Sun Exposure Risk Factors and Sun Protective Behaviors of Ohio Farmers

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FAMILY AND CONSUMER SCIENCES

Today's Outline

1. Description of Study
2. Results of Study
   a. Sun Safety (in Detail)
   b. Sleep Behavior and Sleep Hygiene
   c. Mental Health   d. Vegetable & Fruit Intake
   e. Physical Activity   f. Tobacco Use
   g. Alcohol Use   h. Illicit Drug Use

3. Discussion on ideas and collaboration to improve health of farmers and their families.

Background

Agriculture [a]
- Ohio's largest industry = $105 billion to Ohio's economy annually
- 77,800 farms = 14 million acres

Farming community & rural populations show higher rates of :
- Age-adjusted mortality
- Disability
- Chronic Disease

Background

Farmers:
- Access to health care is (rural location)
- Higher risk of:
  - ❖ Work-related injury
  - ❖ Lung disease
  - ❖ Noise-induced hearing loss
  - ❖ Skin disease
  - ❖ Cancer associated with chemical usage and prolonged sun exposure
 - ❖ Obesity rates are increasing

Background

Collect and Collaborate Grant Research Project

Part 1- Rural Provider Survey

Part 2-Farmer Survey
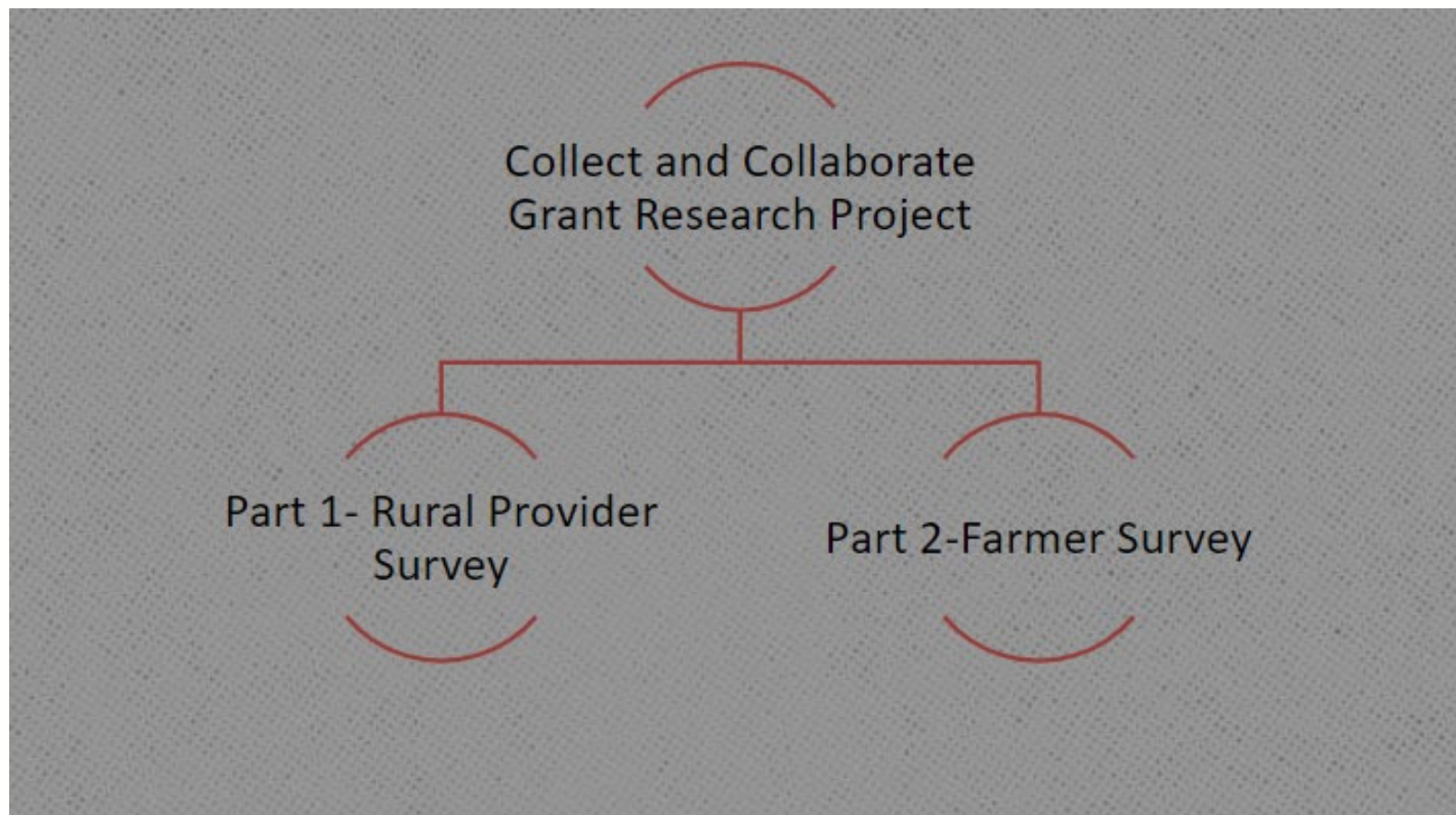
Purpose, Research Question, & Methods

Purpose of Study: To assess eight selected health behavior risk factors of Ohio farmers. Study to assist in directing better prevention strategies for educational materials and curriculum.

Research Question: What behavior choices pose health risk factors for Ohio farmers?

Methods: A self-reported Qualtrics survey was used. OSU Extension facilitated distribution and collection of the survey data. COVID changed our data collection from in-person to 100% online.

Background information
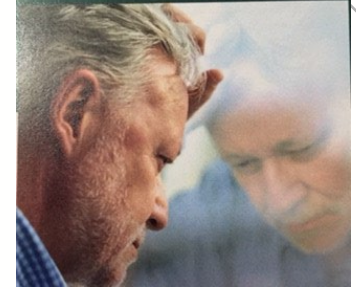
Data was gathered on eight health behaviors:

Sun Safety	Sleep
Mental Health	Vegetable & Fruit Intake
Physical Activity	Tobacco
Alcohol	Illicit Drug Use

Self-reported anthropometrics measurements were collected, and BMI status calculated.

Results were compared to the 2017 & 2018 Ohio Behavioral Risk Factor Surveillance Surveys.

Demographic Results

505 participants from each region of the state

Number of responses for each survey question varied from 442-505.

84% male
Over 97% identified as White
Age range 18-85 years
Majority farmed full-time – 62%
Highest commodity farmed was field crops – 75%

Demographic Results

Table 1. Description of farm characteristics of acreage and net cash income

Acreage (N-494)	1-49 n (%)	50-179 n (%)	180-499 n (%)	500-999 n (%)	1000-1999 n (%)	2,000 or more n (%)
	49 (9.9)	71 (14.4)	103 (20.9)	97 (19.6)	99 (20.0)	75 (15.2)
Net cash income (N=452)	Less than $2,500 - $9,999 n (%)	$10,000 - $24,999 n (%)	$25,000 - $49,999 n (%)	$50,000 - 99,999 n (%)	$100,000 or more n (%)	Missing n (%)
	60 (13.0)	49 (10.8)	55 (12.2)	91 (20.1)	103 (22.8)	94 (20.8)

Distribution of Farm Commodities in Ohio

74.5%

Field crops (corn for grain, corn for silage, hay, hay for haylage, oats, potatoes, soybean, tobacco, wheat)

5.7%

Milk and milk production (milk production, all cheese, swiss cheese, creamed cottage cheese, ice cream, milk sherbet)

35.5%

Livestock product (beef cows, calves, beef production, cattle & calves, hogs and pigs, pork production, milk cows, red meat production, sheep and lambs, wool)

4.6%

Vegetable, Processing (cucumbers, tomatoes, all processing vegetables) and Other

10.2%

Vegetables, Fresh (bell pepper, cabbage, cucumbers, sweet corn, pumpkin, tomatoes, all fresh vegetables)

3.5%

Fruit (apple, grapes, peaches, strawberries)

6.3%

Poultry and poultry product (broilers, chicken, egg production, turkey production)

2.8%

Miscellaneous (begging plants, flowers, foliage plants, honey production, maple syrup, propagation materials)

Results: Sun Safety

Hours working outside in the sun in three descriptive seasons and workdays

	1 -3 hours n (%)	4 hours n (%)	5 hours n (%)	6 hours n (%)	no response n (%)
During summer workdays on the farm (N=483)	122 (25.3)	73 (15.1)	87 (18.0)	193 (40)	8 (1.7)
During summer holidays and/or non-farm working days (N=470)	211 (34.9)	78 (16.6)	64 (13.6)	109 (23.2)	8 (1.7)
During spring and fall farm workdays (N=472)	88 (18.4)	56 (11.9)	74 (15.7)	243 (51.5)	11 (2.3)

Results: Sun Safety

Question: How often do you apply sunscreen?

	Never n (%)	Rarely n (%)	Sometimes n (%)	Often Always n (%)	Always n (%)
Typical day of farm work outdoors (N=477)	147 (30.8)	118 (24.7)	146 (30.6)	45 (9.4)	21 (4.4)
Typical day non-farm work outdoors (N=470)	127 (27.0)	116 (24.7)	144 (30.6)	69 (14.9)	14 (3.0)

Results: Sun Safety

Question: How often do you reapply sunscreen?

	Never or do not use sunscreen n (%)	Sometimes n (%)	About half the time n (%)	Most of the time n (%)	Always n (%)
Typical day of farm work outdoors (N=477)	247 (51.8)	151 (31.7)	46 (9.6)	25 (5.2)	8 (1.7)
Typical day non-farm work outdoors (N=469)	205 (43.7)	165 (35.2)	58 (12.4)	31 (6.6)	10 (2.1)

Results: Sun Safety

Question: When working on the farm do you wear?

	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)
Shirt with sleeves (N=476)	21 (4.4)	47 (9.9)	80 (16.8)	101(21.2)	227 (47.7)
Sunglasses (N=476)	48 (10.1)	69 (14.5)	95 (20.0)	131 (27.5)	133 (27.9)
Hat (N=473)	31 (6.6)	43 (9.1)	66 (14.0)	104 (22.0)	229 (48.4)

Results: Sun Safety

Question: What type of hat do you wear when working outside on the farm? *multiple choices may have been selected

Type of hat	Percentage and number n (%)
Ball cap	369 (46.4)
Cowboy hat	50 (6.3)
Straw hat	92 (11.6)
Bucket hat	45 (5.7)
Fishing hat	50 (6.3)
Wide brimmed Booney-styled hat	85 (10.7)

Results: Sun Safety
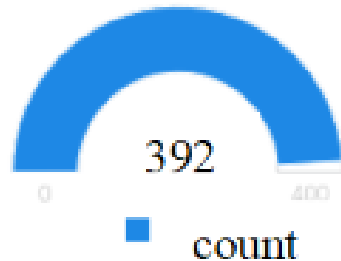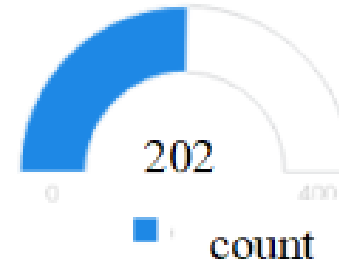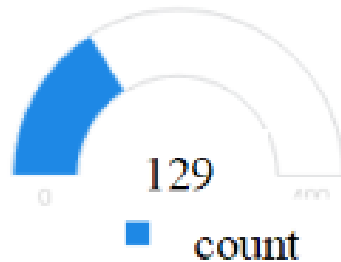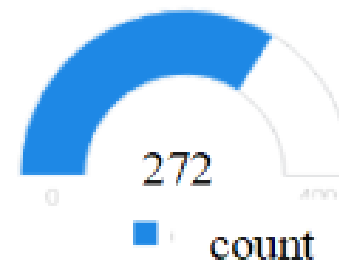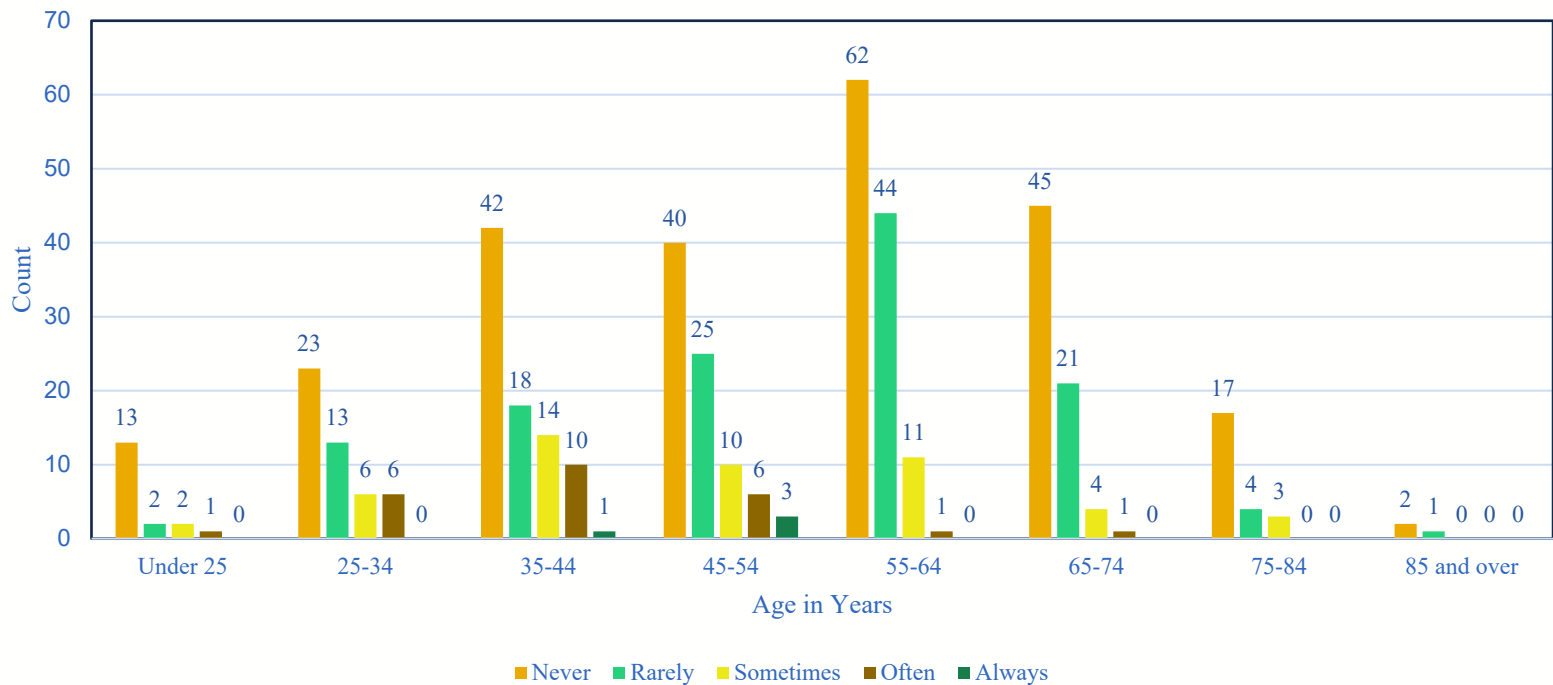
Results: Sun Safety

Categorical Frequency in Occurrences of a Painful Sunburn and Age
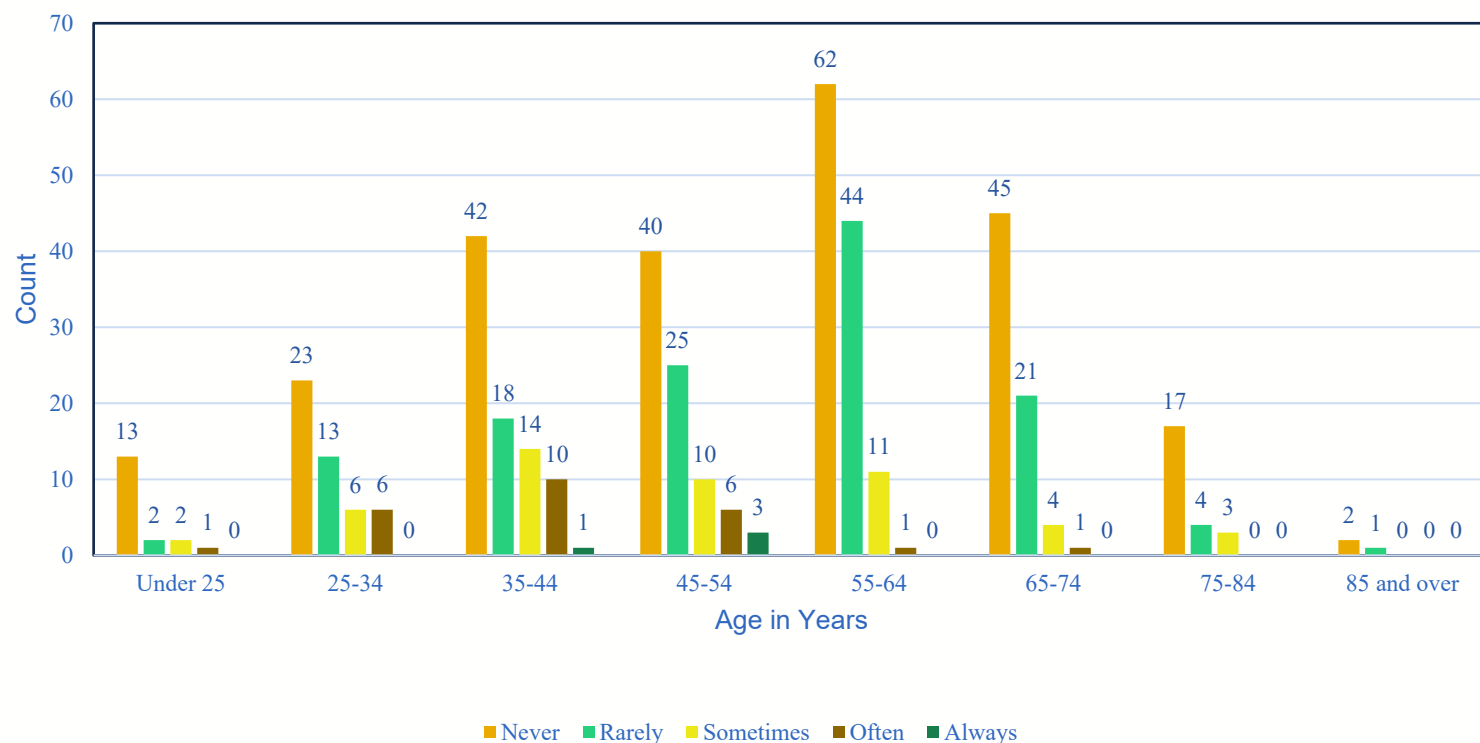
Results: Sun Safety

Categorical Frequency of Spending Time in the Sun with a Goal to Tan and Age Ranges
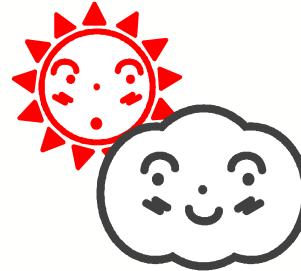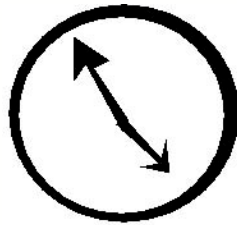
Discussion:

- Opportunities for Outreach Education:
  - Prevention and Awareness programs for farm and rural audiences
  - 2 Types of Risk Factors:
    - Uncontrollable:
      - Skin type
      - Hair color
      - Family history

Discussion:

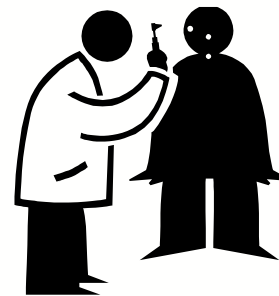– 2 Types of Risk Factors: Controllable

★ Time of Day: 10a - 4p

★ Shade

★ Cloudy Days

★ Sunscreen: 30 spf

★ Protective Clothing

★ Check-ups

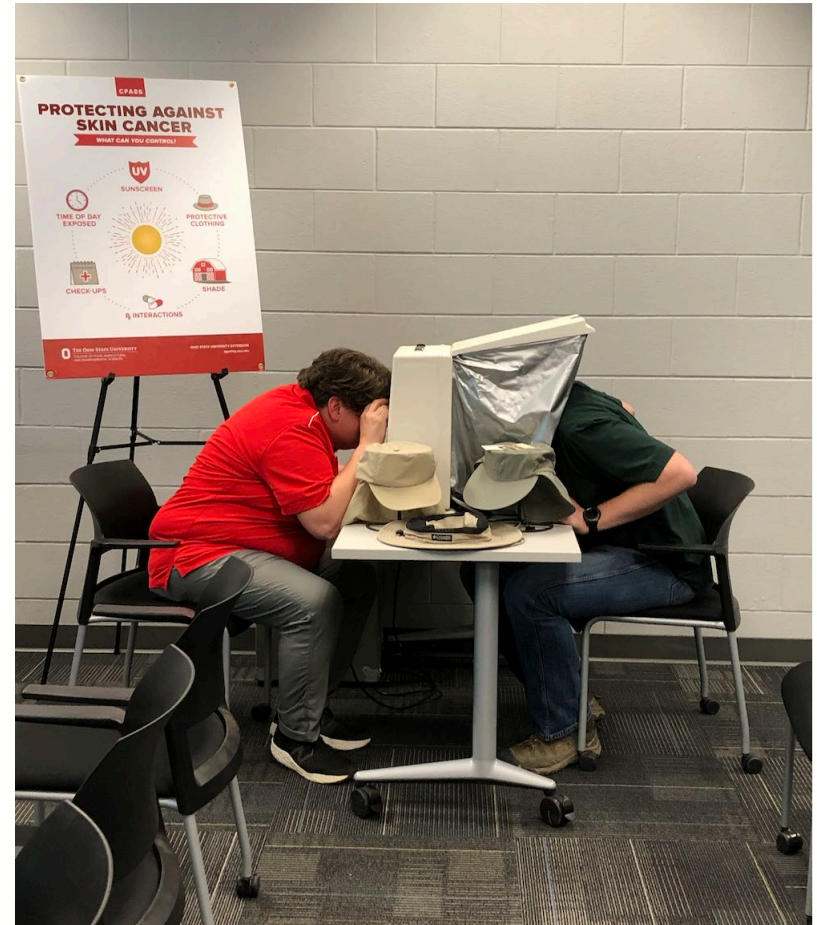★ Drug Interactions

CFAES

Discussion:

- ## Opportunities for Outreach Education:
  - ### Hat swap promotion

Discussion:

- Opportunities for Outreach Education:
 - Dermascan viewing

Discussion: Sun Safety

- Where and what programming could be helpful/used to improve sun safety behaviors with farmers?

- Describe sun safety resources you or your county offers.

  - Skin Cancer Screenings? Do you or others in your county provide these?

  – What additional resources, training or information do you need?

  – Do you have ideas for collaboration?

Surveyed Health Behaviors

During the rest of our presentation, we will be providing information on other surveyed health behaviors.

We have grouped some behaviors together due to time allowed for our presentation. Depending on time we will have discussion on some of the behaviors.

Results: Sleep

Sleep Problem Index I vs. Number of Farmers
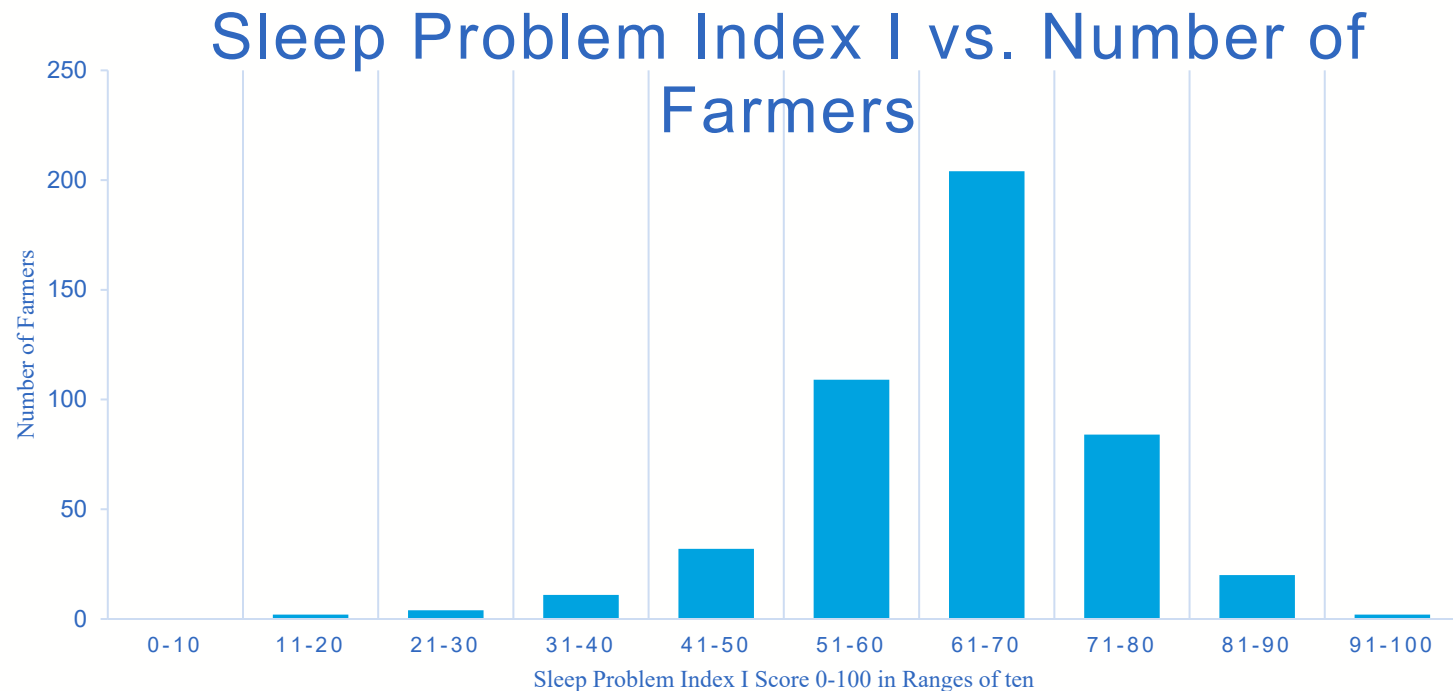
- Over 60% of farmers who responded to our survey reported that they received 7-8 hours of sleep, so sleep was not a problem for the majority of our respondents.
- However, when the Sleep Problem Index subscale was calculated--- farmers did have some problems sleeping as almost 90% scored greater than 50% with the range 0-100 which indicated more than 51% of farmers scored high for problem sleeping.

Discussion: Sleep

- Discussion Questions:
  - Describe sleep resources you or your county offers.

  - What additional resources, training or information do you need?

  - Do you have ideas for collaboration?

Results: Dietary Habits

	None % (n)	Less than 1/mo. % (n)	1-3/ mo. % (n)	1 / week % (n)	2-4 / week % (n)	5-6 per week % (n)	1 / day % (n)	2-3 / day % (n)	4-5 / day % (n)	6 or more / day % (n)
Fruits (N = 466)	0.6% (3)	2.4% (11)	9.4% (44)	9.2% (43)	25.1% (117)	14.2% (66)	20.4% (95)	17.2% (80)	1.3% (6)	0.2% (1)
Vegetables (N = 462)	0.4% (2)	0.7% (3)	5.4% (25)	6.5% (30)	24.2% (112)	16.9% (78)	21.2% (98)	21.2% (98)	3.0% (14)	0.4% (2)

- One quarter of farmers had 2-4 servings per week of fruit (25.1%) and vegetables (24.2%).

- One fruit serving per day was reported by 95 farmers and 98 farmers reported eating one vegetable serving a day.

Results: Physical Activity

41.7% reported mostly walking lifting, carrying little
26.4% reported sitting down half the time
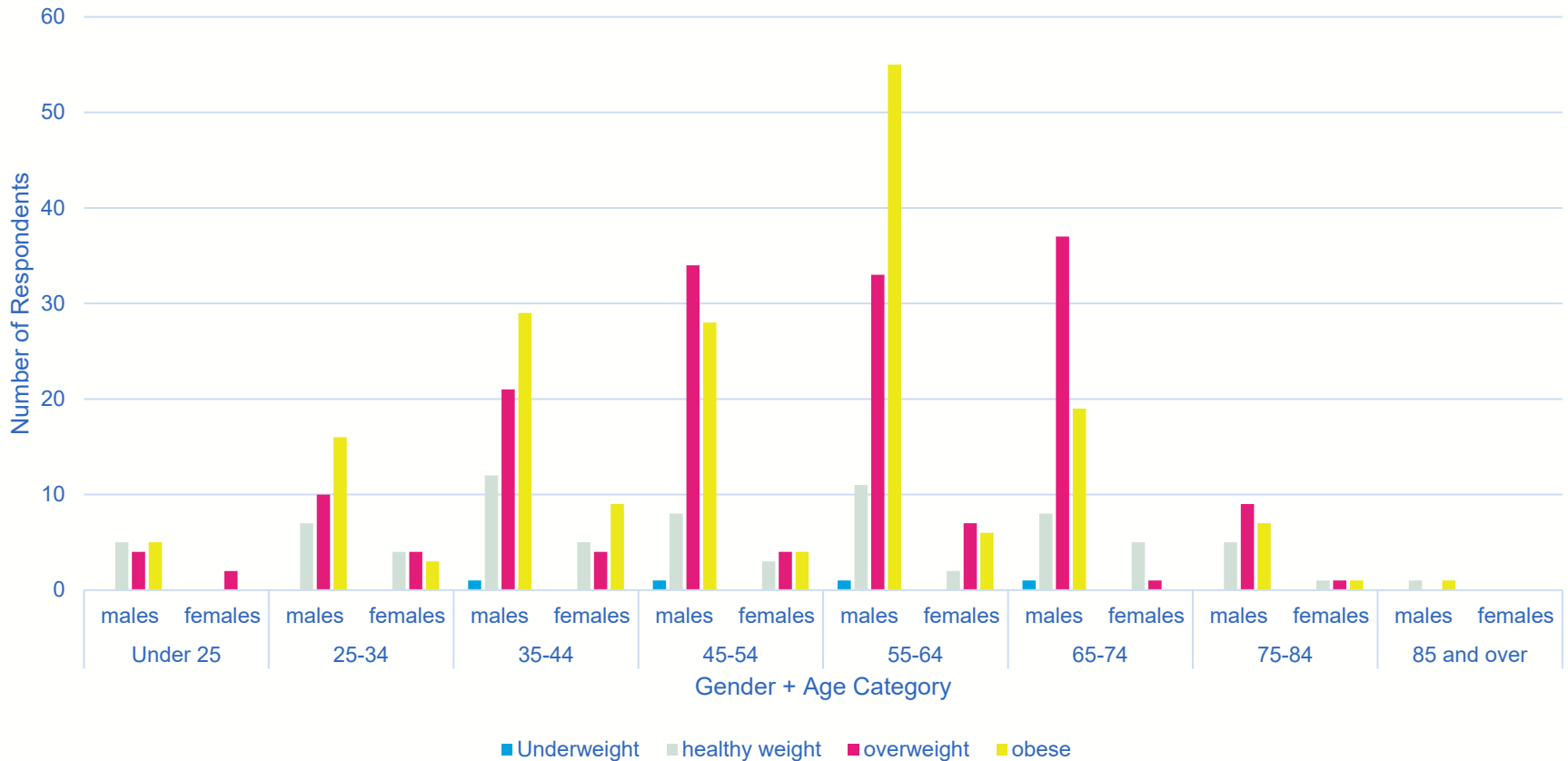16.4% reported mostly walking lifting, carrying much

27.2% - 20-40 minutes per day
19.8% - Less than 20 minutes per day

There was not much seasonal variation in activity except gardening.

Results: BMI Status

BMI by Age/Gender

- Males ages 55-64 years were mostly likely to be obese (58%) followed by males ages 35-44 years (46%). 308 (of 369 males) were overweight or obese (83.5%).
- Of 65 females surveyed, 70.8% were considered overweight or obese. No females surveyed were considered underweight and only four male respondents fell within this category.

Discussion: Healthy Weight

- Discussion Questions:
  - Describe nutritional & physical activity resources you or your county offers.
  - What additional resources, training or information do you need?
  - Do you have ideas for collaboration?

Results: Mental Health

Mental Health
Question: In the past two weeks how often were you bothered by the following.

	Not at all % (n)	Several days % (n)	More than half the days % (n)	Nearly every day % (n)
Little interest or pleasure in doing things	64.3% (303)	27.0% (127)	6.8% (32)	1.9% (9)
Feeling down, depressed or hopeless	69.9% (329)	23.6% (111)	4.3% (20)	2.3% (11)

10% of participants had scores that indicated a major depression disorder is likely

Discussion: Mental Health

- Discussion Questions:
  - Describe mental health resources you or your county offers.
  - What additional resources, training or information do you need?
  - Do you have ideas for collaboration?
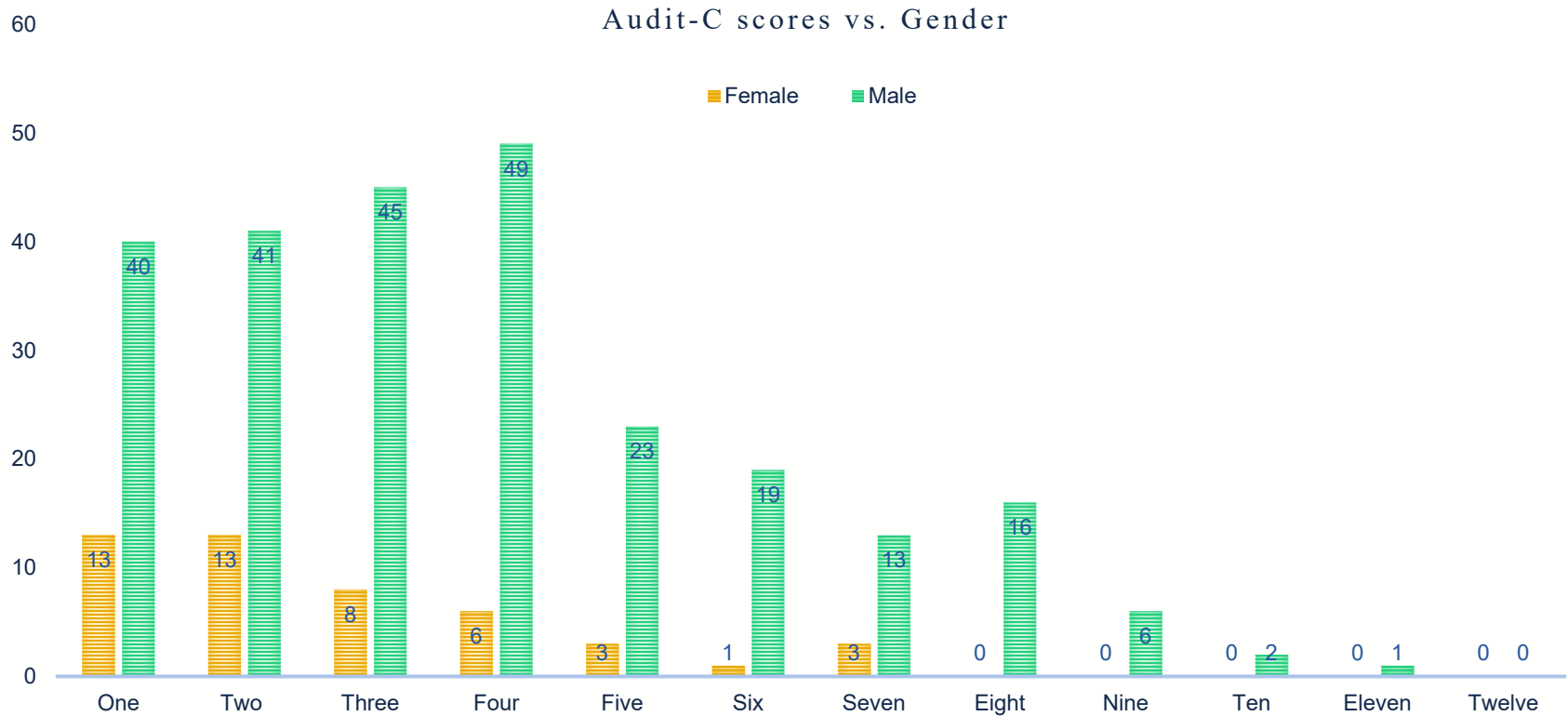
Results: Tobacco Use

17% Did use tobacco
79.9% Did not
2.2% Preferred not to answer

Product used
- Chews or snuffs – n=43 ẍ=7/day
- Cigarettes – n=37   ẍ=9.8/day
- Dips, pinches, or rubs- n=19 ẍ= 9.5/day

Results: Alcohol Use

Audit-C scores vs. Gender

Results: Illicit Drug Use

Question asked if farmers had taken any illicit drugs not prescribed by their health care provider.

Only 3.7% (n=17) replied "yes" and three preferred not to answer.

With Opioid abuse a public health problem in Ohio we included a question about illicit drug use.

Conclusion

- We provided an overview of health habits of Ohio farmers.

- Today we identified current programs and resources available for these health behaviors.

- We also identified areas to collaborate and shore up the gaps.

- Ultimate goal is to improve farmers quality of life – and improve prevention strategies & agency resources available for farmers

Questions and Evaluation

Acknowledgements

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References

- Journal Article: A Needs Assessment of Ohio Farmers' Self-Reported Health Behaviors, published online in the *Journal of Agromedicine*, 10 Feb 2022   Authors: Jill F. Kilanowski, S. Dee Jepsen, Emilee A. Drerup, Patricia Brinkman & Sonia Duffy

- Submitted Journal Article: Risk-Factor Assessment and Protective Sun Health Behaviors of Ohio Farmers