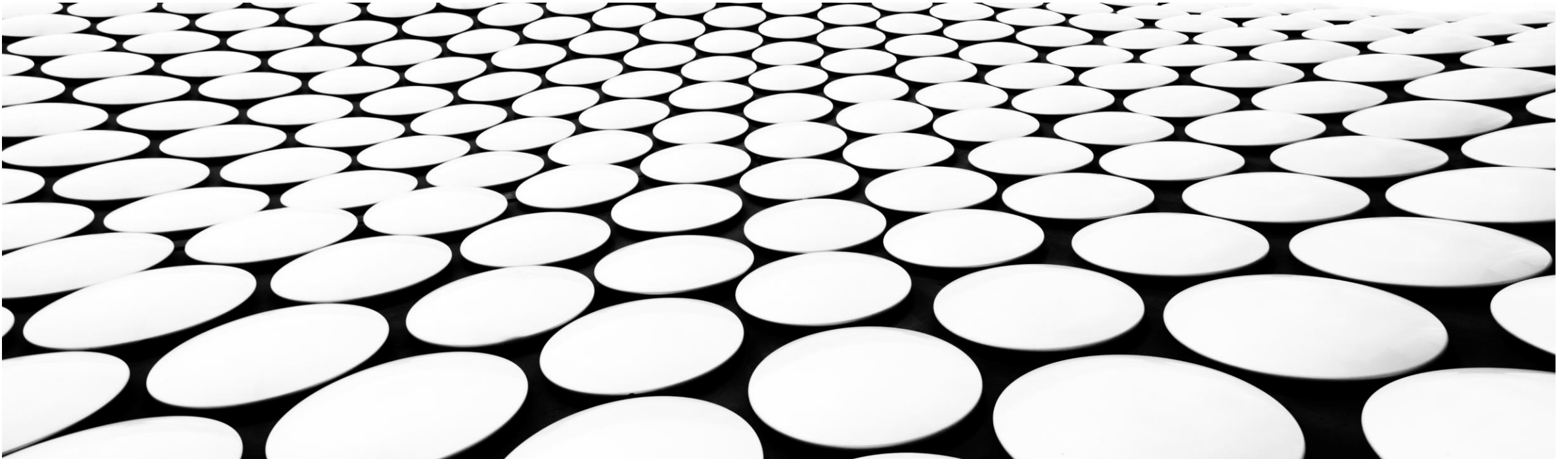# YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM
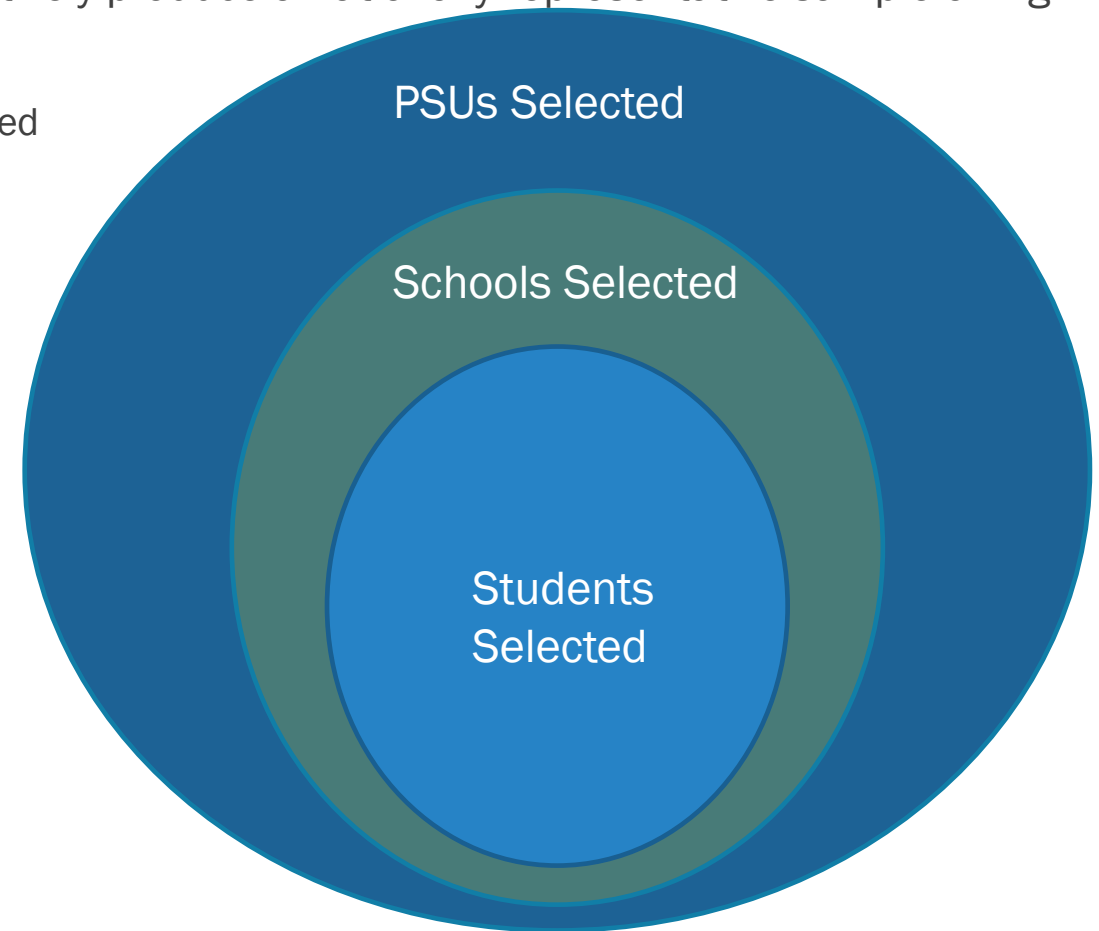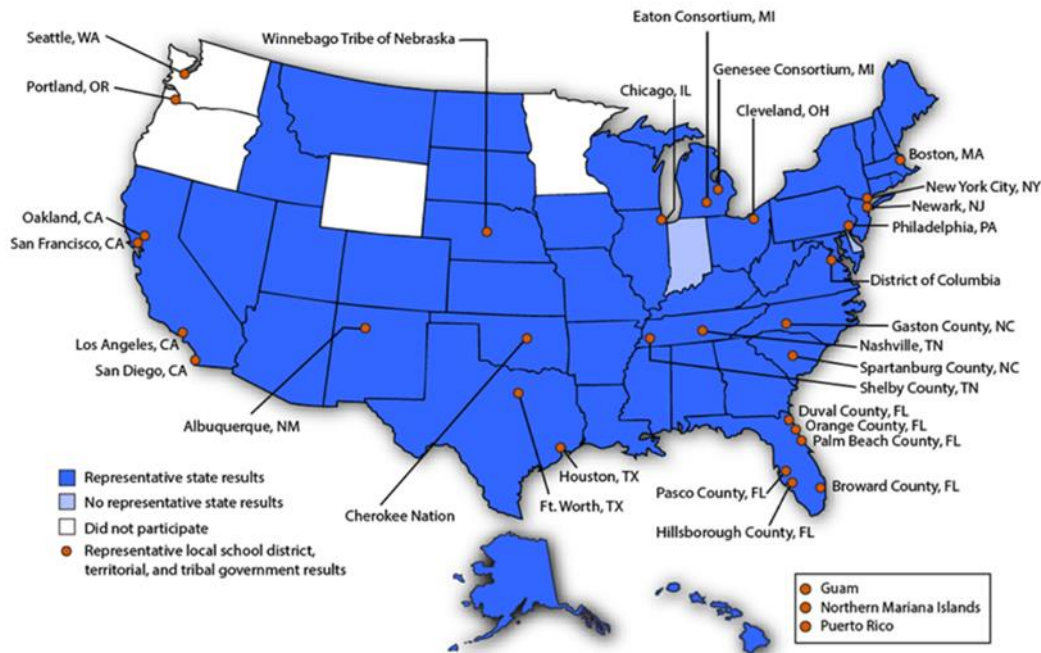
JAMES RITTER

HCIN 543

MAY 5, 2021

WHAT IS THE YRBSS?

- The YRBSS is a survey that measures the prevalence of risky behaviors among high school students in the United States.

- Developed in 1990 with the goal of tracking the major causes of morbidity and mortality among adolescents:
  - Behaviors that can cause injury or violence
  - Behaviors that can lead to increased risk of STIs/HIV or unwanted pregnancy
  - Alcohol, tobacco, or substance use/abuse
  - Physical, mental, and emotional health

- The Survey is distributed every two years using complex clustering system
  - Oversamples for Black and Hispanic Students
  - Since 1991, 4.9M+ students have been sampled

- Overview of the 2019 YRBSS
  - Students sampled from 46 states, 3 territories, and 29 large metropolitan areas
    - 181 schools selected, 136 schools participated (75.1%)
    - 17,025 students sampled, 13,872 samples submitted, 13,677 samples accepted after data editing (80.3%)
    - Overall response rate = 60.3%

THREE-STAGE CLUSTER SAMPLE STYLE

- The YRBSS uses a three-stage clustering system to effectively produce a nationally representative sample of high school students.

  - Stage 1: Primary Sampling Units (PSUs) are randomly selected

    - PSU - refers to deidentified urban/rural metropolitan areas

  - Stage 2: Schools are selected from each PSU

  - Stage 3: Students are selected from each school

PSUs Selected

Schools Selected

Students Selected

YRBSS QUESTION FORMAT

- All questions are multiple choice, single answer
  - Yes or No Question Types
  - Count Question Types
  - Rating Question Types
  - Miscellaneous Question Types

Q24. During the past 12 months, have you ever been **electronically** bullied? (Count being bullied through texting, Instagram, Facebook, or other social media.)
- **A.** **Yes**
- B. No

Q41. During the past 30 days, on how many days did you have at least one drink of alcohol?
- A. 0 days
- **B.** **1 or 2 days**
- **C.** **3 to 5 days**
- **D.** **6 to 9 days**
- **E.** **10 to 19 days**
- **F.** **20 to 29 days**
- **G.** **All 30 days**

Q67. How do **you** describe your weight?
- A. Very underweight
- B. Slightly underweight
- C. About the right weight
- **D.** **Slightly overweight**
- **E.** **Very overweight**

Q66. Which of the following best describes you?
- A. Heterosexual (straight)
- B. Gay or lesbian
- C. Bisexual
- D. Not sure

ADOLESCENT HEALTH AND BEHAVIORAL CONCERNS

- Risky Behaviors

- Sexual Health

- Substance Abuse

- Academics

- Mental Health

- Physical Health

Q12.   During the past 30 days, on how many days did you carry **a weapon** such as a gun, knife, or club?
A.   0 days
B.   **1 day**
C.   **2 or 3 days**
D.   **4 or 5 days**
E.   **6 or more days**

Q64.   The **last time** you had sexual intercourse, what **one** method did you or your partner use to **prevent pregnancy**? (Select only **one** response.)
A.   I have never had sexual intercourse
B.   No method was used to prevent pregnancy
C.   **Birth control pills**
D.   Condoms
E.   An IUD (such as Mirena or ParaGard) or implant (such as Implanon or Nexplanon)
F.   A shot (such as Depo-Provera), patch (such as Ortho Evra), or birth control ring (such as NuvaRing)
G.   Withdrawal or some other method
H.   Not sure

Q27.   During the past 12 months, did you make a plan about how you would attempt suicide?
A.   Yes
B.   No

Q50.   During your life, how many times have you used **any** form of cocaine, including powder, crack, or freebase?
A.   0 times
B.   **1 or 2 times**
C.   **3 to 9 times**
D.   **10 to 19 times**
E.   **20 to 39 times**
F.   **40 or more times**

Q73.   During the past 7 days, how many times did you eat **carrots**?
A.   **I did not eat carrots during the past 7 days**
B.   1 to 3 times during the past 7 days
C.   4 to 6 times during the past 7 days
D.   1 time per day
E.   2 times per day
F.   3 times per day
G.   4 or more times per day

DATABASE OVERVIEW

- Due to statistical analysis software requirements, all data elements MUST BE numeric

- Each row of data represents a single student's responses to the survey

- Three Tables

  - Table 1: SchoolStats (Entity - High School)

  - Table 2: Demographics (Entity - Student)

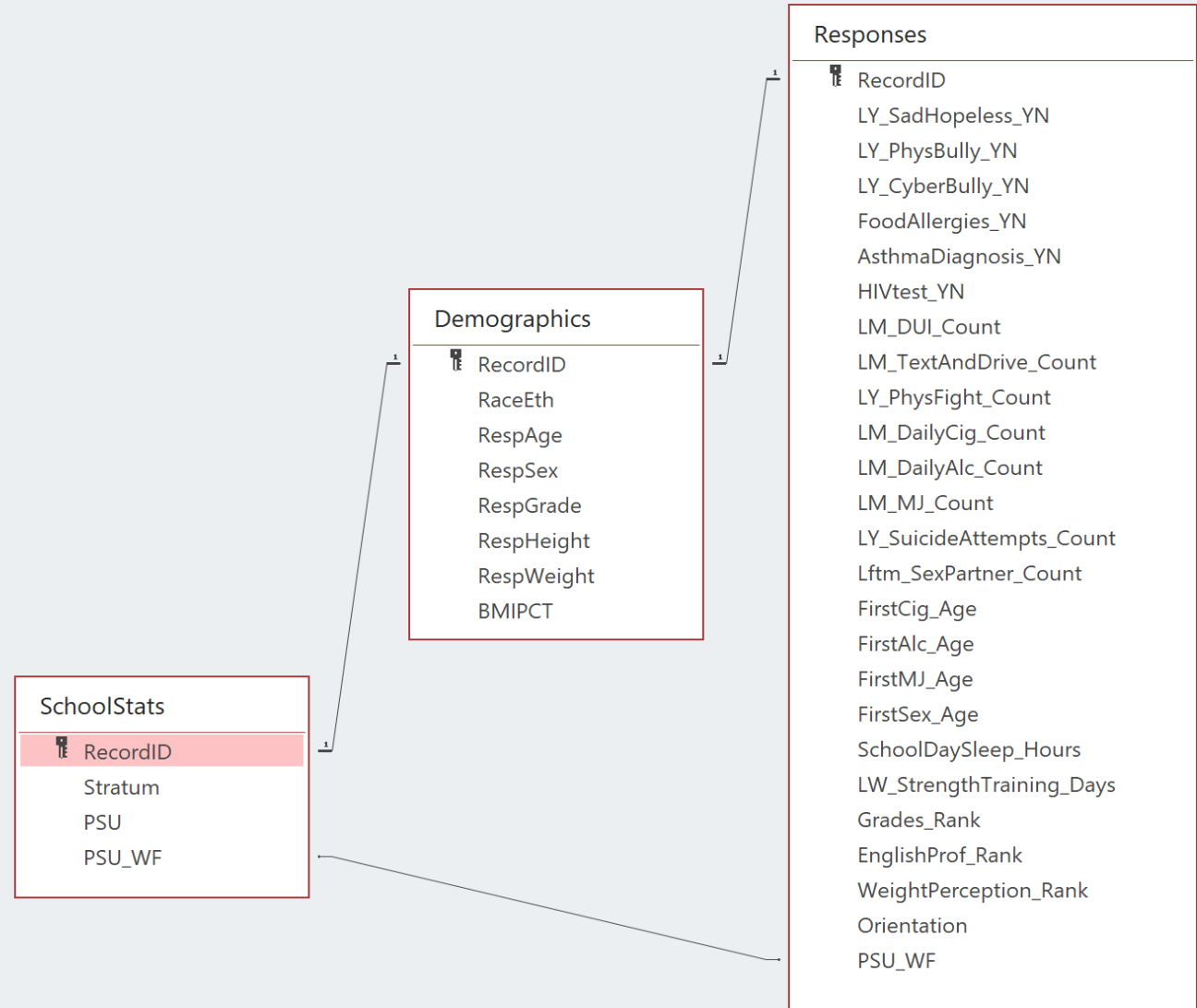 - Table 3: Responses (Entity - YRBSS Survey Responses)

TABLE 1: SCHOOLSTATS

- This table relates geographic information about the high schools included in the YRBSS

Data Element	Field	Description	Notes
Participant Record (Primary Key)	RecordID	The respondent's record number	Whole # between 1 – 13677
Stratum	Stratum	High schools are clustered into strata based on ethnic makeup and student enrollment	Whole, 3 digit # 101 - 214
Primary Sampling Unit	PSU	Groups of adjacent municipalities with similar demographic features	Whole, multidigit #
Weight Factor	PSU_WF	Individually calculated weighting to compensate for oversampling of Black and Hispanic students	Decimal, 5 sig figs

TABLE 2: DEMOGRAPHICS

- This table relates demographic information about each of the respondents in the YRBSS

Data Element	Attribute	Description	Notes
Participant Record (Primary Key)	RecordID	The respondent's record number	Whole # between 1 – 13677
Race/Ethnicity	RaceEth	The respondent's dominant race/ethnicity	1 – American Indian/Alaskan Native 2 – Asian 3 – Black 4 – Native Hawaiian/Pacific Islander 5 – White 6 – Hispanic/Latino 7 – Multiple including Hispanic/Latino 8 – Multiple: Non-Hispanic/Latino
Age	RespAge	The respondent's age	1 – 12 years old or younger 2 – 13 years old 3 – 14 years old 4 – 15 years old 5 – 16 years old 6 – 17 years old 7 – 18 years old or older

TABLE 2: DEMOGRAPHICS (CONTINUED)

- This table relates demographic information about each of the respondents in the YRBSS

Data Element	Attribute	Description	Notes
Sex	RespSex	The respondent's sex	1 – Female 2 – Male
Grade	RespGrade	The respondent's grade in high school	1 – 9th Grade 2 – 10th Grade 3 – 11th Grade 4 – 12th grade 5 – Ungraded or other grade
Height	RespHeight	The respondent's height in meters	Decimal, up to 3 sig figs
Weight	RespWeight	The respondent's weight in meters	Decimal, up to 3 sig figs

TABLE 3: RESPONSES: Y/N QUESTIONS

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
Participant Record (Primary Key)	RecordID	The respondent's record number	Whole # between 1 – 13677
Depressive Symptoms in the last year	LY_SadHopeless_YN	During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?	1 – Yes 2 – No
Physical bullying in the last year	LY_PhysBully_YN	During the past 12 months, have you ever been bullied on school property?	1 – Yes 2 – No
Cyberbullying in the last year	LY_CyberBully_YN	During the past 12 months, have you ever been electronically bullied? (Count being bullied through texting, Instagram, Facebook, or other social media.)	1 – Yes 2 – No

TABLE 3: RESPONSES: Y/N QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
Food Allergies?	FoodAllergies_YN	Are there any foods that you have to avoid because eating the food could cause an allergic reaction, such as skin rashes, swelling, itching, vomiting, coughing, or trouble breathing?	1 – Yes 2 – No 3 – Not sure
Asthma Diagnosis?	AsthmaDiagnosis_YN	Has a doctor or nurse ever told you that you have asthma?	1 – Yes 2 – No
Tested for HIV?	HIVtest_YN	Have you ever been tested for HIV, the virus that causes AIDS? (Do not count tests done if you donated blood.)	1 – Yes 2 – No 3 – Not sure

TABLE 3: RESPONSES: COUNT QUESTIONS

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
DUIs in the last month	LM_DUI_Count	During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?	1 – Did not drive 2 – 0 times 3 – 1 time 4 – 2 or 3 times 5 – 4 or 5 times 6 – 6 or more times
Texting and Driving Incidences in the last month	LM_TextAndDrive_Count	During the past 30 days, on how many days did you text or e-mail while driving a car or other vehicle?	1 – Did not drive 2 – 0 days 3 – 1 to 2 days 4 – 3 to 5 days 5 – 6 to 9 days 6 – 10 to 19 days 7 – 20 to 29 days 8 – all 30 days
Physical fight incidences in the last year	LY_PhysFight_Count	During the past 12 months, how many times were you in a physical fight?	1 – 0 times 2 – 1 time 3 – 2 or 3 times 4 – 4 or 5 times 5 – 6 or 7 times 6 – 8 or 9 times 7 – 10 or 11 times 8 – 12 or more times

TABLE 3: RESPONSES: COUNT QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
Daily Cigarette Count in the last month	LM_DailyCig_Count	During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?	1 – I did not smoke cigarettes during the past 30 days 2 – less than 1 cigarette per day 3 – 1 cigarette per day 4 – 2 to 5 cigarettes per day 5 – 6 to 10 cigarettes per day 6 – 11 to 20 cigarettes per day 7 – more than 20 cigarettes per day
Days drinking alcohol in the last month	LM_DailyAlc_Count	During the past 30 days, on how many days did you have at least one drink of alcohol?	1 – 0 days 2 – 1 or 2 days 3 – 3 to 5 days 4 – 6 to 9 days 5 – 10 to 19 days 6 – 20 to 29 days 7 – All 30 days
Incidences of Marijuana consumption in the last month	LM_MJ_Count	During the past 30 days, how many times did you use marijuana?	1 – 0 times 2 – 1 or 2 times 3 – 3 to 9 times 4 – 10 to 19 times 5 – 20 to 39 times 6 – 40 or more times

TABLE 3: RESPONSES: COUNT QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
The age in which the respondent tried their first cigarette.	FirstCig_Age	How old were you when you first tried cigarette smoking, even one or two puffs?	1 – I have never tried cigarette smoking 2 – 8 years old or younger 3 – 9 or 10 years old 4 – 11 or 12 years old 5 – 13 or 14 years old 6 – 15 or 16 years old 7 – 17 years old or older
The age in which the respondent tried drinking alcohol	FirstAlc_Age	How old were you when you had your first drink of alcohol other than a few sips?	1 – I have never had a drink of alcohol other than a few sips 2 – 8 years old or younger 3 – 9 or 10 years old 4 – 11 or 12 years old 5 – 13 or 14 years old 6 – 15 or 16 years old 7 – 17 years old or older
The age in which the respondent tried marijuana.	FirstMJ_Age	How old were you when you tried marijuana for the first time?	1 – I have never tried marijuana 2 – 8 years old or younger 3 – 9 or 10 years old 4 – 11 or 12 years old 5 – 13 or 14 years old 6 – 15 or 16 years old 7 – 17 years old or older

TABLE 3: RESPONSES: COUNT QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
Respondent's sexual orientation/identity	Orientation	Which of the following best describes you?	1 – Heterosexual (straight) 2 – Gay or lesbian 3 – Bisexual 4 – Not sure
The age in which the respondent tried their first sip of alcohol.	FirstSex_Age	How old were you when you had sexual intercourse for the first time?	1 – I have never had sexual intercourse 2 – 11 years old or younger 3 – 12 years old 4 – 13 years old 5 – 14 years old 6 – 15 years old 7 – 16 years old 8 – 17 years old or older
The age in which the respondent tried marijuana.	LY_SexPartner_Count	During your life, with how many people have you had sexual intercourse?	1 – I have never had sexual intercourse 2 – 1 person 3 – 2 people 4 – 3 people 5 – 4 people 6 – 5 people 7 – 6 or more people

TABLE 3: RESPONSES: COUNT QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
Number of suicide attempts during the respondent's lifetime	LY_SuicideAttempts_Count	Which of the following best describes you?	1 – Heterosexual (straight) 2 – Gay or lesbian 3 – Bisexual 4 – Not sure
The age in which the respondent tried their first sip of alcohol.	FirstSex_Age	How old were you when you had sexual intercourse for the first time?	1 – I have never had sexual intercourse 2 – 11 years old or younger 3 – 12 years old 4 – 13 years old 5 – 14 years old 6 – 15 years old 7 – 16 years old 8 – 17 years old or older
The age in which the respondent tried marijuana.	LY_SexPartner_Count	During your life, with how many people have you had sexual intercourse?	1 – I have never had sexual intercourse 2 – 1 person 3 – 2 people 4 – 3 people 5 – 4 people 6 – 5 people 7 – 6 or more people

TABLE 3: RESPONSES: COUNT QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

Data Element	Attribute	Description	Notes
The average daily hours the respondent spends watching TV	SchoolDayTV_Hours	On an average school day, how many hours do you watch TV?	1 – I do not watch TV on an average school day 2 – less than 1 hour per day 3 – 1 hour per day 4 – 2 hours per day 5 – 3 hours per day 6 – 4 hours per day 7 – 5 or more hours per day
The average nightly hours the respondent spends watching TV	SchoolDayAvgSleep_Hours	On an average school night, how many hours of sleep do you get?	1 – 4 or less hours 2 – 5 hours 3 – 6 hours 4 – 7 hours 5 – 8 hours 6 – 9 hours 7 – 10 or more hours
Number of days spent lifting weights.	LW_StrengthTraining_Days	During the past 7 days, on how many days did you do exercises to strengthen or tone your muscles, such as pushups, sit-ups, or weight lifting?	1 – 0 days 2 – 1 day 3 – 2 days 4 – 3 days 5 – 4 days 6 – 5 days 7 – 6 days 8 – 7 days

TABLE 3: RESPONSES: COUNT QUESTIONS (CONTINUED)

- Table 3 relates the responses to surveys of over 13,677 high school students, nationwide

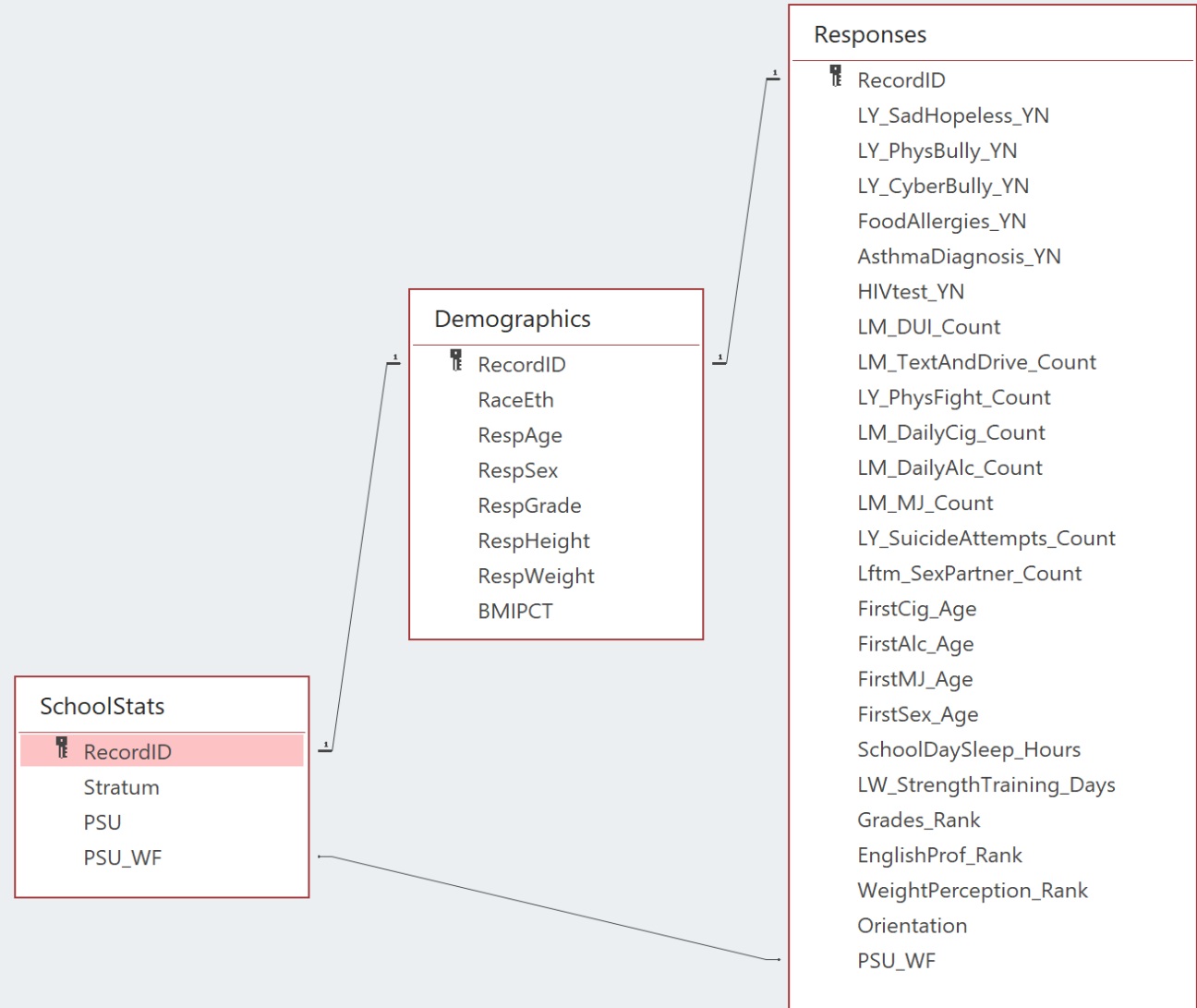| Data Element	Attribute	Description	Notes
What is the respondent's perception of their own weight?	WeightPercept-Rank	How do you describe your weight?	1 – Very underweight 2 – Slightly underweight 3 – About the right weight 4 – Slightly overweight 5 – Very overweight
The age in which the respondent tried their first sip of alcohol.	Grades_Rank	During the past 12 months, how would you describe your grades in school?	1 – Mostly A's 2 – Mostly B's 3 – Mostly C's 4 – Mostly D's 5 – Mostly F's 6 – None of these grades 7 – Not sure
The respondent's level of English proficiency	EnglishProf_Rank	How well do you speak English?	1 – Very well 2 – Well 3 – Not well 4 – Not at all

ENTITY-RELATIONSHIP DIAGRAM FOR YRBSS 2019

Responses
- RecordID
- LY_SadHopeless_YN
- LY_PhysBully_YN
- LY_CyberBully_YN
- FoodAllergies_YN
- AsthmaDiagnosis_YN
- HIVtest_YN
- LM_DUI_Count
- LM_TextAndDrive_Count
- LY_PhysFight_Count
- LM_DailyCig_Count
- LM_DailyAlc_Count
- LM_MJ_Count
- LY_SuicideAttempts_Count
- Lftm_SexPartner_Count
- FirstCig_Age
- FirstAlc_Age
- FirstMJ_Age
- FirstSex_Age
- SchoolDaySleep_Hours
- LW_StrengthTraining_Days
- Grades_Rank
- EnglishProf_Rank
- WeightPerception_Rank
- Orientation
- PSU_WF

Demographics
- RecordID
- RaceEth
- RespAge
- RespSex
- RespGrade
- RespHeight
- RespWeight
- BMIPCT

SchoolStats
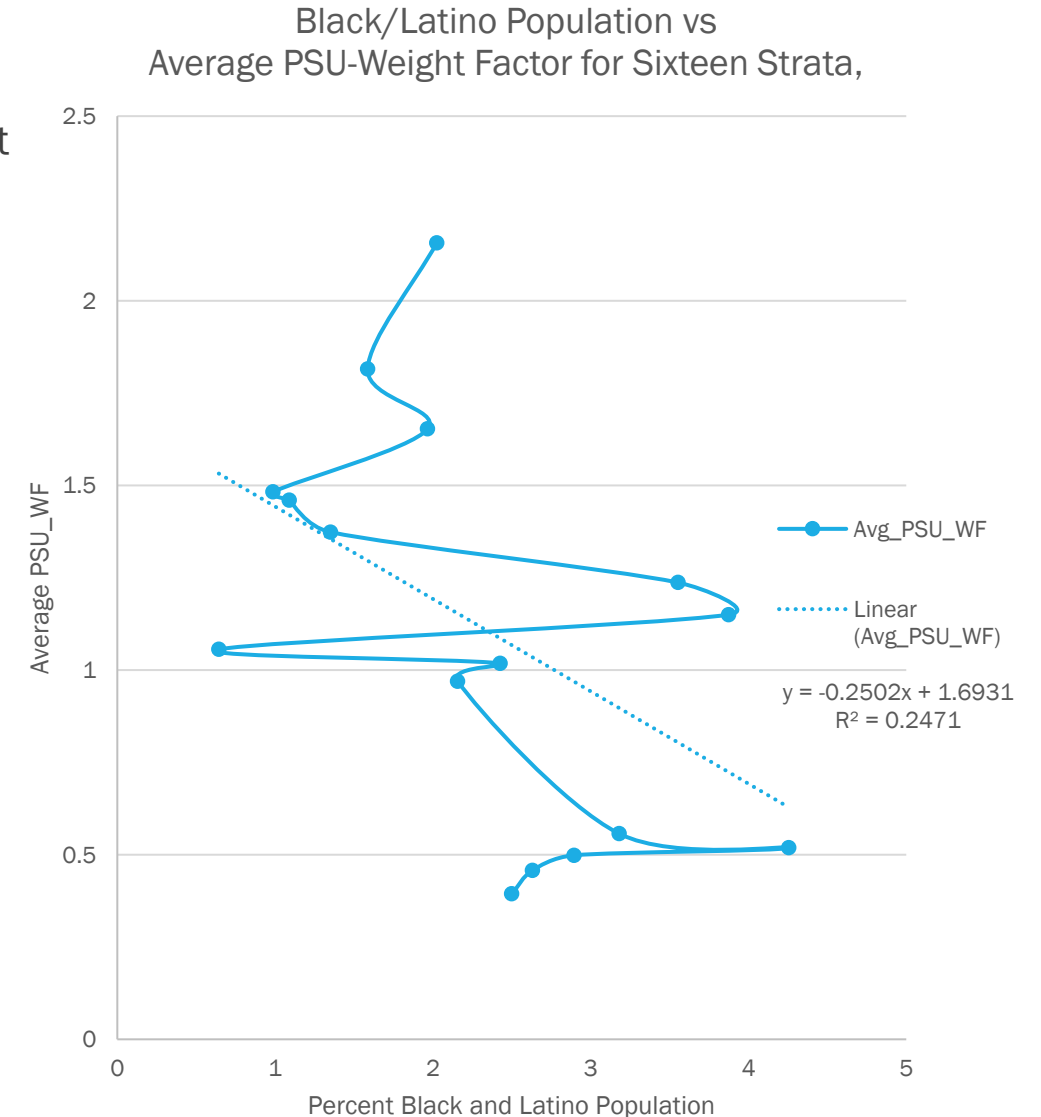- RecordID
- Stratum
- PSU
- PSU_WF

QUERY 1: WHAT IS THE RELATIONSHIP BETWEEN STRATUM AND MINORITY PREVALENCE IN CERTAIN LOCALITIES?

```sql
SELECT SchoolStats.Stratum,
    COUNT(Demographics.RaceEth)*100 / (SELECT Count(SchoolStats.Stratum) FROM SchoolStats) AS
        PercentBlackOrLatino,
    AVG(SchoolStats.PSU_WF) AS Avg_PSU_WF
FROM Schoolstats
INNER JOIN Demographics ON SchoolStats.RecordID=Demographics.RecordID
WHERE Demographics.RaceEth=3
    OR Demographics.RaceEth=6
    OR Demographics.RaceEth=7
GROUP BY SchoolStats.Stratum
ORDER BY AVG(SchoolStats.PSU_WF) ASC;
```

QUERY 1 RESULTS

- Results of first query show a slight negative correlation between locations with greater Black/Latino Populations and the PSU_Weight Factor!

- This is intended to compensate for oversampling of those communities!

Stratum	PercentBlackOrLatino	Avg_PSU_WF
104	2.500548366	0.394328947
113	2.632156175	0.457708889
102	2.895371792	0.498388131
103	4.255319149	0.518771993
114	3.180522044	0.556874713
201	2.156905754	0.969946102
202	2.427432917	1.018009036
203	0.643415954	1.055903409
214	3.875118813	1.150086604
204	3.553410836	1.237025309
211	1.352635812	1.373442162
101	1.089420194	1.460080537
111	0.987058565	1.482282222
213	1.966805586	1.653263569
112	1.58660525	1.815193088
212	2.025297945	2.157261733

Black/Latino Population vs Average PSU-Weight Factor for Sixteen Strata,

y = -0.2502x + 1.6931
R² = 0.2471

QUERY 2

1 – American Indian/Alaskan
Native
2 – Asian
3 – Black
4 – Native Hawaiian/Pacific
Islander
5 – White
6 – Hispanic/Latino
7 – Multiple including
Hispanic/Latino
8 – Multiple: Non-Hispanic/Latino

- What relationships exist between early marijuana use and other risk factors?

```sql
SELECT Responses.FirstMJ_Age,
    AVG(SchoolStats.PSU_WF) AS AvgPSU_WF,
    AVG(Responses.Grades_Rank) AS AvgGrades,
    AVG(Responses.EnglishProf_Rank) AS AvgEnglishProficiency,
    COUNT (Responses.LY_SadHopeless_YN) AS MDDSymptomCount,
    AVG(Responses.WeightPerception_Rank) AS AvgPerceivedWeight,
    AVG(Demographics.BMIPCT) AS AvgBMI
FROM (Responses
LEFT JOIN SchoolStats ON Responses.RecordID=SchoolStats.RecordID)
LEFT JOIN Demographics ON SchoolStats.RecordID=Demographics.RecordID
WHERE Responses.LY_SadHopeless_YN=1
GROUP BY Responses.FirstMJ_Age
HAVING Responses.FirstMJ_Age<>0;
```
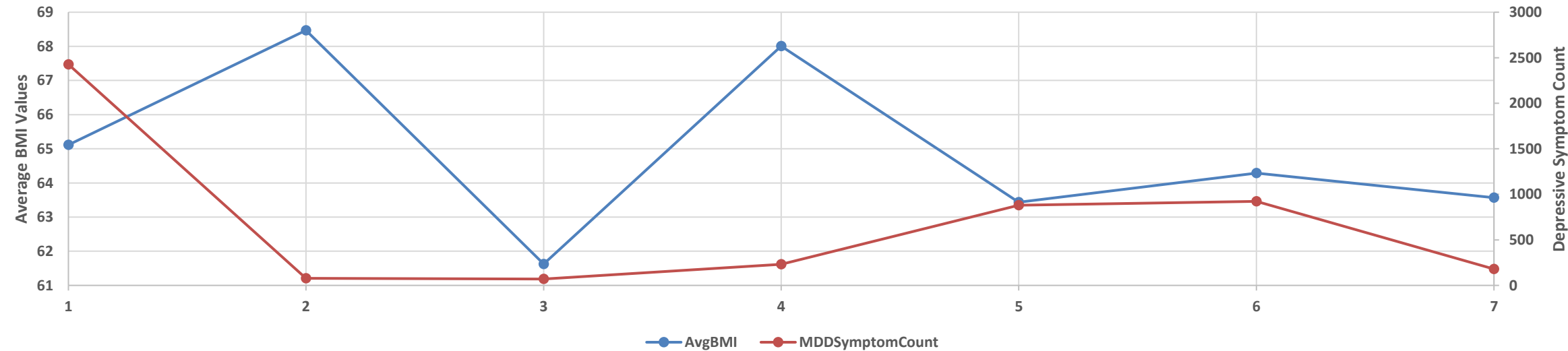
QUERY 2 RESULTS

1 – Mostly A's
2 – Mostly B's
3 – Mostly C's
4 – Mostly D's
5 – Mostly F's
6 – None of these grades
7 – Not sure

1 – Very well
2 – Well
3 – Not well
4 – Not at all

1 – Very underweight
2 – Slightly underweight
3 – About the right weight
4 – Slightly overweight
5 – Very overweight

1 – I have never tried marijuana
2 – 8 years old or younger
3 – 9 or 10 years old
4 – 11 or 12 years old
5 – 13 or 14 years old
6 – 15 or 16 years old
7 – 17 years old or older

FirstMJ_Age	AvgPSU_WF	AvgGrades	AvgEnglishProficiency	AvgPerceivedWeight	AvgBMI	MDDSymptom Count
1	0.982115451	2.103242321	1.211832061	3.241238052	65.11768336	2427
2	0.991061039	3.180555556	1.783783784	3.208955224	68.46929859	77
3	0.97973	2.784615385	1.324324324	3.086206897	61.62681697	70
4	0.946380172	2.742222222	1.24822695	3.234146341	68.00395155	232
5	1.019569091	2.34751773	1.19384058	3.201290323	63.43444707	880
6	1.059476082	2.239548023	1.147335423	3.268656716	64.29058653	924
7	1.158917222	2.039772727	1.240601504	3.271604938	63.5683381	180

Effect of Early Marijuana Use on BMI and Depression

```sql
SELECT Demographics.RaceEth, AVG(Responses.PSU_WF) AS Avg_PSU_WF, AVG(Demographics.BMIPCT) AS AvgBMI, AVG(
    Responses.Grades_Rank) AS AvgSelfReportedGrades, AVG(Responses.EnglishProf_Rank) AS
    AvgEnglishProficiency, AVG(Responses.SchoolDaySleep_Hours) AS AvgDailySleep, AVG(Responses.
    LW_StrengthTraining_Days) AS AvgDaysStrengthTraining, AVG(Responses.WeightPerception_Rank) AS
    AvgPerceivedWeight, COUNT(Responses.LY_SadHopeless_YN) AS MDDSymptomCount, AVG(Responses.
    LY_SuicideAttempts_Count) AS AvgSuicideAttemptsLastYear, COUNT(Responses.FoodAllergies_YN) AS
    FoodAllergyCount, COUNT(Responses.AsthmaDiagnosis_YN) AS AsthmaDiagnosisCount, COUNT(Responses.
    Orientation) AS LGBTQ_StudentCount, AVG(Responses.FirstSex_Age) AS Avg_AgeFirstSexualIntercourse, COUNT(
    Responses.HIVtest_YN) AS HIV_TestCount, AVG(Responses.Lftm_SexPartner_Count) AS AvgSexPartnerCount, AVG(
    Responses.LM_TextAndDrive_Count) AS AvgTextAndDriveCount, AVG(Responses.LM_DUI_Count) AS
    AvgDUICountLastMonth, AVG(Responses.FirstCig_Age) AS AvgAgeFirstCig, AVG(Responses.LM_DailyCig_Count) AS
    AvgDailyCigCount, AVG(Responses.FirstAlc_Age) AS AvgAgeFirstAlcDrink, AVG(Responses.LM_DailyAlc_Count) AS
    AvgDailyAlcDrinkCount, AVG(Responses.FirstMJ_Age) AS AvgAgeFirstMJ, AVG(Responses.LM_MJ_Count) AS
    AvgMJCountLastMonth, AVG(Responses.LY_PhysFight_Count) AS AvgPhysicalFightCountLastYear, COUNT(Responses.
    LY_PhysBully_YN) AS StudentsPhysBullied, COUNT(Responses.LY_CyberBully_YN) AS StudentsCyberbullied
FROM Demographics INNER JOIN Responses ON Demographics.RecordID=Responses.RecordID
WHERE Responses.LY_SadHopeless_YN = 1
    OR Responses.HIVtest_YN = 1
    OR Responses.FoodAllergies_YN = 1
    OR Responses.AsthmaDiagnosis_YN = 1
    OR Responses.LY_PhysBully_YN=1
    OR Responses.LY_CyberBully_YN=1
    OR Responses.Orientation<>1
GROUP BY Demographics.RaceEth
HAVING Demographics.RaceEth <> 0;
```

QUERY 3: WHAT EFFECT DOES RACE/ETHNICITY HAVE ON YRBSS SURVEY RESPONSES?

QUERY 3 RESULTS

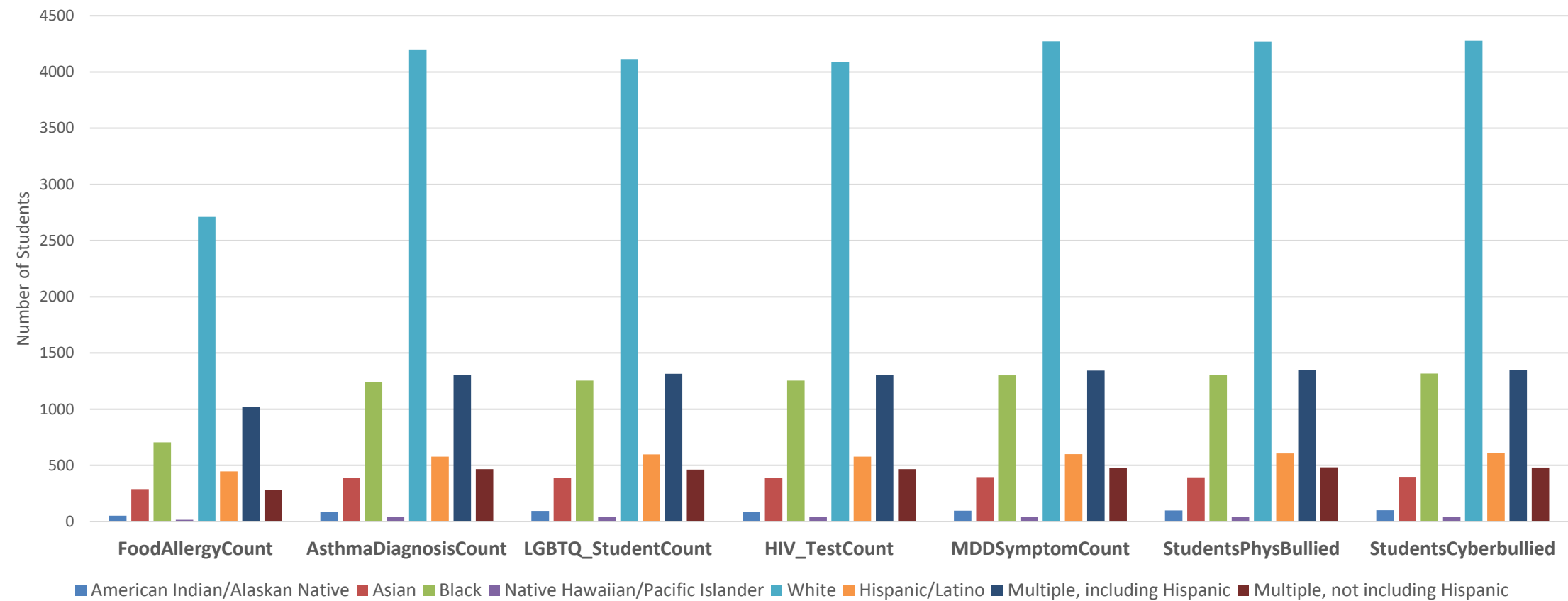| RaceEth	Avg_PSU_WF	AvgSelfReportedGrades	AvgEnglishProficiency	AvgBMI	AvgPerceivedWeight	AvgDaysStrengthTraining	FoodAllergyCount	AsthmaDiagnosisCount
1	0.621814851	2.371134021	1.339622642	69.8762739	3.308641975	3.818181818	51	89
2	1.115917085	1.625954198	1.348432056	53.4160142	3.041884817	3.484429066	289	390
3	0.794992388	2.309236948	1.191366906	68.4245578	3.075117371	3.482708934	704	1243
4	0.614179545	1.925	1.1875	60.7993067	2.55	4.1875	16	39
5	1.013569995	2.00476758	1.136430678	62.0467436	3.18954975	3.589338235	2711	4199
6	1.191633388	2.461937716	1.372197309	71.8129224	3.325174825	3.444201313	445	578
7	1.123968827	2.346938776	1.32875368	68.2763762	3.293291732	3.542074364	1017	1307
8	0.907202066	2.231759657	1.137681159	64.7249969	3.206818182	3.592057762	278	465

LGBTQ_StudentCount	HIV_TestCount	Avg_AgeFirstSexualIntercourse	AvgSexPartnerCount	AvgAgeFirstCig	AvgAgeFirstAlcDrink	AvgAgeFirstMJ	AvgDailyCigCount	AvgDailyAlcDrinkCount	AvgMJCountLastMonth
95	88	4.333333333	2.514285714	2.222222222	3.109756098	2.920454545	1.428571429	1.951219512	2
386	390	1	1.382271468	1.403183024	2.80839895	1.861182519	1.06824147	1.297082228	1.271573604
1254	1253	3	2.280802292	1.529504327	3.101335428	2.880971026	1.090825688	1.400172117	1.609240407
44	40		1.971428571	1.648648649	3.4	2.465116279	1.485714286	1.594594595	1.534883721
4115	4088	3.102564103	1.98077416	2.146637861	3.528409091	2.832268749	1.231390361	1.687208446	1.637287335
597	577	2.592592593	1.945054945	2.162479062	3.494037479	3.003407155	1.143847487	1.52690167	1.61928934
1315	1302	3.25	2.060118544	2.124132614	3.49244713	2.940819423	1.23095624	1.64995958	1.677177177
462	466	1	2.137697517	2.086363636	3.345991561	2.987288136	1.226415094	1.561135371	1.742616034

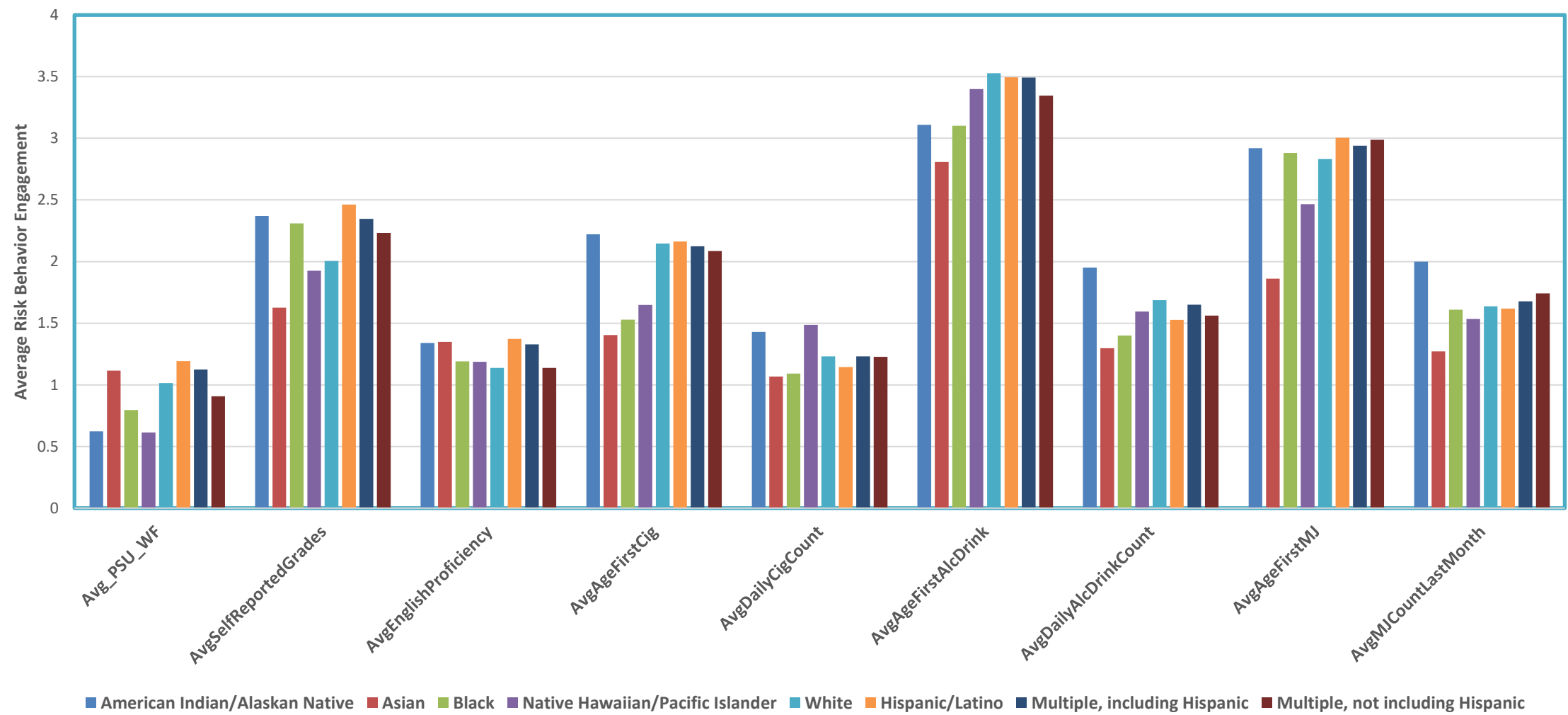| AvgDailySleep	AvgTextAndDriveCount	AvgDUICountLastMonth	MDDSymptomCount	AvgSuicideAttemptsLastYear	AvgPhysicalFightCountLastYear	StudentsPhysBullied	StudentsCyberbullied
3.010638298	2.207792208	1.784810127	97	1.584415584	2.1375	99	100
3.21319797	1.938172043	1.481081081	395	1.198113208	1.306962025	394	397
3.165741475	2.138704319	1.641294838	1301	1.326767092	1.744255744	1306	1316
2.658536585	2.179487179	1.657894737	40	1.44	1.592592593	41	41
3.356515547	2.565102095	1.688330871	4272	1.180512532	1.443298969	4269	4276
3.311531842	1.932727273	1.561922366	600	1.218415418	1.465779468	606	607
3.221637866	2.321056845	1.677158999	1343	1.271836007	1.597981497	1347	1346
3.137420719	2.181395349	1.61784897	479	1.322580645	1.700265252	482	480

QUERY 3A GRAPH

- A similar distribution pattern is presented when counting students based on their racial groups

Query 3a: Effect of Race on Various Risk Factors (Count)

Legend: American Indian/Alaskan Native, Asian, Black, Native Hawaiian/Pacific Islander, White, Hispanic/Latino, Multiple, including Hispanic, Multiple, not including Hispanic

Categories: FoodAllergyCount, AsthmaDiagnosisCount, LGBTQ_StudentCount, HIV_TestCount, MDDSymptomCount, StudentsPhysBullied, StudentsCyberbullied
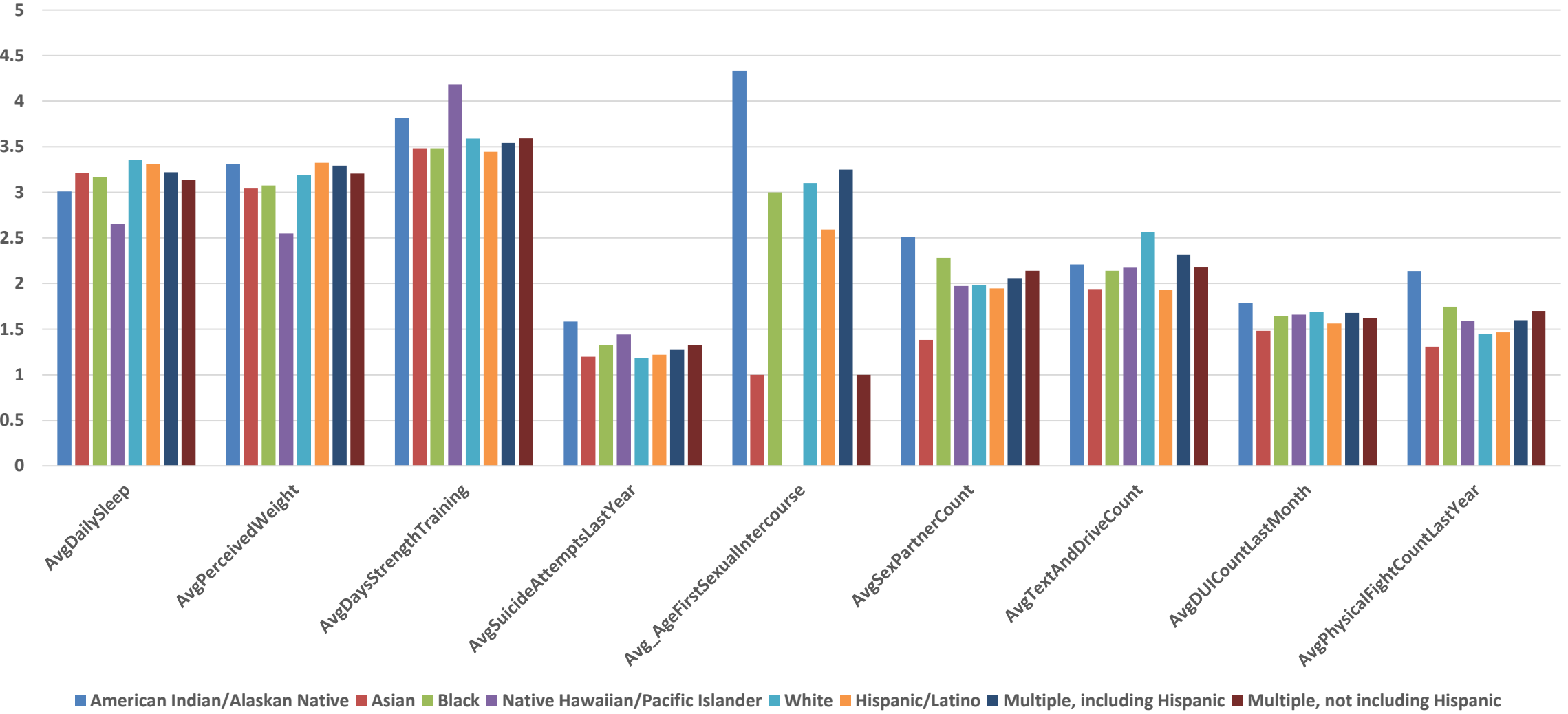
QUERY 3B GRAPH

Query 3a - Effect of Race on Various Risk Factors (Average)

QUERY 3C GRAPH

Query 3c - Effect of Race on Various Risk Factors (Average)

DISCUSSION AND NEXT STEPS

- Queries that measure the number of students who engage in a particular risk behavior generally show a similar pattern of distribution

- Queries that measure the average engagement, do not display the same distribution pattern.

- Shortcomings of the Database:
  - Numbers only format can be confusing!
  - PSU values are depersonalized, no way to determine which PSU
  - Would benefit from updating the database with short text and making it more Access-Friendly.

- Next Steps
  - Would benefit to learn how to perform statistical analysis like SPSS
  - Now time to look at previous data sets to trend
  - .

ANY QUESTIONS?

THANK YOU!

REFERENCES

- Centers for Disease Control and Prevention, 2019 YRBS Data User's Guide (2020).

- Centers for Disease Control and Prevention, *Methodology of the Youth Risk Behavior Surveillance System — 2013*. (2013, March 1). https://www.cdc.gov/mmwr/pdf/rr/rr6201.pdf.

- Centers for Disease Control and Prevention. (2020, November 9). *Participation Maps & History*. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyyouth/data/yrbs/participation.htm#hs_map.

- Office of Disease Prevention and Health Promotion. (2020, September 8). *Youth Risk Behavior Surveillance System*. Youth Risk Behavior Surveillance System | Healthy People 2020. https://www.healthypeople.gov/2020/data-source/youth-risk-behavior-surveillance-system.