed by 2211 students in 24 schools in Tonga during 2010. The school response rate was 100%, the student response rate was 80%, and the overall response rate was 80%. The results are representative of all students in the grades below. The weighted demographic characteristics of the sample are as follows:

Male	51.6%	Form 2	26.8%
Female	48.4%	Form 3	33.9%
		Form 4	38.5%
		Other	0.8%

Students completed a self-administered, anonymous, 89-item questionnaire. Survey procedures were designed to protect the privacy of students by allowing for anonymous and voluntary participation. The questionnaire administered was in both English and Tongan to make it easy for students to answer.

### Key results:

The overall result of the survey, males and females are not significantly different on the high risk behaviours and protective factors as on the following results.

- *Alcohol use*

The exposure of drinking alcohol is very high of 63.4% on their first drink before age of 14 years. This is significantly indicated of early exposure to behaviour of drinking alcohol. The prevalence of 18.4% students who currently drinking is very high and also to identify 49.4% of both gender are more likely to drink alcohol when their friends gave them to drink. In contrast that 85% of students definitely or probably not drink if one of their friends offered a drink of alcohol.

- *Dietary Behaviours*

Females are more likely underweight than males. The 58.7% prevalence of overweight and 21.1% obese are high among students. The 56.3% prevalence of drinking carbonated soft drinks among targeted age group is also high. The students usually ate fruits and vegetables during the past 30 days are around 38%. The 66.2% of students were being taught the benefits of healthy eating.

- *Drug use*

The prevalence of students who are using drugs before the age 14 years is 67.5%. As such indicating the exposure to behaviour of using drugs is respectively high. The overall 7.5% of students used marijuana one or more times during their life. The students got into trouble with their friends and family, missed school or even got into fight as result of using drugs is 15.8%.

- *Hygiene*

Overall males are significantly cleaned or brushed their teeth less than one time per day during the past 30 days than females. The hygiene behaviour of the students is around 10% which is very too low while around 70% were being taught in their classes.

- *Mental Health*

Significantly that 28.5% students who attempted suicidal behaviors are relative high to recognize in time despite that there is no significantly different between males and females. The 29.5% of students made a plan about they would attempt suicide during the past 12 months. Overall, 35.7% of students actually attempted suicide one or more times during the past 12 months. The 65.6% of students are couldn't sleep at night and worried because they bullied on one or days during the last 30 days.

- *Physical activity*

There is no significant different between males and females but to recognize the below average of physical activity level on both gender at least five or more days a week. Tonga, 25.1% of students were physically active for a total of at least 60 minutes per day on five or more days during the past seven days. The 28.8% of students spent three or more hours in sitting activities such as video and games.

- *Protective factors*

Significantly the support and role of the parents and guardians is below average in protective factors which is 27.1% reported parents and guardians understood their problems. Overall 40.2% of students missed classes or school without permission on one or more of the past 30 days. The 79.2% of students thought of themselves as a spiritual person.

- *HIV-related knowledge*

In Tonga, 57.3% of students had ever heard of HIV infection or the disease called AIDS. Overall, 36.9% of students were taught in classes during the school year about HIV and AIDS. Addressing of HIV infections or AIDS is 32.9% of students ever talked with their parents and guardians.

- *Tobacco use*

The 76.1% of Students were exposure to smoking before age of 14 years is very high and prevalence of 22.7% is also an alert level. The 66.6% of students reported people smoked in their presence on one or more days during the past seven days. Overall, 42.3% of students had parents or guardians who used tobacco.

- *Violence and unintentional injury*

The students were more likely to injure from related behavior of violence and unintentional injury as significantly indicated of 50.9% were physically attacked, 49.2% physical fight and 62.7% were seriously injured. Overall, 51.3% of students were bullied on one or more days during the past 30 days. The 53.3% of students who never or rarely used seat belt when rode in a motor vehicle driven by someone else. Overall, 39.0% of students were in a motor vehicle driven by someone who had been drinking alcohol.

**Recommendation:**

- Presenting results from Tonga GSHS to related stakeholders and partners of health to notice the prevalence of risk behaviours and protective factors.
- Advocating schools and parents to participate in health promoting school programs.
- Promoting healthy lifestyle in schools and parent teacher association based on the findings.
- Producing of IEC material in relation to the findings.
- Financial support.
- Next survey will conduct after four years and to conduct in the beginning of the year whereas response rate was 80% but it can be higher if it is conducted earlier.

## Introduction

In 2001, WHO, in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the U.S. Centers for Disease Control and Prevention (CDC), initiated development of the Global School-based Student Health Survey (GSHS).

Since 2003, Ministries of Health and Education around the world have been using the GSHS to periodically monitor the prevalence of important health risk behaviours and protective factors among students.

To date, more than 80 countries globally have completed a GSHS. This report describes results from the first GSHS conducted in TONGA by the Ministry of Health and Ministry of Education, Women Affairs and Culture and mission schools during 6 September to 6 October.

The purpose of the GSHS is to provide accurate data on health behaviours and protective factors among students to:

- Help countries develop priorities, establish programmes, and advocate for resources for school health and youth health programmes and policies;
- Establish trends in the prevalence of health behaviours and protective factors for use in evaluation of school health and youth health promotion; and
- Allow countries, international agencies, and others to make comparisons across countries and within countries regarding the prevalence of health behaviours and protective factors

The GSHS is a school-based survey conducted primarily among students aged 13-15 years. It measures behaviours and protective factors related to the leading causes of mortality and morbidity among youth and adults in TONGA:

- Alcohol use
- Dietary behaviours
- Drug use
- Hygiene
- Mental health
- Physical activity
- Protective factors
- HIV infection and other STI
- Tobacco use
- Violence and unintentional injury

The GSHS was conducted together with Global Youth Tobacco Survey (GYTS) and Refractive Error Survey.

The GYTS was a school-based survey designed to enhance the capacity of countries to monitor tobacco use among youth and to guide the implementation and evaluation of tobacco prevention and control programmes. The GYTS uses a standard methodology for constructing the sampling frame, selecting schools and classes, preparing questionnaires, following consistent field procedures, and using consistent data management procedures for data processing and analysis.

The results of these surveys help us obtain more accurate and recent health data on health behaviours and protective factors among students in Tonga and will assist in the overall intervention as identified on GSHS and GYTS.

### **Refractive Error Survey**

To date there has not been a survey to look into the refractive error (both myopia and hyperopia) in students to date. This would be an opportunity to ‘piggy back’ on the GYTS and accomplish this work. It was a simple survey where students’ visual acuity will be tested, first unaided (to check for myopia) then with a +2 lens (to check for hyperopia).

It is ideal to do it at this age group (13 – 15) as visual pathways are by this time fully developed.

Also, add information about school health and youth health policies and programs that these data may be used to improve.



## Methods

The 2010 TONGA GSHS employed a two-stage cluster sample design to produce a representative sample of students in forms. The first-stage sampling frame consisted of all schools containing any of forms. Schools were selected with probability proportional to school enrolment size. 24 schools were selected to participate in the TONGA GSHS.

The second stage of sampling consisted of randomly selecting intact classrooms (using a random start) from each school to participate. All classrooms in each selected school were included in the sampling frame. All students in the sampled classrooms were eligible to participate in the GSHS.

The Tonga GSHS was a school-based survey of students in Forms 2, 3, and 4. A two-stage cluster sample design was used to produce data representative of all students in Forms 2, 3, and 4 in Tonga.

A weighting factor was applied to each student record to adjust for non-response and for the varying probabilities of selection.  $W = W1 * W2 * f1 * f2 * f3$

W1 = the inverse of the probability of selecting the school;

W2 = the inverse of the probability of selecting the classroom within the school;

f1 = a school-level nonresponse adjustment factor calculated by school size category (small, medium, large). The factor was calculated in terms of school enrollment instead of number of schools.

f2 = a student-level nonresponse adjustment factor calculated by class.

f3 = a poststratification adjustment factor calculated by grade.

For the 2010 TONGA GSHS, 2,211 questionnaires were completed in 24 schools. The school response rate was 100%, the student response rate was 80%, and the overall response rate was 80%.

The data set was cleaned and edited for inconsistencies. Missing data were not statistically imputed. Software that takes into consideration the complex sample design was used to compute prevalence estimates and 95% confidence intervals. GSHS data are representative of all students attending FORMS in TONGA.

Survey administration occurred from 6 September to 6 October. Survey procedures were designed to protect student privacy by allowing for anonymous and voluntary participation. Students completed the self-administered questionnaire during one classroom period and recorded their responses directly on a computer-scannable answer sheet. Approximately, 10 Survey Administrators were specially trained to conduct the GSHS. The questionnaire was in English and Tongan version.

The TONGA GSHS questionnaire contained 89 questions addressing the following topics:

- Alcohol use
- Dietary behaviours
- Drug use
- Hygiene
- Mental health
- Physical activity
- Protective factors
- HIV infection

- Tobacco use
- Violence and unintentional injury

The questionnaire was developed by WHO and CDC once Tonga given their desirable and final questions as attached.

## Results

### Demographics

The demographic characteristics of the sample are described in the following table.

Table 1. Demographic characteristics of the sample TONGA, 2010.

	Sex		Age			Form			Other
	Males	Females	12 or younger	13-15	16 or older	2	3	4	
<b>TONGA</b>	1,006	1,186	121	1,835	243	668	805	689	18

### Alcohol Use

Table 2. Alcohol use among students, by sex, TONGA, 2010.

Behaviour	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Among students who ever had a drink of alcohol, those who had their first drink of alcohol before age 14 years	63.4 (57.3 – 69.0)	64.5 ( 56.7 – 71.6)	62.0 (52.6 – 70.6)	No
Drank at least one drink containing alcohol on one or more of the past 30 days	18.4 (16.0 – 21.0)	17.8 (14.8 – 21.3)	18.9 (15.9 – 22.3)	No
Among students who drank alcohol during the past 30 days, those who usually drank two or more drinks per day on the days they drank alcohol	36.8 (31.9 – 42.1)	43.7 (36.4 – 51.4)	31.0 (23.5 – 39.6)	No
Among students who drank alcohol during the past 30 days, the percentage who usually got the alcohol they drank from their friends	49.4 (42.9 – 55.9)	44.8 (35.2 – 54.9)	55.1 (47.1 – 62.9)	No
Drank so much alcohol that they were really drunk one or more times during their life	16.1 (13.6 – 19.0)	16.0 (13.0 – 19.5)	16.1 (12.9 – 20.0)	No
Got into trouble with their family or friends, missed school, or got into fights one or more times during their life as a result of drinking alcohol.	13.6 (11.7 – 15.7)	12.9 (10.3 – 16.0)	14.2 (11.9 – 17.0)	No
Student definitely or probably not drink if one of their best friends offered them a drink of alcohol	85.0 (82.5 – 87.2)	85.1 (81.2 – 88.3)	84.8 (82.1 – 87.2)	No
Taught in any of their classes during this school year the problems associated with drinking alcohol	54.3 (51.0 – 57.6)	56.8 (51.7 – 61.8)	51.8 (48.0 – 55.6)	No
Taught in any of their classes during this school year the effects	55.5 (52.0 – 58.9)	58.5 (52.7 – 64.2)	52.2 (48.5 – 55.8)	No

of alcohol use on decision making				
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\*95% confidence interval.

In **TONGA**, among students who ever had a drink of alcohol, 63.4% of students had their first drink of alcohol before age 14 years

Overall, the prevalence of current alcohol use among students (i.e., drinking at least one drink containing alcohol on one or more of the past 30 days) is 18.4%.

Among students who drank alcohol during the past 30 days, 36.8% of students usually drank two or more drinks per day on the days they drank alcohol during the past 30 days.

Among students who drank alcohol during the past 30 days, 49.4% of students usually got the alcohol they drank from their friends.

Overall, 16.1% of students drank so much alcohol they were really drunk one or more times during their life.

Overall, 13.6% of students got into trouble with their family or friends, missed school, or got into fights one or more times during their life as a result of drinking alcohol.

Overall, 85.0% students definitely or probably not drink if one of their best friends offered a drink of alcohol.

Overall, 54.3% students taught in any of their classes during the school year the problems associated with drinking alcohol.

Overall, 55.5% students taught in any of their classes during the school year the effects of alcohol use on decision making.

Although there is no significantly different on drinking alcohol among males and females but the prevalence of drinking alcohol is very high of 63.4% on their first drink before age of 14 years. This is significantly identified early exposure to behaviour of drinking alcohol. The prevalence of 18.4% student who currently drinking is very high and also to identify 49.4% of both gender are more likely to drink alcohol when their friends gave them to drink.

## Dietary Behaviours

Table 3. BMI and dietary behaviours, by sex, **TONGA**, 2010.

Behaviour or Health Outcome	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Underweight <sup>1</sup>	0.2 (0.1 – 0.5)	0.3 (0.1 – 0.9)	0.0 ( - - - )	Yes
Overweight <sup>2</sup>	58.7 (56.0 – 61.3)	59.8 (56.5 – 62.9)	57.6 (53.5 – 61.5)	No
Obese <sup>3</sup>	21.1 (18.8 – 23.6)	23.9 (20.7 – 27.4)	18.1 (15.2 – 21.5)	No

Went hungry most of the time or always because there was not enough food in their home during the past 30 days	14.2 (12.5 – 16.0)	15.6 (13.2 – 18.4)	12.3 (10.3 – 14.7)	No
Usually ate fruit two or more times per day during the past 30 days	41.5 (38.9 – 44.1)	39.9 (35.8 – 44.1)	43.2 (39.8 – 46.6)	No
Usually ate vegetables three or more times per day during the past 30 days	36.1 (33.7 – 38.6)	34.1 (29.9 – 38.4)	38.5 (35.1 – 42.0)	No
Usually ate fruits and vegetables five or more times per day during the past 30 days	38.7 (36.0 – 41.6)	37.2 (32.9 – 41.6)	40.7 (37.0 – 44.6)	No
Usually drank carbonated soft drinks one or more times per day during the past 30 days	56.3 (54.1 – 58.5)	55.0 (51.8 – 58.2)	57.6 (54.6 – 60.6)	No
Ate food from a fast food restaurant on three or more days during the past 7 days	24.3 (22.1 – 26.6)	21.3 (18.6 – 24.3)	27.5 (24.3 – 30.9)	No
Described themselves as slightly or very overweight	26.2 (24.1 – 28.3)	25.2 (22.5 – 28.1)	27.1 (24.3 – 30.3)	No
Ate breakfast most of the time or always during the past 30 days	40.9 (38.4 – 43.5)	40.7 (37.1 – 44.3)	41.2 (38.2 – 44.2)	No
Taught in any of their classes during this school year the benefits of healthy eating	66.2 (62.9 – 69.3)	67.0 (61.8 – 71.8)	65.1 (62.0 – 68.1)	No
Taught in any of the classes during this school year the benefits of eating more fruits and vegetables	63.6 (60.4 – 66.7)	64.2 (59.8 – 68.3)	62.9 (59.2 – 66.6)	No
Taught in any of their classes during this school year healthy ways to lose weight	46.4 (43.1 – 49.7)	49.8 (45.0 – 54.5)	42.3 (38.5 – 46.3)	No

\*95% confidence interval.

<sup>1</sup><-2SD from median for BMI by age and sex.

<sup>2</sup>>+1SD from median for BMI by age and sex.

<sup>3</sup>>+2SD from median for BMI by age and sex.

In **TONGA**, 0.2% of students were underweight, 58.7% of students were overweight, and 21.1% were obese.

Overall, 14.2% of students went hungry most of the time or always because there was not enough food in their home during the past 30 days.

Overall, 41.5% of students usually ate fruit, such as apples, oranges, mango, bananas, kuava or lesi two or more times per day during the past 30 days.

Overall, 36.1% of students usually ate vegetables, such as tomatoes, carrots, cucumber, beans, pele or lu three or more times per day during the past 30 days.

Overall, 38.7% of students usually ate fruits and vegetables five or more times per day during the past 30 days.

Overall, 56.3% of students drank carbonated soft drinks, such as Coca Cola, Fanta, Sprite, Grape or Frubu one or more times per day during the past 30 days.

Overall, 24.3% of students ate food from a fast food restaurant, such as BBQ takeaway, Hot Curry takeaway, Country Fried Chicken takeaway and Fish & Chips takeaway on three or more days during the past 7 days.

Overall, 26.2% of students describe themselves as slightly or very overweight.

Overall, 40.9% of students ate breakfast most of the time or always during the past 30 days.

Overall, 66.2% of students taught in any of their classes during this school year the benefits of healthy eating.

Overall, 63.6% of students taught in any of their classes during this school year the benefits of eating more fruits and vegetables.

Overall, 46.4 of students taught in any of their classes during this school year healthy ways to lose weight.

Overall, males and females are not significantly different except females are more likely underweight than males. The 58.7% prevalence of overweight and 21.1% obese are high among student. The 56.3% prevalence of drinking carbonated soft drinks among targeted age group is also high.

## Drug Use

Table 4. Drug-use behaviours, by sex, TONGA, 2010.

Behaviour	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Among students who ever used drugs, those who first used drugs before age 14 years	67.5 (60.3 – 73.9)	70.5 (61.0 – 78.5)	64.0 (53.5 – 73.3)	No
Used marijuana one or more times during their life	7.5 (5.9 – 9.5)	6.1 (4.0 – 9.2)	8.7 (6.5 – 11.5)	No
Used marijuana one or more times during the past 30 days	6.8 (5.2 – 8.8)	6.5 (4.4 – 9.6)	7.0 (5.1 – 9.5)	No
Used amphetamines or methamphetamines one or more times during their life	6.4 (4.7 – 8.5)	6.1 (3.8 – 9.7)	6.4 (4.3 – 9.5)	No
Used marijuana one or more times during the past 12 months	10.1 (7.7 – 13.2)	9.2 (6.0 – 14.1)	10.6 (7.7 – 14.5)	No
Got into trouble with their family or friends, missed school, or got into fights, as a result of using drugs during their life	15.8 (13.6 – 18.2)	14.9 (11.4 – 19.2)	16.6 (14.2 – 19.4)	No
Taught in any of their classes during this school year the problems associated with using drugs	51.5 (48.0 – 55.1)	53.1 (47.4 – 58.8)	49.6 (45.7 – 53.6)	No

\*95% confidence interval.

In **TONGA**, among students who ever used drugs, 67.5% of students first used drugs before age 14 years.

Overall, 7.5% of students used marijuana one or more times during their life.

Overall, 6.8% of students used marijuana one or more times during the past 30 days.

Overall, 6.4% of students used amphetamines or methamphetamines one or more times during their life.

Overall, 10.1% of students used marijuana one or more times during the past 12 months.

Overall, 15.8% of students who one or more times got into trouble with their family or friends, missed school, or got into fights as a result of using drugs during their life.

Overall, 51.5% of students taught in any of their classes during this school year the problems associated with using drugs.

Overall there is no different amongst males and females but to recognize the 67.4% prevalence of students who are using drugs before the age 14 years is high. As such indicating the exposure to behaviour of using drugs is respectively high.

## Hygiene

Table 5. Hygiene-related behaviours, by sex, TONGA, 2010.

Question	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Usually cleaned or brushed their teeth less than one time per day during the past 30 days	9.6 (8.2 – 11.2)	11.7 (9.3 – 14.6)	7.0 (5.7 – 8.7)	Yes
Never or rarely washed their hands before eating during the past 30 days	11.9 (10.2 – 13.9)	11.8 (9.4 – 14.7)	11.5 (9.5 – 13.9)	No
Never or rarely washed their hands after using the toilet or latrine during the past 30 days	7.0 (5.8 – 8.5)	7.1 (5.4 – 9.4)	6.7 (5.3 – 8.5)	No
Never or rarely used soap when washing their hands during the past 30 days	17.8 (15.8 – 19.9)	16.4 (14.0 – 19.0)	19.2 (16.2 – 22.5)	No
Taught in any of their classes during this school year the importance of cleaning or brushing teeth	70.3 (66.8 – 73.5)	68.7 (64.0 – 73.1)	71.7 (67.1 – 75.9)	No
Taught in any of their classes during this school year the importance of hand washing	68.1 (64.9 – 71.2)	67.5 (62.9 – 71.9)	68.5 (64.5 – 72.3)	No

\*95% confidence interval.

In **TONGA**, the percentage of students who usually cleaned or brushed their teeth less than one time per day during the past 30 days was 9.6%.

Overall, 11.9% of students never or rarely washed their hands before eating during the past 30 days.

Overall, 7.0% of students never or rarely washed their hands after using the toilet or latrine during the past 30 days.

Overall, 17.8% of students never or rarely used soap when washing their hands during the past 30 days.

Overall, 70.3% of students were taught in any of their classes during this school year the importance of cleaning or brushing teeth.

Overall, 68.1% of students were taught in any of their classes during this school year the importance of hand washing.

Overall males are significantly cleaned or brushed their teeth less than one time per day during the past 30 days than females. The hygiene behaviour of the students around 10% is very too low while around 70% were being taught in their classes the importance of cleaning or brushing teeth and handwashing.

## Mental Health

Table 6. Mental health issues among students, by sex, TONGA, 2010 .

Behaviour	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Most of the time or always felt lonely during the past 12 months	17.2 (15.0 – 19.5)	18.6 (15.4 – 22.3)	15.5 (13.2 – 18.1)	No
Most of the time or always were so worried about something that they could not sleep at night during the past 12 months	15.9 (14.1 – 17.9)	16.1 (13.3 – 19.3)	15.8 (13.9 – 18.0)	No
Ever seriously considered attempting suicide during the past 12 months	28.5 (25.1 – 32.1)	30.6 (25.2 – 36.4)	26.5 (23.2 – 30.1)	No
Made a plan about how they would attempt suicide during the past 12 months	29.5 (26.7 – 32.5)	30.0 (25.2 – 35.3)	28.7 (25.6 – 32.0)	No
Actually attempted suicide one or more times during the past 12 months	35.7 (32.5 – 39.1)	35.6 (30.7 – 40.8)	35.3 (31.7 – 39.2)	No
Had no close friends	9.6 (8.3 – 11.1)	10.1 (8.3 – 12.4)	8.7 (6.8 – 11.1)	No
Among students who most of the time or always worried about something that they could not sleep at night during the past 12 months, the percentage who were bullied on one or more days during the past 30 days	65.6 (57.9 – 72.7)	70.7 (59.6 – 79.7)	60.3 (50.8 – 69.0)	No
Most of the time or always were so worried about something that they wanted to use alcohol or	6.8 (5.6 – 8.2)	7.9 (6.1 – 10.3)	5.5 (4.1 – 7.3)	No



drugs to feel better during the past 12 months				
Taught in any of their classes during this school year how to manage anger	45.4 (42.1 – 48.8)	46.8 (42.0 – 51.7)	43.5 (39.5 – 47.5)	No
Taught in any of their classes during this school year signs of depression and suicidal behavior	38.8 (35.2 – 42.5)	39.8 (34.7 – 45.1)	37.8 (34.1 – 41.7)	No
Taught in any of their classes during this school year what to do if a friend is thinking about suicide	31.9 (29.3 – 34.7)	30.9 (27.1 – 35.1)	32.9 (30.3 – 35.7)	No
Taught in any of their classes during this school year how to handle stress in healthy ways	53.7 (50.6 – 56.8)	53.9 (49.6 – 58.0)	53.6 (49.6 – 57.6)	No

\*95% confidence interval.

In **TONGA**, 17.2% of students most of the time or always felt lonely during the past 12 months.

Overall, 15.9% of students most of the time or always were so worried about something that they could not sleep at night during the past 12 months.

Overall, 28.5% of students ever seriously considered attempting suicide during the past 12 months.

Overall, 29.5% of students made a plan about they would attempt suicide during the past 12 months.

Overall, 35.7% of students actually attempted suicide one or more times during the past 12 months.

Overall, 9.6% of students had no close friends.

Among students most of the time or always had been so worried about something that they could not sleep at night during the past 12 months, 65.6% were bullied on one or more days during the past 30 days.

Overall, 6.8% of students that most of the time or always were so worried about something that they wanted to use alcohol or drugs to feel better during the past 12 months.

Overall, 45.4% of students were taught in any of their classes during this school year how to manage anger.

Overall, 38.8% of students were taught in any of their classes during this school year signs of depression and suicidal behavior.

Overall, 31.9% of students were taught in any of their classes during this year of school what to do if a friend is thinking about suicide.

Overall, 53.7% of students were taught in any of their classes during this school year how to handle stress in healthy ways.

Significantly attempting suicidal behaviors are relative high to recognize in time despite that there is no significantly different between males and females. The 65.6% of students are couldn't sleep at night and worried because they bullied on one or days during the last 30 days is high.

## Physical Activity

Table 7. Physical activity among students, by sex, TONGA, 2010.

Behaviour	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Were physically active for a total of at least 60 minutes per day on <b>five or more</b> days during the past seven days	25.1 (22.2 – 28.3)	24.9 (20.3 – 30.1)	25.2 (22.3 – 28.4)	No
Were physically active for a total of at least 60 minutes per day on <b>all seven</b> days during the past seven days	13.8 (11.9 – 16.0)	11.7 (9.5 – 14.2)	15.9 (13.1 – 19.1)	No
Did not walk or ride a bicycle to or from school during the past seven days	41.9 (39.0 – 44.9)	38.9 (35.1 – 42.9)	45.5 (41.4 – 49.6)	No
Went to physical education class on <b>three or more</b> days each week during this school year	23.8 (21.9 – 25.8)	22.4 (19.6 – 25.6)	24.8 (22.2 – 27.5)	No
Went to physical education class on <b>five or more</b> days each week during this school year	16.5 (14.8 – 18.3)	15.8 (13.5 – 18.5)	16.9 (14.6 – 19.4)	No
Spent three or more hours per day during a typical or usual day doing sitting activities	28.8 (26.4 – 31.3)	28.2 (24.9 – 31.6)	29.5 (26.2 – 33.0)	No
Taught in any of their classes during this school year the benefits of physical activity	60.7 (57.5 – 63.9)	63.3 (58.4 – 68.0)	57.9 (53.9 – 61.7)	No
Taught in any of their classes during this school year about opportunities for physical activity in their community	46.4 (43.0 – 49.9)	45.6 (40.8 – 50.5)	47.1 (43.0 – 51.2)	No

\*95% confidence interval.

In **TONGA**, 25.1% of students were physically active for a total of at least 60 minutes per day on **five or more** days during the past seven days.

Overall, 13.8% of students were physically active for a total of at least 60 minutes on **all seven** days during the past seven days.

Overall, 41.9% of students did not walk or ride a bicycle to or from school during the past seven days.

Overall, 23.8% of students went to physical education class on **three or more** days each week during this school year.

Overall, 16.5% of students went to physical education class on **five or more** days each week during this school year.

Overall, 28.8% of students spent three or more hours per day during a typical or usual day doing sitting activities, such as watching video and games.

Overall, 60.7% of students were taught in any of their classes during this school year the benefit of physical activity.

Overall, 46.4% of students were taught in any of their classes during this school year about opportunities for physical activity in their community.

There is no significant difference between males and females but to recognize the lower level of physical activity on both gender is 25.1% at least five or more days a week during the past seven days.

## Protective Factors

Table 8. Protective factors among students, by sex, TONGA, 2010.

Protective Factor	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Missed classes or school without permission on one or more of the past 30 days	40.2 (37.7 – 42.8)	37.5 (33.8 – 41.4)	43.2 (39.8 – 46.7)	No
Reported most of the students in their school were kind and helpful most of the time or always during the past 30 days	41.6 (38.8 – 44.4)	42.3 (37.7 – 47.1)	40.8 (37.5 – 44.3)	No
Parents or guardians checked to see if their homework was done most of the time or always during the past 30 days	39.8 (37.4 – 42.2)	41.2 (37.9 – 44.5)	38.7 (35.2 – 42.2)	No
Parents or guardians understood their problems and worries most of the time or always during the past 30 days	27.1 (24.5 – 29.8)	25.6 (22.1 – 29.5)	28.5 (25.5 – 31.7)	No
Parents or guardians really knew what they were doing with their free time most of the time or always during the past 30 days	30.4 (28.2 – 32.7)	31.4 (28.0 – 35.0)	29.3 (26.5 – 32.4)	No
Parents or guardians went through their things without their approval never or rarely during the past 30 days	55.6 (52.4 – 58.7)	58.1 (53.1 – 62.9)	52.7 (48.9 – 56.5)	No
Parents or guardians most of their time or always supported and encouraged them during the past 30 days	50.7 (47.6 – 53.7)	51.7 (46.9 – 56.4)	49.9 (45.8 – 54.1)	No
Parents or guardians most of the time or always tried to know where they went at night during the past 30 days	44.4 (41.3 – 47.5)	40.3 (36.5 – 44.2)	49.2 (44.7 – 53.7)	Yes
Thought of themselves as a religious or spiritual person	79.2 (77.0 – 81.2)	81.7 (78.8 – 84.3)	76.5 (73.7 – 76.2)	No

\*95% confidence interval.

In **TONGA**, 40.2% of students missed classes or school without permission on one or more of the past 30 days.

Overall, 41.6% of students reported that most of the students in their school were kind and helpful most of the time or always during the past 30 days.

Overall, 39.8% of students reported their parents or guardians checked to see if their homework was done most of the time or always during the past 30 days.

Overall, 27.1% of students reported their parents or guardians understood their problems and worries most of the time or always during the past 30 days.

Overall, 30.4% of students reported their parents or guardians really knew what they were doing with their free time most of the time or always during the past 30 days.

Overall, 55.6% of students reported their parents or guardians went through their things without their approval never or rarely during the past 30 days.

Overall, 50.7% of students reported their parents or guardians supported and encouraged them most of the time or always during the past 30 days.

Overall, 44.4% of students reported their parents or guardians tried to know where they went at night most of the time or always during past 30 days.

Overall, 79.2% of students thought of themselves as a spiritual person.

Significantly the support and role of the parents and guardians is below 50% which is expected to be much higher. Males and females are not much different at protective factors, however females are significantly higher than males reporting parents or guardians most of the time or always tried to know where they went at night during the past 30 days. The 40.2% of students missed school or classes without permission with one or more on the past 30 days.

## **HIV-Related Knowledge**

Table 9. HIV-related knowledge, by sex, TONGA, 2010.

<b>HIV-Related Knowledge</b>	<b>Total % (CI)*</b>	<b>Sex</b>		<b>Males Different Than Females (Yes or No)</b>
		<b>Male % (CI)</b>	<b>Female % (CI)</b>	
Ever heard of HIV infection or the disease called AIDS	57.3 (53.4 – 61.2)	53.3 (47.6 – 58.9)	61.6 (56.7 – 66.3)	No
Taught in any of their classes during this school year about HIV infection or AIDS	36.9 (33.4 – 40.5)	35.1 (30.8 – 39.8)	38.5 (33.7 – 43.5)	No
Taught in any of their classes during this school year how to avoid HIV infection or AIDS	39.1 (35.5 – 42.7)	36.9 (32.4 – 41.7)	41.3 (36.6 – 46.2)	No
Ever talked about HIV infection or AIDS with their parents or guardians	32.9 (30.2 – 35.7)	30.1 (26.7 – 33.7)	35.7 (32.0 – 39.5)	No

Taught in any of their classes during this school year where to get tested for HIV infection or AIDS	28.3 (25.0 – 32.0)	27.0 (22.1 – 32.6)	29.4 (25.4 – 33.9)	No
Taught in any of their classes during this school year the importance of being kind and supportive to persons with HIV infection and AIDS	30.6 (27.9 – 33.4)	30.9 (27.7 – 34.3)	29.6 (25.9 – 33.6)	No
Taught in any of their classes during this school year the signs and symptoms of HIV infections or AIDS	29.0 (26.1 – 32.1)	29.3 (25.6 – 33.2)	28.4 (24.6 – 32.6)	No
Taught in any of their classes during this school year about the effectiveness of condom	28.0 (24.7 – 31.6)	28.9 (23.7 – 34.6)	26.7 (22.8 – 31.1)	No

\*95% confidence interval

In **TONGA**, 57.3% of students had ever heard of HIV infection or the disease called AIDS.

Overall, 36.9% of students were taught in any of their classes during this school year about HIV infection or AIDS.

Overall, 39.1% of students had been taught in any of their classes during this school year how to avoid HIV infection or AIDS.

Overall, 32.9% of students ever talked about HIV infection or AIDS with their parents or guardians.

Overall, 28.3% of students were taught in any of their classes during this school year where to get tested for HIV infections or AIDS.

Overall, 30.6% of students were taught in any if their classes during this school year the importance of being kind and supportive to persons with HIV infections or AIDS.

Overall, 29.0% of students were taught in any of their classes during this school year the signs and symptoms of HIV infection or AIDS.

Overall, 28.0% of students were taught in any of their classes during this school year about the effectiveness of condoms.

Addressing of HIV infections or AIDS is 32.9% as it is not supported by the parents and guardians to talk about. This is strongly indicated the existence of taboo and traditional influence. The 57.3% of students had ever heard of HIV infections and AIDS. Males and females are not significantly different on HIV.

## **Tobacco Use**

Table 10. Tobacco use among students, by sex, TONGA, 2010.

<b>Behaviour</b>	<b>Total % (CI)*</b>	<b>Sex</b>		<b>Males Different Than Females (Yes or No)</b>
		<b>Male % (CI)</b>	<b>Female % (CI)</b>	
Among students who ever	76.1	76.3	76.3	No

smoked cigarettes, those who first tried a cigarette before age 14 years	(72.4 – 79.5)	(71.2 – 80.7)	(70.9 – 81.0)	
Smoked cigarettes on one or more days during the past 30 days	22.7 (19.9 – 25.8)	20.9 (17.5 – 24.8)	24.4 (20.7 – 28.4)	No
Used any tobacco products other than cigarettes on one or more days during the past 30 days	20.6 (18.0 – 23.4)	20.3 (17.0 – 24.0)	20.7 (17.6 – 24.1)	No
Used any tobacco on one or more days during the past 30 days	26.3 (23.4 – 29.6)	24.3 (20.5 – 28.6)	28.0 (24.3 – 32.1)	No
Among students who smoked cigarettes during the past 12 months, those who tried to stop smoking cigarettes during the past 12 months	82.1 (77.5 – 86.0)	81.0 (74.4 – 86.3)	83.5 (77.1 – 88.3)	No
Reported people smoked in their presence on one or more days during the past seven days	66.6 (62.8 – 70.2)	67.1 (61.5 – 72.2)	66.2 (61.7 – 70.4)	No
Had parents or guardians who used any form of tobacco	42.3 (39.5 – 45.1)	42.4 (38.2 – 46.7)	42.3 (38.6 – 46.1)	No
Would definitely or probably not smoke a cigarette during the next 12 months	86.6 (84.6 – 88.5)	86.1 (83.3 – 88.6)	87.3 (84.5 – 89.7)	No
Would definitely or probably not smoke if one of their best friends offered them a cigarette	85.6 (83.4 – 87.6)	86.1 (82.9 – 88.7)	85.3 (82.2 – 88.0)	No

\*95% confidence interval.

In **TONGA**, among students who ever smoked cigarettes, 76.1% of students first tried a cigarette before age 14 years.

Overall, 22.7% of students smoked cigarettes on one or more days during the past 30 days.

Overall, 20.6% of students used any tobacco products other than cigarettes on one or more days during the past 30 days.

Overall, 26.3% of students used any tobacco on one or more days during the past 30 days.

Among students who smoked cigarettes during the past 12 months, 82.1% of students tried to stop smoking cigarettes during the past 12 months.

Overall, 66.6% of students reported people smoked in their presence on one or more days during the past seven days.

Overall, 42.3% of students had parents or guardians who used any form of tobacco.

Overall, 86.6% of students would definitely or probably not smoke a cigarette during the next 12 months.

Overall, 85.6% of students would definitely or probably not smoke if one of their best friends offered them a cigarette.

Among students who ever smoked cigarettes, the 76.1% of students exposed to smoking before age of 14 years is very high and prevalence of 22.7% is also an alarming. Among males and females have no different in tobacco use.

## Violence and Unintentional Injury

Table 11. Violence and unintentional injury among students, by sex, TONGA, 2010.

Behaviour	Total % (CI)*	Sex		Males Different Than Females (Yes or No)
		Male % (CI)	Female % (CI)	
Were physically attacked one or more times during the past 12 months	50.9 (48.3 – 53.6)	48.1 (44.5 – 51.8)	53.4 (49.6 – 57.2)	No
Were in a physical fight one or more times during the past 12 months	49.2 (46.5 – 52.0)	47.8 (43.6 – 52.1)	50.7 (47.0 – 54.4)	No
Were seriously injured one or more times during the past 12 months	62.7 (59.6 – 65.7)	59.5 (54.4 – 64.4)	65.6 (61.8 – 69.2)	No
Among students who were seriously injured during the past 12 months, those whose most serious injury was a broken bone or dislocated joint	17.5 (14.9 – 20.5)	20.7 (16.9 – 25.0)	13.8 (10.4 – 18.1)	No
Among students who were seriously injured during the past 12 months, those who most serious injury was caused by a motor vehicle accident or being hit by a motor vehicle	9.4 (7.3 – 12.1)	11.1 (7.9 – 15.5)	7.6 (5.1 – 11.1)	No
Were bullied on one or more days during the past 30 days	51.3 (47.6 – 54.9)	49.5 (43.7 – 55.3)	52.7 (48.8 – 56.5)	No
Among students who were bullied during the past 30 days, those who were bullied most often by being hit, kicked, pushed, shoved around, or locked indoors	21.1 (18.2 – 24.3)	20.2 (16.6 – 24.4)	22.1 (17.9 – 26.8)	No
Among students who rode in a motor vehicle driven by someone else during the past 30 days and never or rarely used a seat belt	53.3 (50.1 – 56.5)	53.6 (49.3 – 57.7)	53.1 (48.5 – 57.6)	No
Among students who rode in a motor vehicle driven by someone else during the past 30 days who rode in a car or other motor vehicle one or more times driven by someone who had been drinking alcohol	39.0 (35.7 – 42.3)	40.1 (36.2 – 44.1)	37.6 (32.7 – 42.7)	No
Taught in any of their classes during this school year how to avoid or prevent motor vehicle accidents	47.7 (44.5 – 51.0)	51.0 (45.9 – 56.1)	44.2 (40.7 – 47.9)	No

\*95% confidence interval.

In TONGA, 50.9% of students were physically attacked one or more times during the past 12 months.

Overall, 49.2% of students were in a physical fight one or more times during the past 12 months.

Overall, 62.7% of students were seriously injured one or more times during the past 12 months.

Among students who were seriously injured during the past 12 months, a broken bone or dislocated joint was the most serious injury among 17.5% of students.

Among students who were seriously injured during the past 12 months, a motor vehicle accident or being hit by a motor vehicle was the cause of the most serious injury among 9.4% of students.

Overall, 51.3% of students were bullied on one or more days during the past 30 days.

Among students who were bullied during the past 30 days, being hit, kicked, pushed, shoved around, or locked indoors was the most common form of bullying among 21.1% of students.

Among students who rode in a motor vehicle driven by someone else during the past 30 days, 53.3% of students who never or rarely used a seat belt.

Among students who rode in a motor vehicle driven by someone else during the past 30 days, 39.0% of students who rode in a car or other motor vehicle one or more times driven by someone who had been drinking alcohol.

Overall, 47.7% of students were taught in any of their classes during this school year how to avoid or prevent motor vehicle accidents.

The students were more likely to injure from related behavior of violence and unintentional injury as significantly indicated of 50.9% were physically attacked, 49.2% physical fight and 62.7% were seriously injured. The 53.3% of students who were rode in a motor vehicle never or rarely used seat belt. Drinking of alcohol while driving in a motor vehicle is 39.0%. Among males and females were not different on violence and unintentional injury.



## Conclusions:

Tonga GSHS has important results and interesting findings to look at for better intervention to overcome risk behaviours and protective factors for students as follows.

- *Alcohol, Tobacco and Drug use*

Tonga students were at risk of early exposure to drinking alcohol, smoking cigarette and drug use. As clearly indicated that around 63% of students before the age 14 years who had their first drink, smoke cigarette and drug use. In every 3 out of 5 students were in the presence of people smoking and 2 out of 5 had parent smoking. The influence of friendship in drinking alcohol is around 86% of the students.

- *Dietary Behaviour*

There is no significant different on both gender whereas 3 out of 5 students were overweight while 1 out of 5 students were obese. The students usually ate fruits and vegetables are below average. The drinking of carbonated soft drinks is around half of the students.

- *Hygiene*

Tonga students who usually cleaned or brushed their teeth less than one time per day during the past 30 days was in one out of ten and the same as washing hands before eating and washing hands after using the toilet or latrine.

- *Mental Health*

Tonga students of almost one third were ever seriously considered attempting suicide and made a plan during the past 12 months. Two third of the students were most of the time or always worried about something that they could not sleep at night during the past 12 months, the percentage who were bullied on one or more days during the past 30 days.

- *Physical Activity*

Tonga one ten of students was physically active for a total of at least 60 minutes on all seven days of the week which is far below average. In physical education class on five or more days a week during school year is four out of twenty five or 16.5%. One third of students spent three or more hours per day doing sitting activities.

- *Protective Factors*

Tongan parents or guardians understood the student problems and worries most of their time is around one third. The 40.2% of students missed classes or school without permission once or more of the past 30 days.

- *HIV-Related knowledge*

Tonga parents or guardians hardly talked about HIV infection or AIDS is around one third. Three out of five students had ever heard of HIV infection or the disease called AIDS. Taught in school of HIV infection and AIDS is around one third of students.

- *Violence and Unintentional Injury*

Tonga students that half of them were physically attacked and involved in physical fight one or more times during the past 12 months. Three out five students were seriously injured in the past 12 months. The students being bullied on the last 30 days is half of them. For not using seat belt that

half of the students. Two out of five students were in motor vehicle driven by someone who had been drinking alcohol.

### **Recommendation:**

Tonga is extremely found the baseline dataset on health related risk behaviours and protective factors particularly the age group of 13 -15 years. The findings of Tonga GSHS warrant a call to action to overcome the emerging health behaviours and generally improving population health. The close collaboration and integration at the policy level for successful interventions is paramount to be on board.

Tonga GSHS thus recommend that strengthening of strategic action and programs for Health Promoting School in regards to the alarming health factors. The Education Departments are required to engage closely on the matters arising.

- *Presenting results from Tonga GSHS to related stakeholders and partners of health to notice the prevalence of risk behaviours and protective factors.*

The data dissemination is required to present to School Departments and related organizations in order to draw attention for the current health factors that facing with students. The national workshop is essential to host for Schools to realize the current and significant data for the health of the Tonga students.

- *Advocating schools and parents to take action in health promoting school programs.*

The role of the schools and parents is paramount on planning of strategic action that appropriate and effective for the overcoming of the health problems lie around school health. School is solely known their individual health consequences and they are needed to come together and take action.

School clinic and Health Officer should be established within school.

- *Promoting healthy lifestyle in schools and parent teacher association based on the findings*

Hence the advocacy conducted then promoting of healthy lifestyle through increasing physical within school time is required. Growing of organic veggies at school backward and selling of healthy food at the canteen or food stools at the school ground is needed to enhancing. Tobacco is prohibited for student within school ground but not for teachers whereas smoking at school ground during school time is against the Tobacco Act.

For every school should be required to employ a school teacher for physical education to consistently running the classes during school days.

- *Producing of IEC material in relation to the findings*

The information, education and communication materials are paramount to develop and produce for supporting the advocacy and promotion intervention for schools. This is required to be available for educational purpose.

- *Financial support*

The financial support for the overall implementation based on the results is required enough to push the activity effectively.

- *The next survey will do after four years.*

Tonga should continue with the GSHS in order to track the trends and current prevalence of health risk behaviours and protective factors after four years. It is also required to conduct in the begin of the year as to minimize the student dropout whereas response rate was 80% because of absentees towards end of the year.