



Behavioral Risk Factor Survey: Focus on Mental Health

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Table of Contents

Summary of Findings	3
Background & Objectives	7
Demographic Indicators	9
Analytical Findings	13
Satisfaction with life	14
Social & emotional support	19
Ever had an anxiety disorder	24
Ever had a depressive disorder	31

Table of Contents (Cont'd.)

Current major depression	35
Cultural Comparisons	43
Methodology	47
Appendix	51
Social & demographic questions	52
References	57

3

Summary of Findings

This report more closely examines selected mental health related variables from the 2011 Ottawa County Behavioral Risk Factor Survey (BRFS): Dissatisfaction with life, Lack of social and emotional support, Ever having an anxiety disorder, Ever having a depressive disorder, and Current major depression.

In general, Ottawa County adults report good mental health. Most are satisfied with their lives, report having good social and emotional support, and relatively low incidence of major depression. While these measures seem to indicate a positive snapshot of the mental health of the community, digging deeper reveals significantly challenged sub-populations.

4

Summary of Findings (Cont'd.)

Among the approximately 195,000 adults living in Ottawa County, in a given two week period this report estimates that anywhere from 6,000 to 12,000 of them (95% confidence interval 3.2%-6.1%) may be suffering with major depression.

In order to dig deeper, each mental health measure of interest was compared to fifteen different social and demographic indicators. So, while Ottawa's overall prevalence of major depression is 4.3%, certain subpopulations have a significantly higher prevalence such as Hispanics (10.4%), those with less than a high school education (12.4%), unemployed (13.7%), those with Medicaid health coverage (15.9%) and those with household incomes less than \$20,000 (12.4%).¹

In the pages that follow, this report contains similar in-depth analysis for all five mental health variables of interest.

5

Summary of Findings (Cont'd.)

Several of the fifteen social and demographic indicators are statistically associated with all of the mental health variables of interest. These include marital status, household income, having Medicaid health coverage, general health, obesity, disability, and current smoking status. Notably, the region of the county in which the respondent lived was not significantly associated with any of the mental health variables of interest.

Since the analysis seemed to indicate that those of Hispanic ethnicity often differ significantly from non-Hispanics among not only the mental health variables of interest, but also the social and demographic indicators, there is an additional section of the report devoted to cultural differences.

6

Summary of Findings (Cont'd.)

There are limitations to the types of conclusions able to be drawn from the survey data used in this analysis. For example, this report indicates that there are subgroups that are more likely to report current major depression. This study cannot conclude that adults possessing one or more of these qualities are therefore going to become depressed. It also does not mean that adults without any of these qualities cannot become depressed. These data show that certain indicators are more prevalent in those whose responses indicate current major depression compared to those whose responses do not. Therefore, these qualities may each contribute to increased risk of depression.

7

Background

The Behavioral Risk Factor Survey (BRFS) is a widely used telephone survey conducted annually in each state of the U.S., providing useful comparison data. Locally, a county wide BRFS was administered during the summer of 2011. Past Ottawa County surveys were done in 1994, 1999, 2004, and 2007 and are available online at www.MiOttawa.org/Health.

The survey contains questions pertaining to health status, health risk behaviors, clinical preventative measures, and chronic conditions, and a broad range of demographic characteristics such as income, education, and marital status.

8

Objectives

- Analyze relationships between Mental Health indicators, common demographics and selected health risk behaviors.
- Mental Health variables:
 - Current Major Depression
 - Ever had an Anxiety Disorder
 - Ever had a Depressive Disorder
 - Social and Emotional Support
 - Life Satisfaction

9

Demographic Variables

The following demographic and health risk measures were used in this analysis:

- | | |
|---------------------|--------------------------------------|
| – Race | – Income |
| – Age | – Region |
| – Gender | – General Health |
| – Marital Status | – Disability |
| – Education Level | – Obesity |
| – Employment Status | – Current smoking status |
| – Health insurance | – Binge drinking in the past 30 days |
| – Medicaid | |

10

Respondent Demographic Characteristics

Race	Percent
White, Non-Hispanic	89.7
Other, Non-Hispanic	0.8
Hispanic	9.5

Age Group	Percent
18-24	17.0
25-34	16.1
35-44	18.5
45-54	18.8
55-64	13.2
65-74	8.7
75+	7.7

Gender	Percent
Male	51.2
Female	48.8

Marital Status	Percent
Married	63.7
Not married	36.3

Education Level	Percent
Less than High School	5.6
High School Graduate	29.9
Some College	31.3
College Graduate	33.2

Employment	Percent
Unemployed	7.3
Employed	92.7

Health Insurance	Percent
Health Insurance	89.4
No health insurance	10.6

Medicaid	Percent
Medicaid	8.9
No Medicaid	91.1

11

Respondent Demographic Characteristics

Income	Percent
< \$20,000	14.6
\$20,000-\$34,999	17.6
\$35,000-\$49,999	17.7
\$50,000-\$74,999	20.6
> \$75,000	29.5

Region	Percent
Northwest	21.0
Northeast	3.0
Central	7.1
Southwest	51.8
Southeast	17.1

General Health	Percent
Good to Excellent	90.1
Fair or Poor	9.9

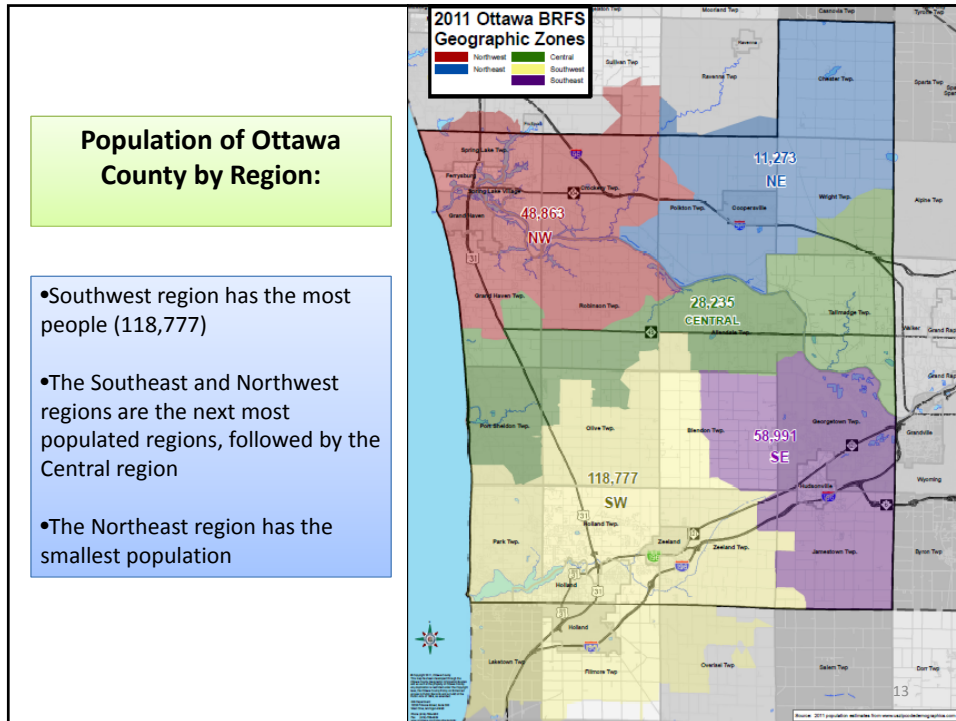
Disability	Percent
Disability	21.0
No disability	79.0

Obesity	Percent
Obese	25.9
Not Obese	74.1

Current Smoking	Percent
Never smoked	58.3
Former Smoker	24.6
Current Smoker	17.1

Binge Drinking in the Past 30 Days	Percent
None	78.4
One or more times	20.3

12



Analysis of the Response Variables

How to interpret the findings for each variable:

A bar graph shows the distribution of responses across all response levels

- The bar for the response level of interest will be blue, while the other bar(s) will be burgundy.

Demographic bar graphs for the response level of interest (blue bar)

- The percentage of people in that demographic that responded with the response level of interest; the number of people with that response is in parentheses.
- For example, for current major depression, the percentage for Hispanics is 10.4%. We read this as “of the Hispanic people in the county, the percentage of those that have current major depression is 10.4%.”
- An asterisk next to the name of the demographic indicator means that there is a statistically significant relationship between the demographic variable and the response variable. The explanation of the relationship is located in the green box next to the set of bar graphs.

Life Satisfaction

The analysis of this variable is based on the responses to the following question from the BRFS:

22.2. In general, how satisfied are you with your life?

1. Very satisfied
2. Satisfied
3. Dissatisfied
4. Very dissatisfied

For the analysis, the categories above were combined into the following two categories:

1. Satisfied
2. Dissatisfied

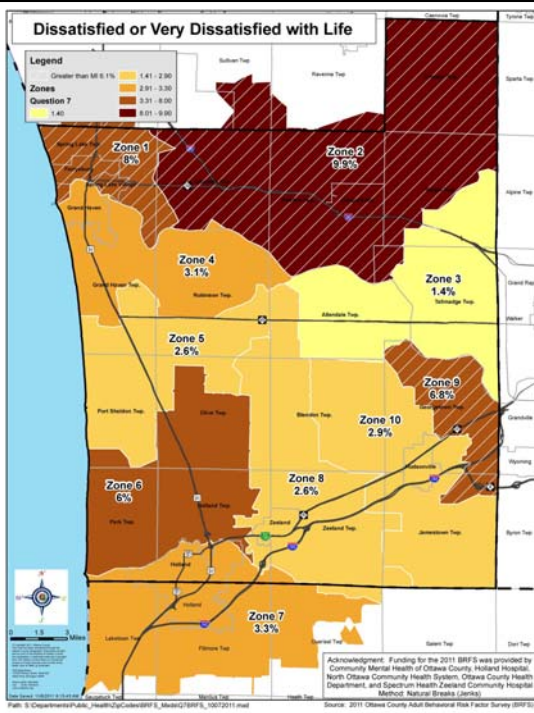
Life Satisfaction	Percent
Satisfied	95.5
Dissatisfied	4.5

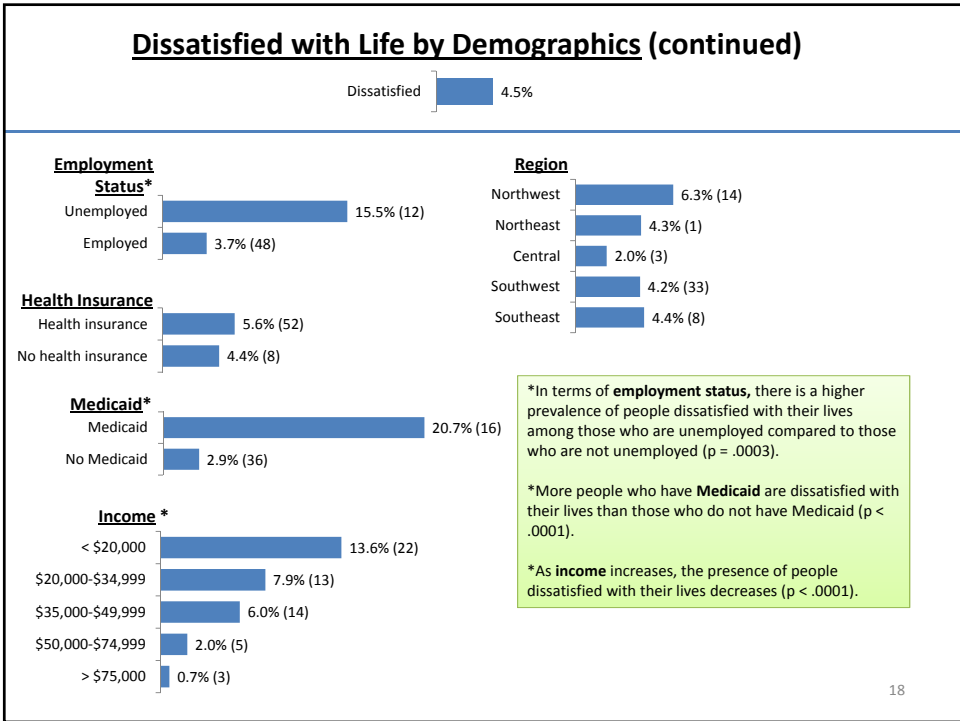
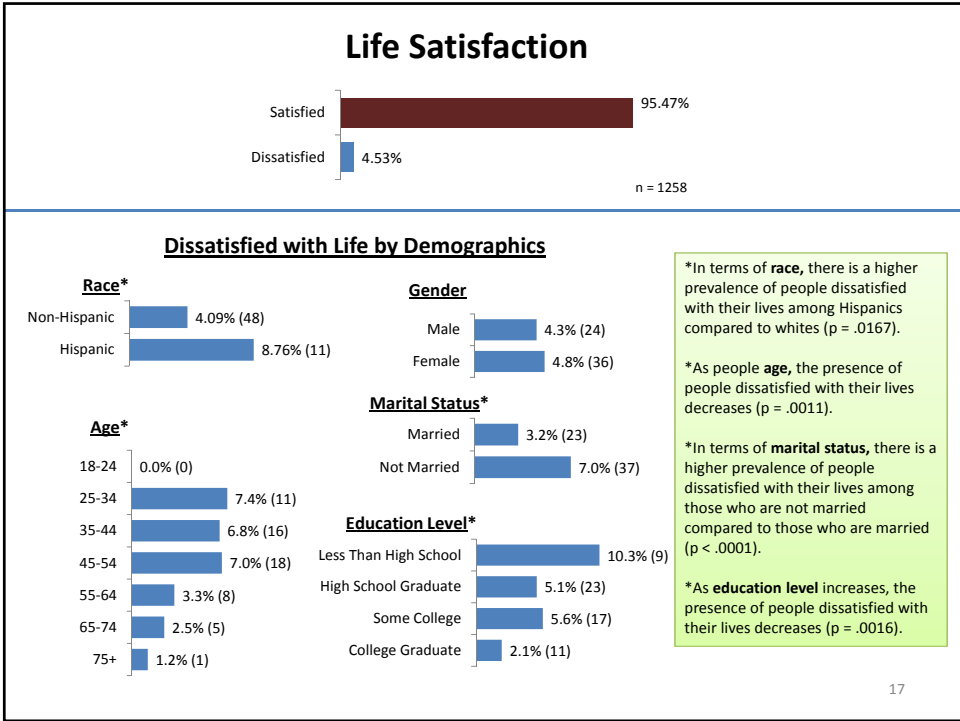
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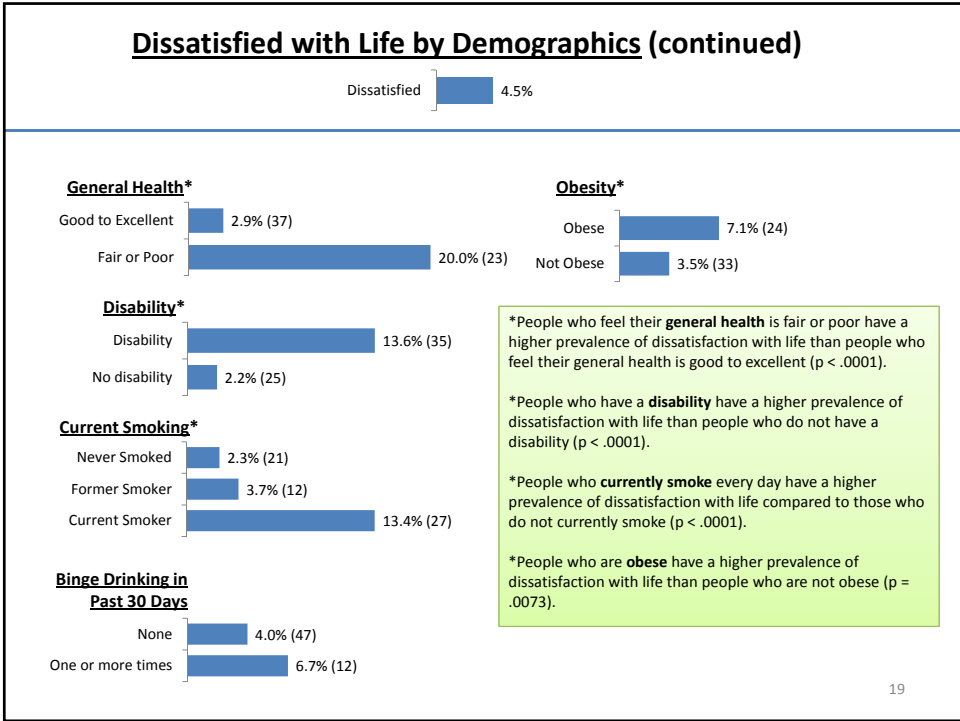
Prevalence of Dissatisfaction with Life

Distribution within Ottawa County

Overall 4.5%







Social and Emotional Support

The analysis of this variable is based on the responses to the following question from the BRFS:

22.1. How often do you get the social and emotional support you need?

1. Always
2. Usually
3. Sometimes
4. Rarely
5. Never

For the analysis, the categories above were combined into the following three categories:

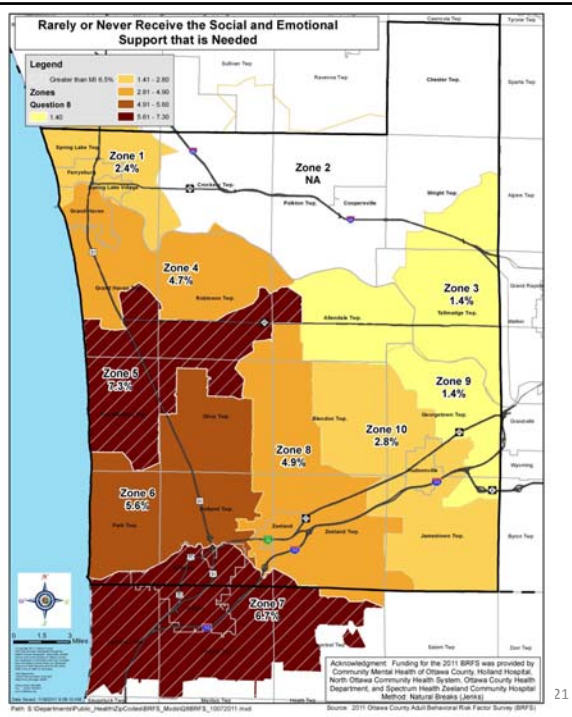
1. Usually/Always
2. Sometimes
3. Rarely/Never

Gets Social and Emotional Support	Percent
Usually/Always	86.2
Sometimes	9.4
Rarely/Never	4.4

20

**Prevalence
of
Lack Social &
Emotional
Support
Distribution
within
Ottawa County**

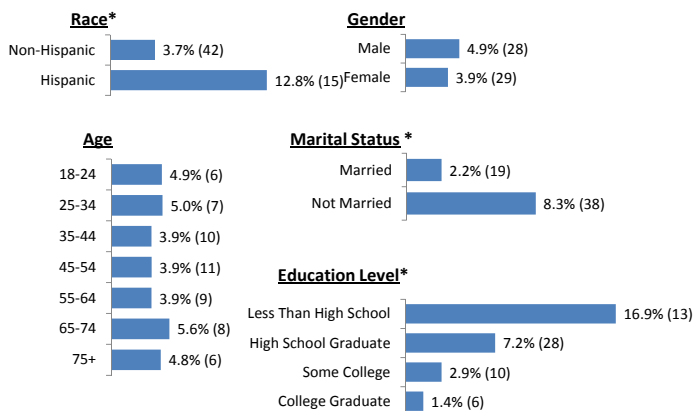
Overall 4.4%



Social and Emotional Support



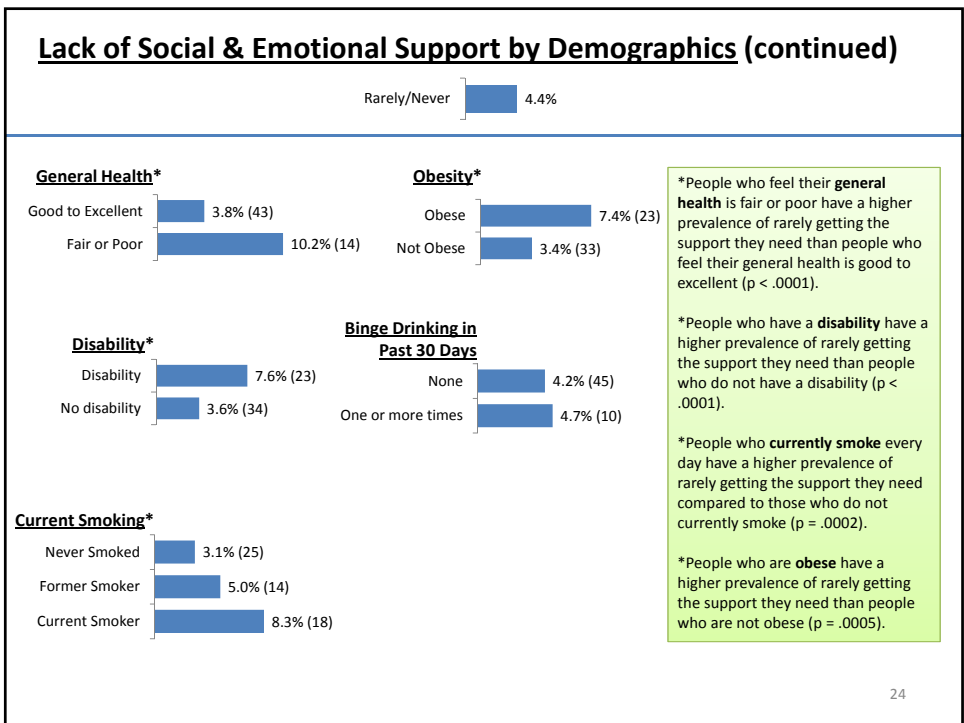
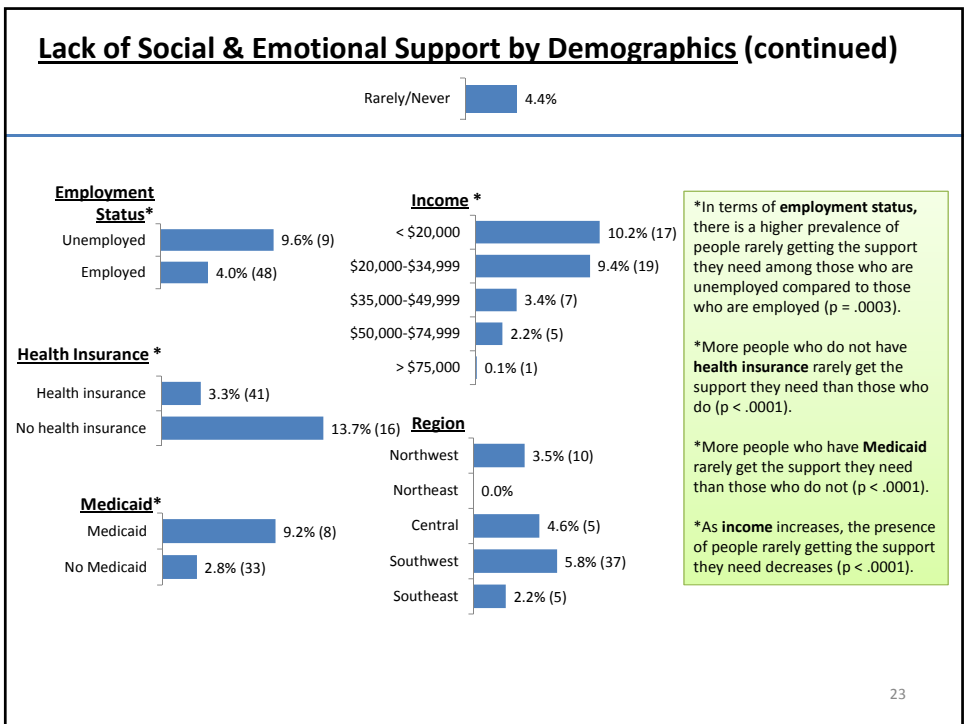
Lack of Social & Emotional Support by Demographics



*In terms of **race**, there is a higher prevalence of people rarely getting the support they need among Hispanics compared to whites ($p < .0001$).

*In terms of **marital status**, there is a higher prevalence of people rarely getting the support they need among those who are not married compared to those who are married ($p < .0001$).

*As **education level** increases, the presence of people rarely getting the support they need decreases ($p < .0001$).



Ever Had an Anxiety Disorder

The analysis of this variable is based on the responses to the following question from the BRFS:

23.8. Has a doctor or other healthcare provider EVER told you that you have an anxiety disorder (including acute stress disorder, anxiety, generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, posttraumatic stress disorder, or social anxiety disorder)?

1. Yes
2. No

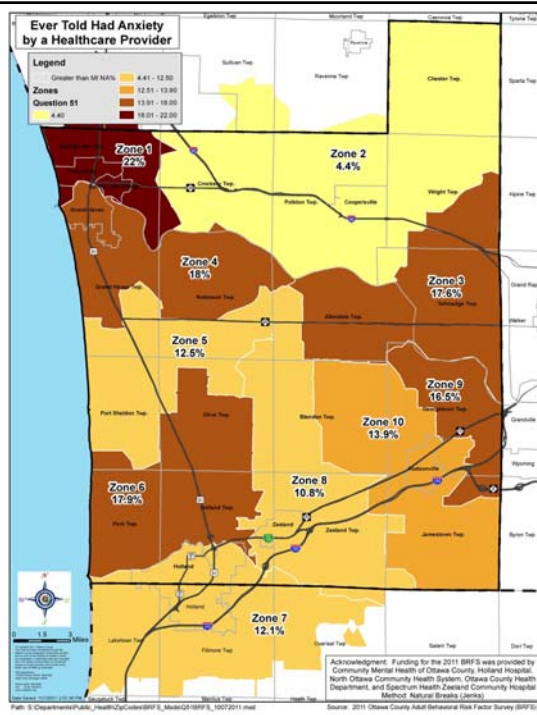
Ever Had an Anxiety Disorder?	Percent
Yes	14.8
No	85.2

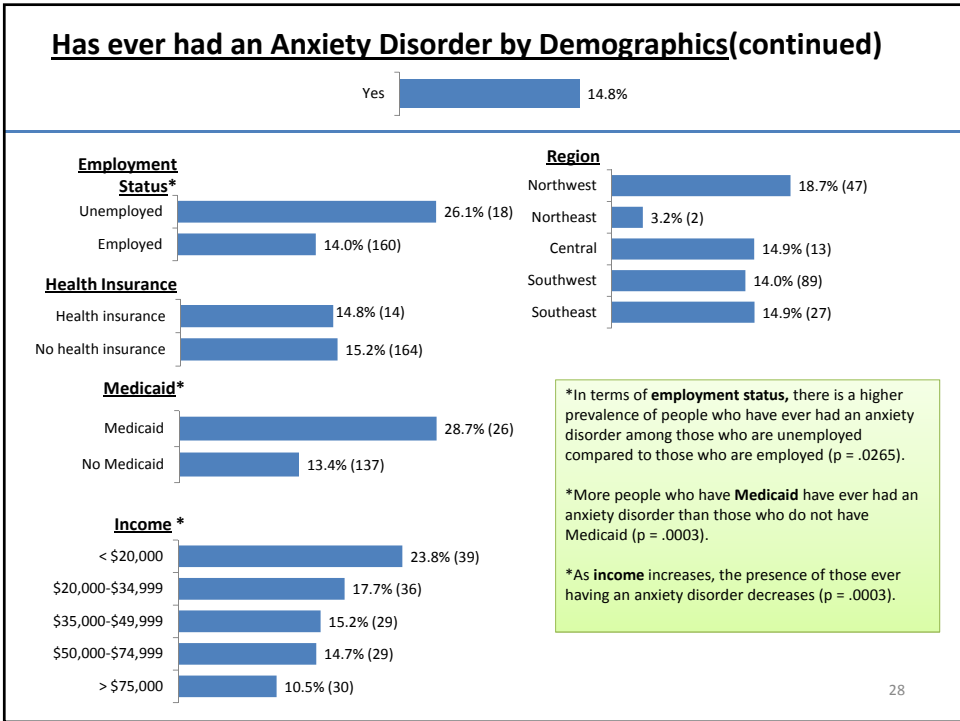
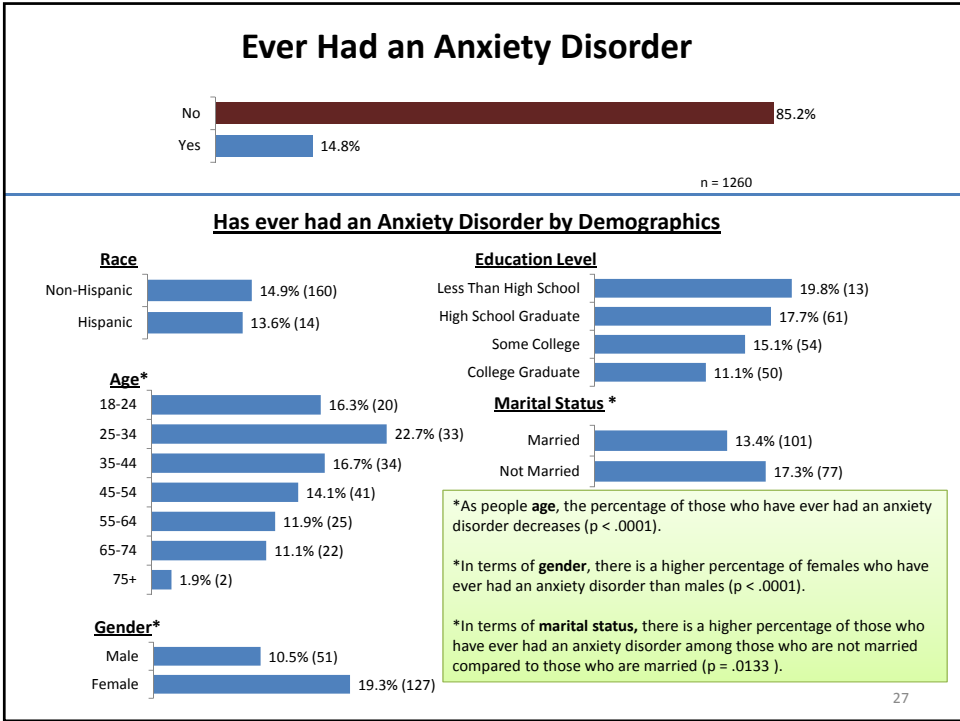
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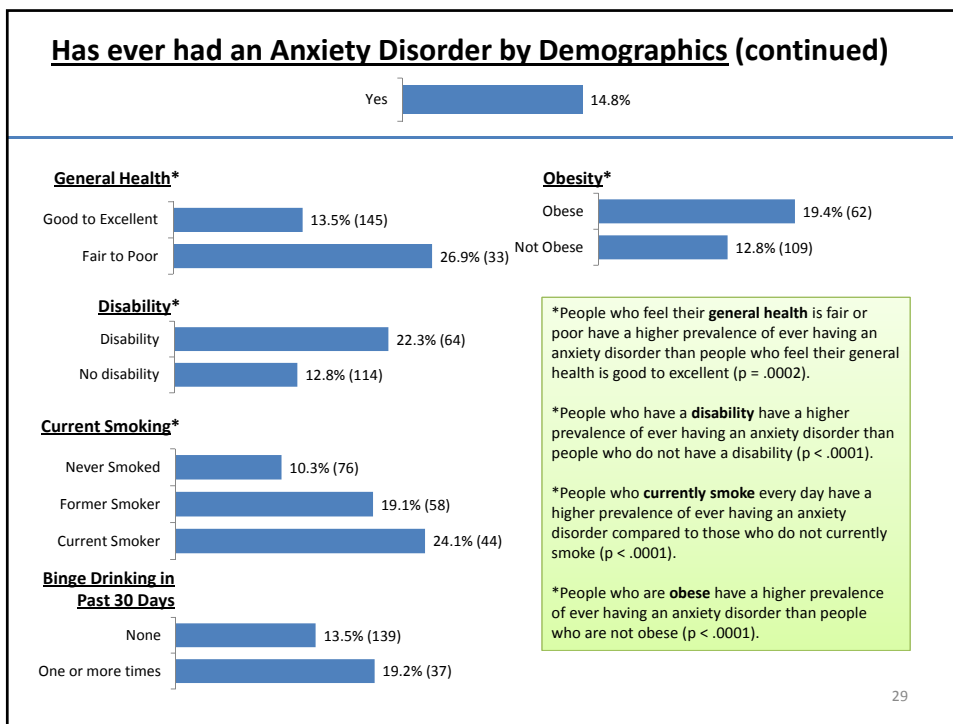
Prevalence of Ever Having Diagnosis of Anxiety

Distribution within Ottawa County

Overall 14.8%







Ever Had a Depressive Disorder

The analysis of this variable is based on the responses to the following question from the BRFSS:

23.9. Has a doctor or other healthcare provider EVER told you that you have a depressive disorder (including depression, major depression, dysthymia, or minor depression)?

1. Yes
2. No

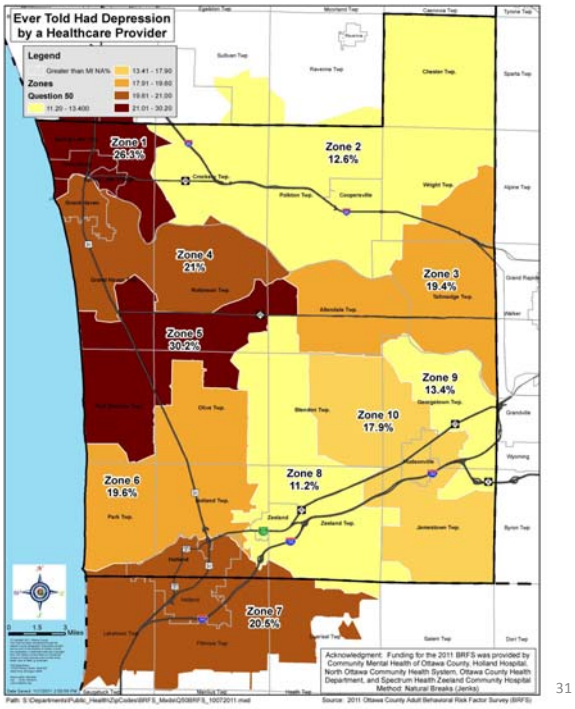
Ever Had a Depressive Disorder?	Percent
Yes	18.8
No	81.2

30

Prevalence of Ever Having Diagnosis of Depression

Distribution within Ottawa County

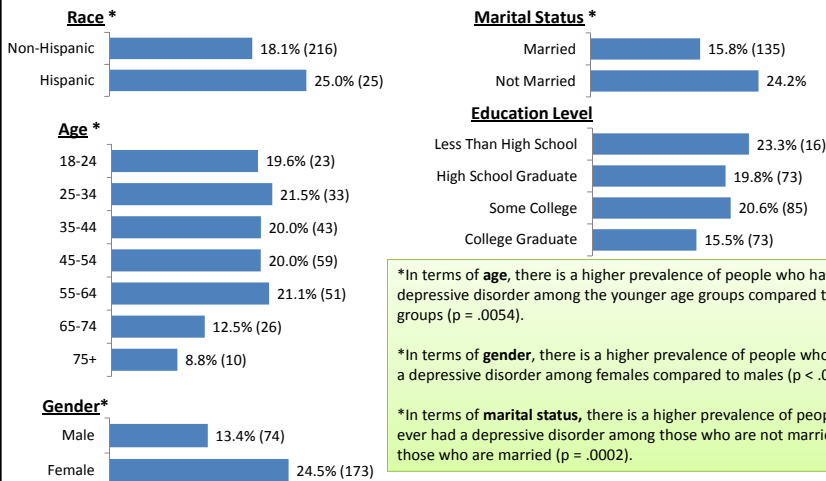
Overall 18.8%



Ever Had a Depressive Disorder



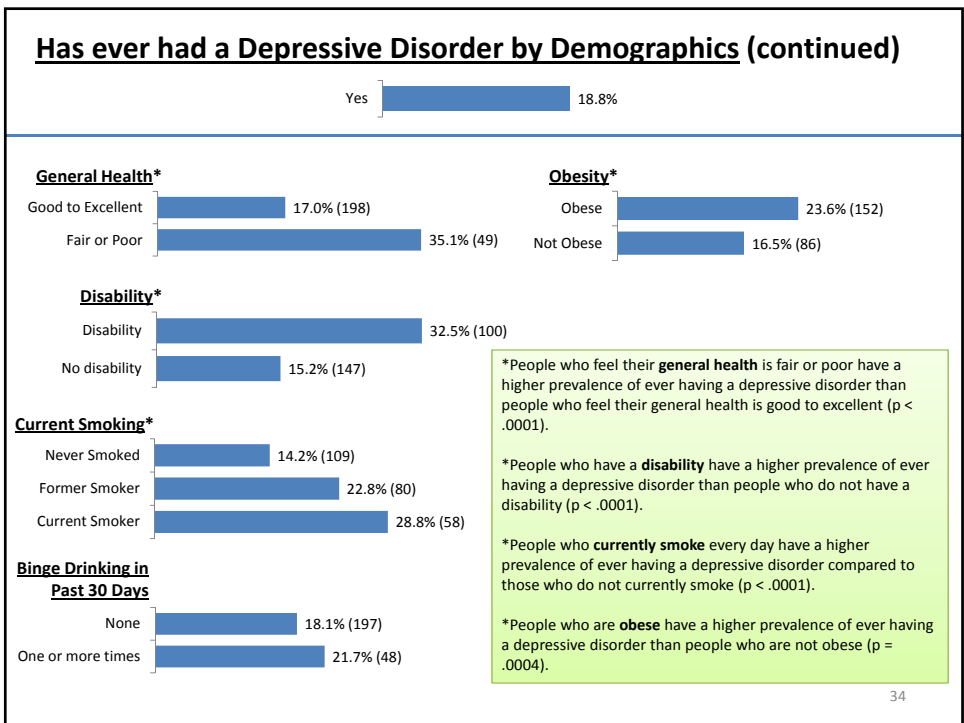
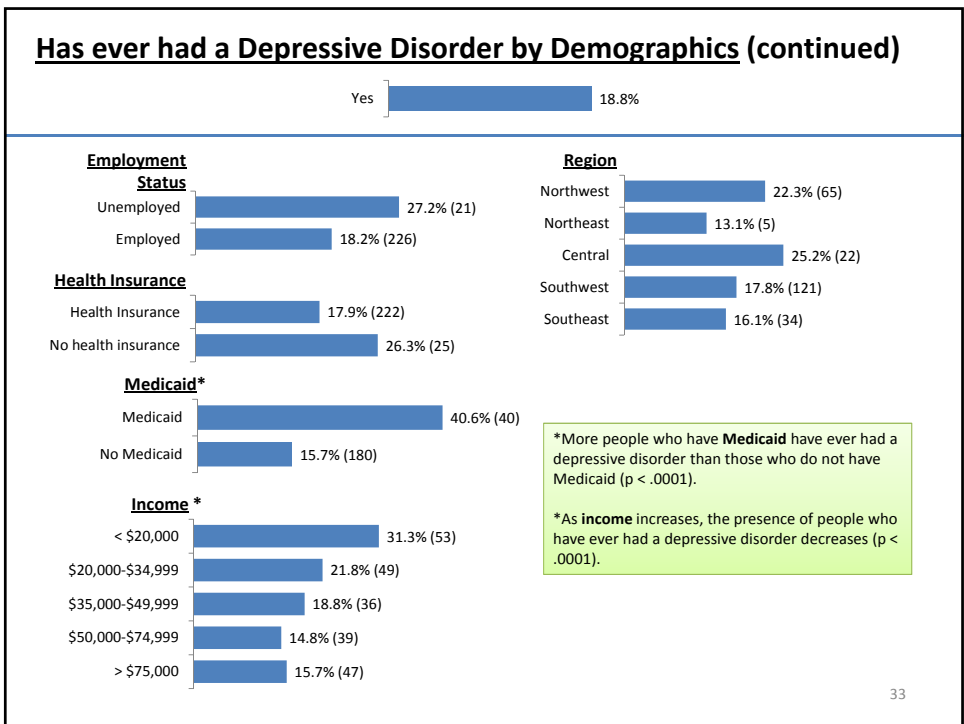
Has ever had a Depressive Disorder by Demographics



*In terms of **age**, there is a higher prevalence of people who have ever had a depressive disorder among the younger age groups compared to the older age groups (p = .0054).

*In terms of **gender**, there is a higher prevalence of people who have ever had a depressive disorder among females compared to males (p < .0001).

*In terms of **marital status**, there is a higher prevalence of people who have ever had a depressive disorder among those who are not married compared to those who are married (p = .0002).



Calculating Current Major Depression

Current Major Depression was calculated by adding up each person's response to the following 7 questions:

- 23.1. Over the last 2 weeks, how many days have you had little interest or pleasure in doing things?
- 23.2. Over the last 2 weeks, how many days have you felt down, depressed, or hopeless?
- 23.3. Over the last 2 weeks, how many days have you had trouble falling asleep or staying asleep or sleeping too much?
- 23.4. Over the last 2 weeks, how many days have you felt tired or had little energy?
- 23.5. Over the last 2 weeks, how many days have you had a poor appetite or eaten too much?
- 23.6. Over the last 2 weeks, how many days have you felt bad about yourself or that you were a failure or had let yourself or your family down?
- 23.7. Over the last 2 weeks, how many days have you had trouble concentrating on things, such as reading the newspaper or watching the TV?

35

In examining the various symptoms of anxiety or depression, adults are more likely to have trouble sleeping and/or feeling tired or having little energy.

Mental Health Indicators

Number of Days in Past 2 Weeks	Over the Last 2 Weeks, How many Days Have You....						
	Had Little Interest or Pleasure in Doing Things (n=1247)	Felt Down, Depressed or Hopeless (n=1256)	Had Trouble Falling Asleep or Staying Asleep or Sleeping Too Much (n=1256)	Felt Tired or Had Little Energy (n=1254)	Had a Poor Appetite or Eaten Too Much (n=1253)	Felt Bad About Yourself or That You Were a Failure or Had Let Yourself or Your Family Down (n=1248)	Had Trouble Concentrating on Things, Such as Reading the Newspaper or Watching the TV (n=1254)
None	67.8%	72.7%	53.5%	34.8%	62.8%	79.9%	77.5%
1 to 2 Days	17.1%	16.9%	15.8%	27.2%	13.8%	10.8%	9.2%
3 to 6 Days	7.9%	5.3%	12.5%	19.7%	13.5%	5.2%	5.6%
7 to 13 Days	4.0%	2.9%	7.4%	7.3%	4.3%	2.1%	1.9%
14 Days	3.3%	2.2%	10.8%	10.9%	5.6%	2.1%	5.8%

Q23.1-Q23.7 Over the last 2 weeks, how many days have you....

36

Current Major Depression

A respondent is considered to have current major depression if:

The sum of Questions 23.1 through 23.7 is greater than or equal to 48 days
 AND
 The response for either Question 23.1 or 23.2 is greater than or equal to 7 days

This methodology is based on the PHQ-8 Patient Health Questionnaire² (reference articles located in Appendix). One of the eight questions was dropped from the survey, so only seven questions were used. The cutoff value for current major depression was adjusted accordingly.

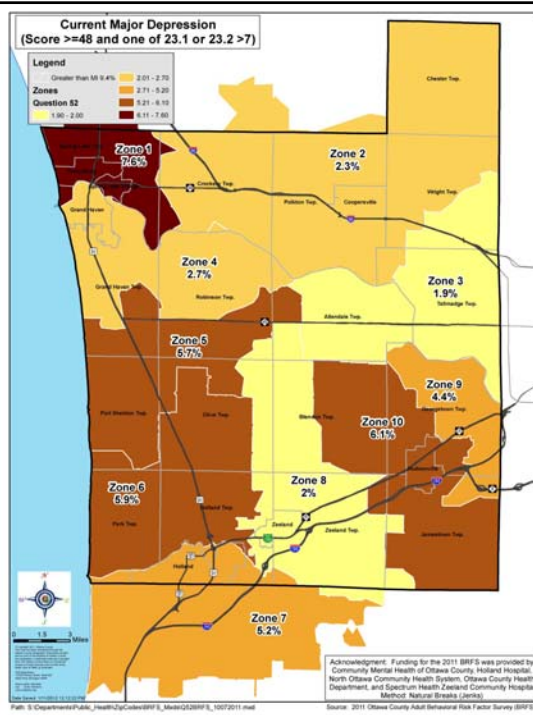
Current Major Depression	Percent ¹
Yes	4.3
No	95.7

37

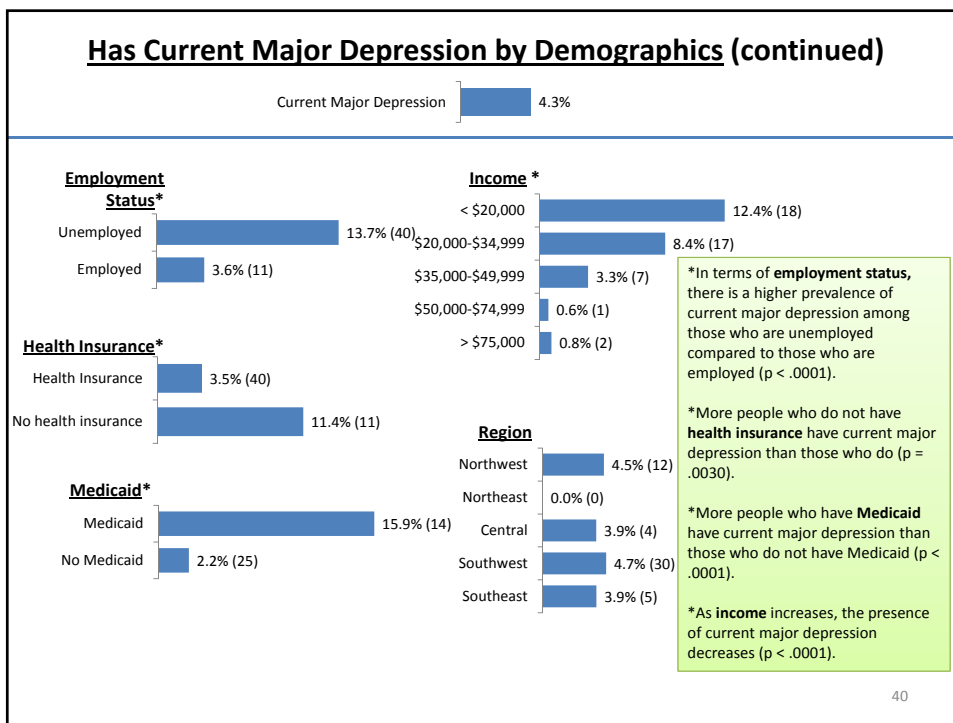
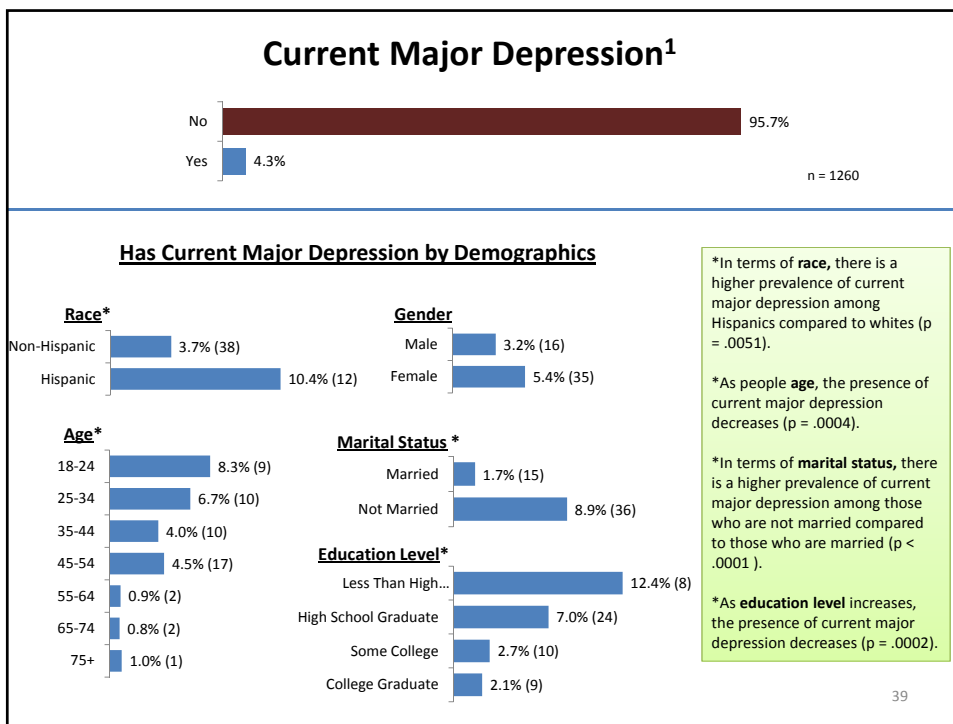
Prevalence of Current Major Depression

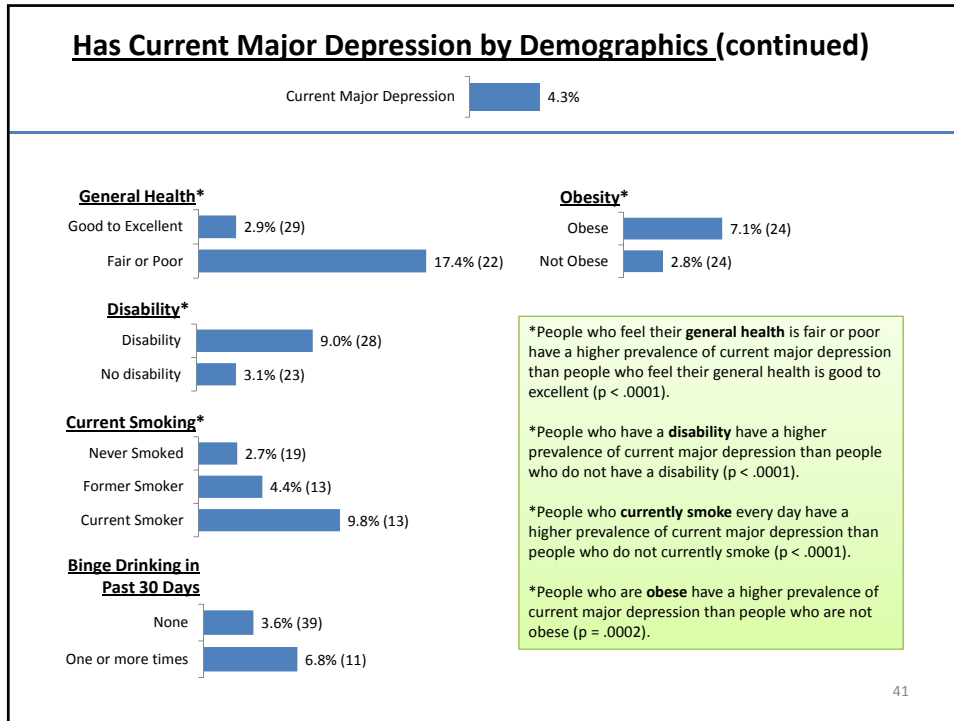
Distribution within Ottawa County

Overall 4.6%



38





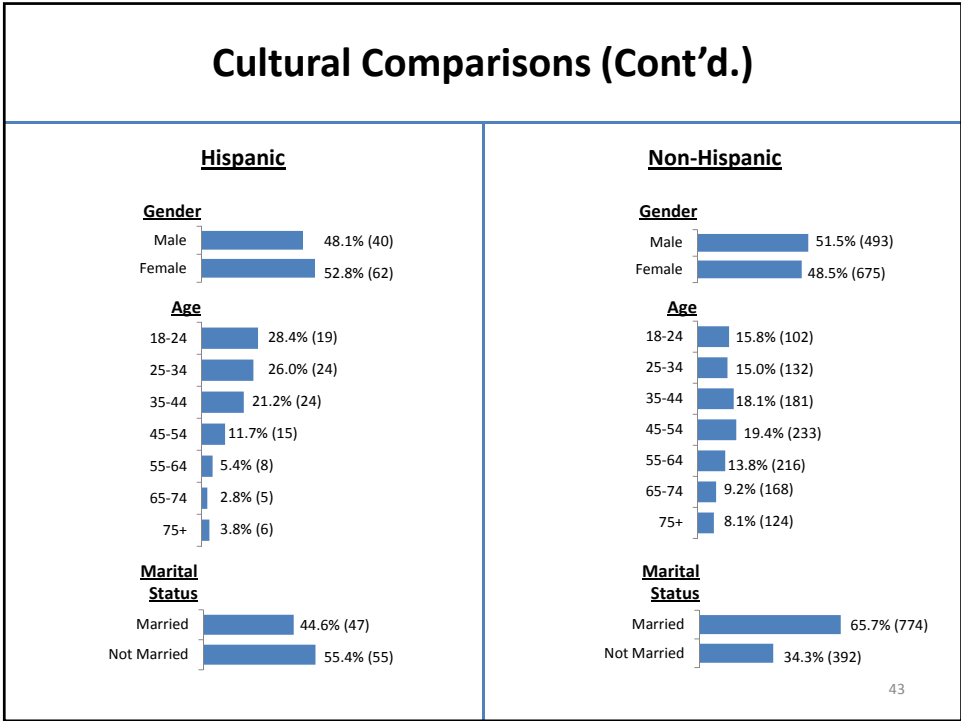
Cultural Comparisons

In analyzing the five mental health response variables, it became apparent that the difference between Hispanics and non-Hispanics was quite significant. This led to investigation of the differences between the Hispanic and non-Hispanic populations in terms of other demographics variables, such as education, marital status, income, etc.

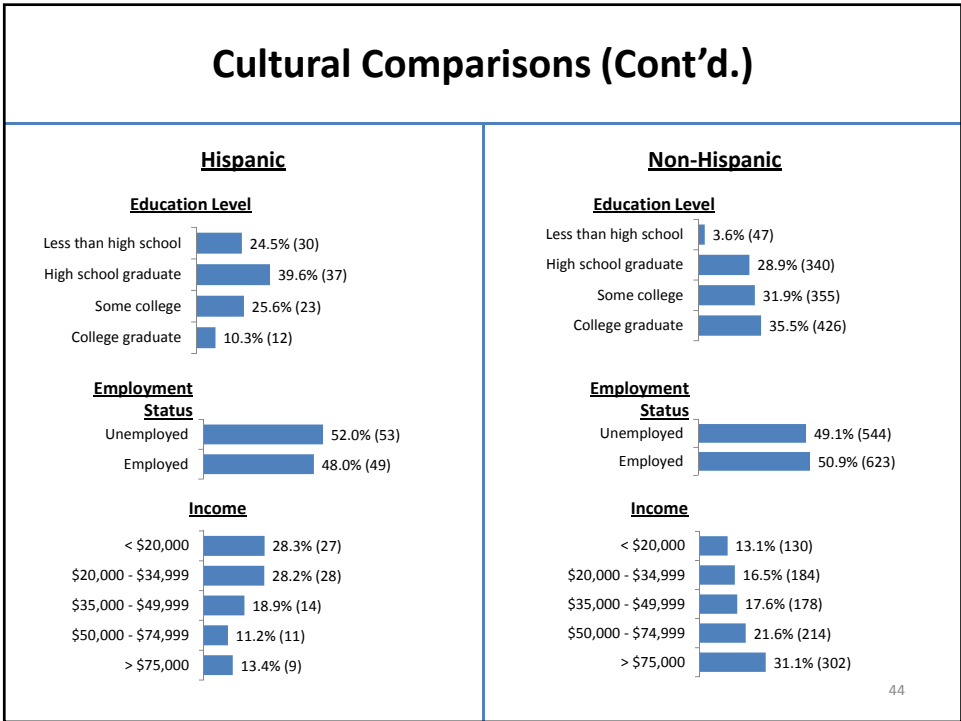
The following pages use bar graphs to show the difference in the other demographic variables between Hispanics and non-Hispanics in Ottawa County.

42

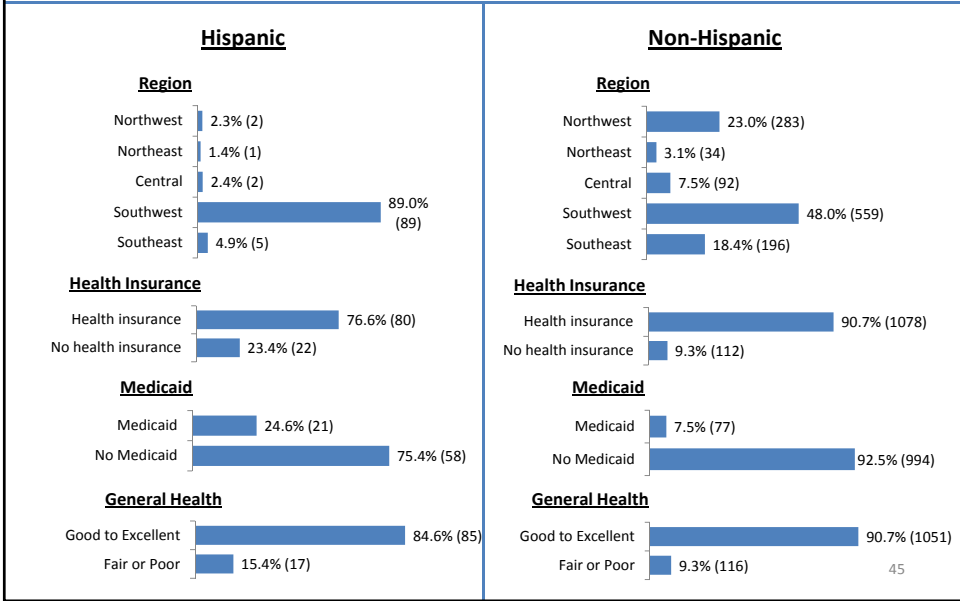
Cultural Comparisons (Cont'd.)



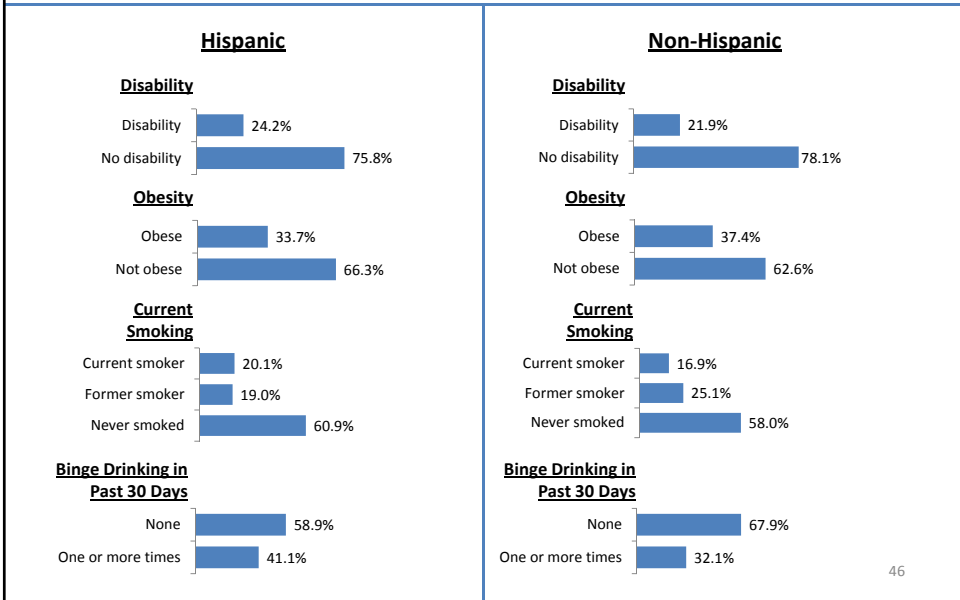
Cultural Comparisons (Cont'd.)



Cultural Comparisons (Cont'd.)



Cultural Comparisons (Cont'd.)



Methodology

- Data collection analysis of the 2011 Ottawa County BRFS was conducted by the Carl Frost Center for Social Science Research.
- Disproportionate stratified random sampling (DSS) was used to select landline phone numbers. A cell phone only sample was also taken. This was to ensure that a representative sample of Ottawa County adults were surveyed in order to conduct an accurate analysis of this population.

47

Methodology (cont'd.)

- Respondents were included in the survey if they:
 - Were at least 18 years of age
 - Lived in Ottawa County
 - Were in a residential home (as opposed to a group home, vacation home, institution, or business)
- To increase randomness, if a household contained more than one adult, interviewers one adult to participate based on who had the nearest birthday. In these cases, every attempt was made to speak with the randomly chosen adult and interviewers were instructed not to simply interview the person who answered the phone or wanted to complete the interview.

48

Methodology (cont'd.)

- There were 1,274 respondents aged 18 and over that completed this survey at a response rate of 41%. This sample represents 1.4% of the 93,775 households in Ottawa County according to the 2010 U.S. Census.
- Data weighting was used to remove bias from the BRFSS sample. The formula consists of both design and post-stratification weights. The purpose of weighting the data is to:
 - Correct for differences in the probability of selection due to non-response and non-coverage errors.
 - Adjust variables for age and gender between the sample and the entire adult population in Ottawa County.
 - Allow for better generalization of findings to the whole population
- The formula used by the Frost Center for weighting the BRFSS data is:
FINALWT = STRWT * 1 OVER IMPNPH * NUMADULT * POSTSTR

49

Methodology (cont'd.)

- Analysis for this report consisted of frequencies (unweighted count and weighted percent) and cross tabulation tables with inference testing on the unweighted variable with Pearson Chi-Square tests for independence of proportions at the 95% confidence level. P-values are given for those associations that are significant below an alpha of 0.05.
- The software utilized for analysis was SAS Version 9.3. Microsoft Excel 2010 was utilized for constructing the graphs shown in this report.

50

Appendix

Appendix: Demographics Questions

Race:

- 13.2a. Are you Hispanic or Latino?
- 13.2b. Are you of Arab or Chaldean origin?
- 13.3. Which one or more of the following would you say is your race?
 1. White
 2. Black or African American
 3. Asian
 4. Native Hawaiian or Other Pacific Islander
 5. American Indian or Alaska Native
 6. Other

- 13.4. (If more than one response given to 13.3) Which one of these groups would you say best represents your race?
 1. White
 2. Black or African American
 3. Asian
 4. Native Hawaiian or Other Pacific Islander
 5. American Indian or Alaska Native
 6. Other

Age:

- "May I ask your age?"
- "May I ask what range your age falls in?"
 - 18-29
 - 30-39
 - 40-44
 - 45-49
 - 50-59
 - 60-69
 - 70 or older

Gender:

The interviewer was asked to indicate the gender of the respondent and to ask only if necessary

Appendix: Demographics Questions (continued)

Marital Status:

13.5. What is your marital status? Are you...?

1. Married
2. Divorced
3. Widowed
4. Separated
5. Never married
6. A member of an unmarried couple

Employment Status:

13.8. Are you currently...?

1. Employed for wages
2. Self-employed
3. Out of work for more than 1 year
4. Out of work for less than 1 year
5. A homemaker
6. A student
7. Retired
8. Unable to work

Education Level:

13.7. What is the highest grade or year of school you completed?

1. Never attended school or only attended kindergarten
2. Grades 1 through 8 (Elementary)
3. Grades 9 through 11 (Some high school)
4. Grade 12 or GED (High school graduate)
5. College 1 year to 3 years (Some college or technical school)
6. College 4 years or more (College graduate)

Region:

What is your zip code?

General Health:

1.1. Would you say that in general your health is...

1. Excellent
2. Very good
3. Good
4. Fair
5. Poor

53

Appendix: Demographics Questions (continued)

Income:

13.9. Keeping in mind that your answers are completely confidential, is your annual household income from all sources less than \$25,000?

1. Yes
2. No

Yes

No

--Is it less than \$20,000? (\$15,000 to less than \$20,000)

1. Yes
2. No

--Is it less than \$15,000? (\$10,000 to less than \$15,000)

1. Yes
2. No

--Is it less than \$10,000? (Less than \$10,000)

1. Yes
2. No

--Is it more than \$35,000? (\$25,000 to less than \$35,000)

1. Yes
2. No

--Is it less than \$50,000? (\$35,000 to less than \$50,000)

1. Yes
2. No

--Is it less than \$75,000? (\$50,000 to less than \$75,000)

1. Yes
2. No

--Is it \$75,000 or more?

1. Yes
2. No

54

Appendix: Demographics Questions (continued)

Health Insurance:

3.1. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Indian Health Services?

1. Yes
2. No

Disability:

17.1. Are you limited in any way in any activities because of physical, mental, or emotional problems?

1. Yes
2. No

Medicaid:

3.1a. Do you personally have Medicaid or Medicare Insurance?

1. Yes, Medicaid only
2. Yes, Medicare only
3. Yes, both Medicaid and Medicare
4. No

Obesity:

13.10. About how much do you weigh without shoes?

13.11. About how tall are you without shoes?

These values were used to calculate BMI, and BMI was used to determine whether respondent was obese

55

Appendix: Demographics Questions (continued)

Current Smoking:

12.1. Have you smoked at least 100 cigarettes in your entire life?

1. Yes
2. No
3. Never smoked at all

12.3. Do you now smoke cigarettes everyday, some days, or not at all?

1. Everyday
2. Some days
3. Not at all

These questions were used to determine whether someone was a current smoker, former smoker, or non-smoker.

Binge Drinking in the Past 30 Days:

21.3. Considering all types of alcoholic beverages, how many times during the past 30 days did you have X (X = 5 for men, X = 4 for women) or more drinks on an occasion?

56

Appendix: References

¹Michigan and the United States each use a different methodology for calculating the presence or absence of current major depression, though they use the same PHQ-8 Days based questions that Ottawa County employed for the 2011 BRFSS. Ottawa County's determination of current major depression is based on the research article given below in Footnote 2 and is a more conservative measure. The measures of prevalence of current major depression for Ottawa County, Michigan (2010) and the United States (2006 & 2008) are not comparable. Major depression, as calculated by the 2010 MI BRFSS, is equivalent to a prevalence of 9.5% for Ottawa County compared to 9.4% for Michigan.

²Dhingra, Satvinder S., Kurt Kroenke, Matthew M. Zack, Tara W. Strine, and Lina S. Balluz. "PHQ-8 Days: a measurement option for DSM-5 Major Depressive Disorder (MDD) severity." *Population Health Metrics* 9.1128 Apr. (2011). Web. 5 Jan. 2012. <<http://www.pophealthmetrics.com/content/9/1/11>>.

This article explains the methodology and research behind using the PHQ-8 scale in determining whether a survey respondent has current major depression or not.

57