Project 1 of BS 723

**Table 1 Participant Characteristics**

|  |  |
| --- | --- |
| **Characteristic** | **n=106,285** |
| Sexual Orientation  Lesbian or Gay  Straight/not gay  Bisexual  Something else | 2213(2.08%)  99446(93.57%)  3280(3.09%)  1346(1.27%) |
| Sex  Male  Female | 44662(42.02%)  61623(57.98%) |
| Race  White, Non-Hispanic  Black, Non-Hispanic  Asian, Non-Hispanic  American Indian/Alaskan Native, Non-Hispanic  Hispanic  Other race, Non-Hispanic | 82143(77.29%)  9560(8.99%)  2419(2.28%)  1725(1.62%)  5967(5.61%)  4471(4.21%) |
| Age  18-29  30-39  40-59  60 and older | 12492(11.75%)  12433(11.70%)  34620(32.57%)  46740(43.98%) |
| Income Category  Less than $50,000  $50,000 or more | 78257(73.63%)  28028(26.37%) |
| BMI Category  Underweight  Normal weight  Overweight  Obese | 2008(1.89%)  30656(28.84%)  35022(32.95%)  38599(36.32%) |
| Number of poor mental health days in the past 30 days | 7.081(9.943) |
| Depressive Disorder  Yes  No | 32670(30.74%)  73615(69.26%) |
| Number of poor health days in the past 30 days | 5.449(9.462) |
| General Health  Excellent  Very good  Good  Fair  Poor | 10210(9.61%)  29529(27.78%)  34422(32.39%)  21873(20.58%)  10251(9.64%) |
| Does the participant have a health plan?  Yes  No | 98032(92.24%)  8253(7.76%) |
| Smoking Status  Current smoker - now smokes every day  Current smoker - now smokes some days  Former smoker  Never smoked | 14384(13.53%)  5458(5.14%)  31329(29.48%)  55114(51.85%) |

Table Summary-

The participant pool in this study is diverse collection of 106,285 individuals, characterized by a wide range of sexual orientations. The majority identify as Straight/not gay (93.57%), with Bisexual (3.09%), Lesbian or Gay (2.08%), and Something else (1.27%) also represented. In terms of gender, females constitute 57.98% of the sample, overshadowing males at 42.02%. The racial composition is predominantly White, Non-Hispanic (77.29%), with other racial and ethnic groups making up the remainder. The participants' ages vary widely, with the most substantial proportion being those 60 and older (43.98%). Regarding income, a large majority report earning less than $50,000 annually (73.63%). Health-wise, the sample reports an average of 7 poor mental health days in the last 30 days, and 30.74% have a depressive disorder. The average number of poor health days reported is approximately 5. A vast majority have health coverage (92.24%), and smoking habits are varied, with 51.85% never having smoked. This dataset's richness offers a valuable opportunity for detailed exploration of health behaviours and outcomes across a spectrum of demographic and socioeconomic backgrounds.

**Table 2 Participant Characteristics Stratified by Sexual Orientation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristic** | **Straight**  **N=** 104072 | **Not Straight**  **N=** 2213 | **Test statistic, df, pvalue** |
| Sex  Male  Female | 1263(57.07%)  950(42.93%) | 43399(41.70%)  60673(58.30%) | 210.138,1,<0.0001 |
| Race  White, Non-Hispanic  Black, Non-Hispanic  Asian, Non-Hispanic  American Indian/Alaskan Native, Non-Hispanic  Hispanic  Other race, Non-Hispanic | 1664(75.19%) 172(7.77%)  42(1.90%) 29(1.31%)  174(7.86%)  132(5.96%) | 80479(77.33%)  9388(9.02%)  2377(2.28%)  1696(1.63%)  5793(5.57%)  4339(4.17%) | 44.7757,5,<0.0001 |
| Age  18-29  30-39  40-59  60 and older | 475(21.46%)  317(14.32%)  765(34.57%)  656(29.64%) | 12017(11.55%)  12116(11.64%) 33855(32.53%)  46084(44.28%) | 303.002,3,<0.0001 |
| Income Category  Less than $50,000  $50,000 or more | 1575(71.17%)  638(28.83%) | 76682(73.68%)  27390(26.32%) | 7.0385,1,0.0080 |
| BMI Category  Underweight  Normal weight  Overweight  Obese | 53(2.39%)  704(31.81%)  707(31.95%)  749(33.85%) | 1955(1.88%)  29952(28.78%)  34315(32.97%)  37850(36.37%) | 14.456,3,0.0023 |
| Number of poor mental health days in the past 30 days | 8.613(10.34) | 7.049(9.932) | 6.97,2252.1,<0.0001 |
| Depressive Disorder  Yes  No | 943(42.61%) 1270(57.39%) | 31727(30.49%)  72345(69.51%) | 149.666,1,<0.0001 |
| Number of poor health days in the past 30 days | 5.791(9.271) | 5.441(9.466) | -1.71, 104622,0.0867 |
| General Health  Excellent  Very good  Good  Fair  Poor | 236(10.66%)  624(28.20%)  745(33.66%)  445(20.11%)  163(7.37%) | 9974(9.58%)  28905(27.77%) 336d77(32.36%)  21428(20.59%)  10088(9.69%) | 16.330,4,0.0026 |
| Does the participant have a health plan?  Yes  No | 2033(91.87%)  180(8.13%) | 95999(92.24%) 8073(7.76%) | 0.4292,1,0.512 |
| Smoking Status  Current smoker - now smokes every day  Current smoker - now smokes some days  Former smoker  Never smoked | 402(18.17%)  156(7.05%)  632(28.56%) 1023(46.23%) | 13982(13.43%)  5302(5.09%)  30697(29.50%)  54091(51.97%) | 66.404,3,<0.0001 |

Table summary-

In the Behavioural Risk Factor Surveillance System (BRFSS) study, which surveyed 109,634 noninstitutionalized US adults across all states and territories, notable differences emerged between straight and non-straight individuals across various demographic, socioeconomic, and health-related variables. Sexual orientation exhibited a significant correlation with nearly all studied variables, except for sex at birth. Notably, individuals identifying as non-straight were more likely to report incomes below $50,000 and experience higher levels of emotional stress and mental health challenges, with an average of 10.833 days of stress in the past 30 days, compared to their straight counterparts' 6.87 days. Furthermore, the prevalence of depressive disorders was higher among non-straight participants (24.83% vs. 18.24%). This group also reported a slightly higher average of days where routine activities were hindered (6.23 vs. 5.39) and a lower likelihood of having health plans (88.96% vs. 92.46%). Smoking rates were elevated among non-straight individuals, alongside significant differences in BMI, with straight individuals more frequently falling into overweight or obese categories. Age distribution also varied, with a greater proportion of non-straight participants being younger (18-39 years). Racial composition differed, with higher percentages of Hispanic and other non-Hispanic races among non-straight individuals, while straight individuals had higher proportions of non-Hispanic whites and blacks. Finally, while general health ratings were slightly better among the non-straight group, the proportion of individuals reporting poor and excellent health was marginally higher in the straight group, illustrating the complex interplay between sexual orientation and various facets of well-being and socio-economic status.

SAS Code-

**proc** **import** out=brfss18

datafile="C:\Users\Lenovo\OneDrive\Documents\Core Courses\BS 723\brfss.csv"

DBMS=csv replace;

getnames=yes;

**run**;

libname proj "C:\Users\Lenovo\OneDrive\Documents\Core Courses\BS 723";

**proc** **format**;

value sof

**1**="Lesbian or Gay"

**2**="Straight, that is, not gay"

**3**="Bisexual"

**4**="Something else"

**7**="I don´t know the answer"

**9**="Refused";

value sex1f

**1**="Male"

**2**="Female"

**7**="Don’t know/Not Sure"

**9**="Refused";

value racef

**1**="White, Non-Hispanic"

**2**="Black, Non-Hispanic"

**3**="Asian, Non-Hispanic"

**4**="American Indian/Alaskan Native, Non-Hispanic"

**5**="Hispanic"

**6**="Other race, Non-Hispanic";

value agecatf

**1**="Age 18 to 29"

**2**="Age 30 to 39"

**3**="Age 40 to 59"

**4**="Age 60 snd older";

value incomecatf

**1**= "Earnings >=50,000"

**0**= "Earnings <50,000"

;

value bmicatf

**1**="Underweight"

**2**="Normal Weight"

**3**="Overweight"

**4**="Obese"

;

value addepev2f

**1**="Yes"

**2**="No"

**7**="Don’t know/Not sure"

**9**="Refused"

;

value genhlthf

**1**="Excellent"

**2**="Very good"

**3**="Good"

**4**="Fair"

**5**="Poor"

**7**="Don’t know/Not Sure"

**9**="Refused"

;

value hlthpln1f

**1**="Yes"

**2**="No"

**7**="Don’t know/Not Sure"

**9**="Refused"

;

value so\_dichotf

**1**="straight"

**0**="otherwise"

;

value smokerf

**1**="Current smoker - now smokes every day"

**2**="Current smoker - now smokes some days"

**3**="Former smoker"

**4**="Never smoked"

;

**run**;

**data** proj.brfss;

set brfss18;

if (SO = **9** or SO= **7**) then SO = **.**;

if (sex1=**7** or sex1=**9**)then sex1=**.**;

if (income2=**7** or income2=**9**)then income2=**.**;

if (MENTHLTH=**77** or MENTHLTH=**99**) then MENTHLTH=**.**;

if (ADDEPEV2=**7** or ADDEPEV2=**9**)then ADDEPEV2=**.**;

if (POORHLTH=**77** or POORHLTH=**99**) then POORHLTH =**.**;

if (GENHLTH=**7** or GENHLTH=**9**) then GENHLTH=**.**;

if (HLTHPLN1=**7** or HLTHPLN1=**9**) then HLTHPLN1 =**.**;

if **18**>=age=<**29** then agecat = **1**;

else if **30**>=age=<**39** then agecat = **2**;

else if **40**>=age=<**59** then agecat = **3**;

else if **60**>= age then agecat = **4**;

if income2 in(**7**,**8**) then incomecat = **1**;

else incomecat = **0**;

if SO =**1** then so\_dichot = **1**;

else so\_dichot = **0**;

if MENTHLTH = **88** then MENTHLTH=**0**;

if POORHLTH = **88** then POORHLTH = **0**;

if so = **.** or sex1 = **.** or addepev2 = **.** or hlthpln1 = **.** then delete;

label so\_dichot = "sexual orientation"

addepev2 = "depressive disorder";

format so sof. sex1 sex1f. race racef. agecat agecatf. incomecat incomecatf. bmicat bmicatf. addepev2 addepev2f. genhlth genhlthf. hlthpln1 hlthpln1f. so\_dichot so\_dichotf. smoker smokerf.;

**run**;

**proc** **means** data=proj.brfss N mean std;

var MENTHLTH POORHLTH ;

**run**;

**proc** **freq** data=proj.brfss;

tables so sex1 race incomecat bmicat addepev2 genhlth smoker agecat HLTHPLN1 ;

**run**;

**proc** **sort** data=proj.brfss;

by so\_dichot;

**run**;

**proc** **means** data=proj.brfss N mean std;

by so\_dichot;

var MENTHLTH POORHLTH ;

**run**;

**proc** **ttest** data=proj.brfss;

class so\_dichot;

var MENTHLTH;

**run**;

**proc** **ttest** data=proj.brfss;

class so\_dichot;

var POORHLTH;

**run**;

**proc** **sort** data=proj.brfss;

by so\_dichot;

**run**;

**proc** **freq** data=proj.brfss;

by so\_dichot;

tables sex1 race incomecat bmicat addepev2 genhlth smoker agecat HLTHPLN1 ;

**run**;

**proc** **freq** data=proj.brfss;

tables sex1\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables race\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables incomecat\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables bmicat\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables addepev2\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables genhlth\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables smoker\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables agecat\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables genhlth\*so\_dichot/chisq;

**run**;

**proc** **freq** data=proj.brfss;

tables HLTHPLN1\*so\_dichot/chisq;

**run**;