SOCIETAL VALUES & PERSONAL BEHAVIORS THAT IMPACT PUBLIC WELL-BEING

COVID-19 PANDEMIC ERA EDITION

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PURDUE UNIVERSITY | Agricultural Economics

July 2021

My Faculty Program

Livestock Decision Making & Markets

& Integration of Public Perception & Changes in Demand

- Tradeoffs
- Who wants what and why?

  What you want versus what you want for other people
- Perceptions & Public Preferences
- Consumers versus Public
- Reliability in data collection

  LIARS

- *New* advances in online and social media data … web scraping and surveillance

  Public Data for the Public Good (Ag & Food Market Data)

Introductions & Background

Personal versus public 'goods' but *behavior, more than $$$*

- Tradeoffs
  - Personal consequences = where's the milk?
  - Personal consequences = illness?
  - Public consequences = public health; shutdowns?
  - Public consequences = economic ruin for whom?

Essentially how/when/if people were taking into account that their individual actions have an impact on

- (1) public/societal outcomes &
- (2) whether subjected to more restrictions (?)

Science Communication

Private versus Public

Challenge: Politicized from (before) the start

Ag & Food was front and center from the beginning … what did we learn?

Linkages with known demographics and/or associations

Political affiliation became problematic

- We were doing online and social media surveillance (listening) and political party was irreparably intertwined with health
  - Strong language; only semi-related topical discussion
  - Large # of topics intertwined
  - More about individuals than party; more about party than gov't
- Proposed Solution = Personal and Societal Values (rather than party)

Value Statements & Personal Behaviors

- Gun ownership is a right based on the U.S. Constitution
- Healthcare is a human right
- I believe we have a societal responsibility to protect children
- I believe we have a societal responsibility to protect the elderly

- Someone in my household or that I frequently spend time with is at higher risk of complications of COVID-19
- I am in the higher risk group for complications of COVID-19

- I always wear my seat belt when driving
- I frequently drink alcohol
- I frequently smoke

COVID-19 Pandemic

Human Behavior & Decision Making

- June 2020 (month 4 of US direct impacts)
  - Masking & Personal Protective Measures (with public consequences)
  - Schooling/Childcare
- January 2021 (6 months later)
  - Impacts on everyday activities & Childcare/Schooling
  - Food Insecurity Measurement (USDA Methodology)
  - Masking & Personal Protective Measures (with public consequences)
  - Personal vaccination Intentions (with public consequences)

June 2020

Demographic Variable	% of respondents n=1,198	U.S. Census
Sex		
Male	47	49
Female	53	51
Age		
18-24	10 *	13
25-34	18	18
35-44	16	16
45-54	18	17
55-65	17	17
65 +	20	19
Income		
$0-$24,999	24 *	22
$25,000-$49,999	25	23
$50,000-$74,999	18	17
$75,000-$99,999	13	12
$100,000 and higher	19 *	26

Beliefs regarding mask wearing regarding COVID-19, N = 1198

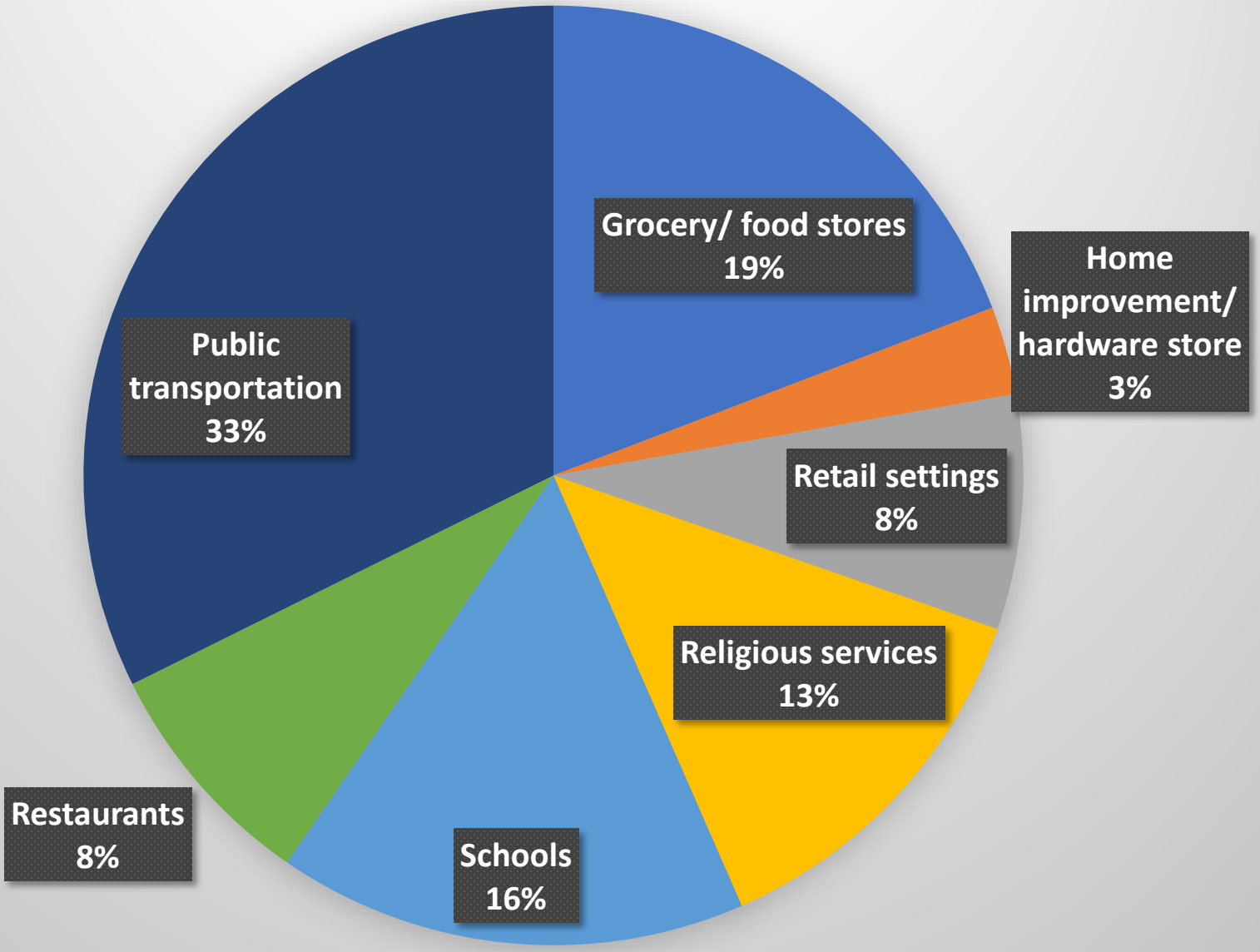
	% of Respondents
NO - masks have absolutely no role whatsoever in U.S. society related to the spread of viral disease	17
YES - masks have some potential role in U.S. society related to the spread of viral disease	83
Wearing a mask helps prevent the spread of COVID-19	70
Wearing a mask helps prevent me from getting COVID-19	53
Wearing a mask helps prevent me from spreading COVID-19	64
Wearing a mask will help prevent future lock-downs in my community related to COVID-19	47
There is social pressure in my community to wear a mask	31
Wearing a mask does not prevent the spread of COVID-19	14
Wearing a mask has negative health consequences for the mask wearer	13

June 2020

	Do masks have a role in U.S. society to prevent viral spread	
Demographic Variable	**Yes n=996**	**No n=202**
Gender		
Male	47	51
Female	53	49
Age		
18-24	10	10
25-34	17Ψ	24Ψ
35-44	16	19
45-54	18	21
55-65	17	16
65 +	22Ψ	9Ψ
Income		
$0-$24,999	22Ψ	33Ψ
$25,000-$49,999	25	26
$50,000-$74,999	18	18
$75,000-$99,999	13	13
$100,000 and higher	21Ψ	9Ψ

	Do masks have a role in U.S. society to prevent viral spread	
Demographic Variable	**Yes n=996**	**No n=202**
Education		
Did not graduate from high school	3	3
Graduated from high school, Did not attend college	27Ψ	37Ψ
Attended College, No Degree	23	29
Attended College, Associates or Bachelor's Degree	33Ψ	22Ψ
Attended College, Graduate or Professional Degree	14Ψ	9Ψ
Region of residence		
Northeast	20Ψ	11Ψ
South	38	44
Midwest	21	24
West	21	21
State COVID status		
High number of cases	68	63
High number of cases by population	15	12
High increase in cases	21Ψ	28Ψ

Forced Tradeoffs ... Most/Least Important Places to Wear Masks



Locations that respondents who indicated masks have at least some role in society wear a mask. Multiple selections permitted, percentage (%) of respondents

| | % of respondents n=996 | % who can and do attend this location (location-specific n provided) | | |

Households with children

Demographic Variable	Children in the Household n=347	No Children in the Household n=851
Gender		
Male	41Ψ	50Ψ
Female	58Ψ	50Ψ
Age		
18-24	12	10
25-34	29Ψ	13Ψ
35-44	30Ψ	11Ψ
45-54	21Ψ	17Ψ
55-65	5Ψ	22Ψ
65 +	3Ψ	27Ψ
Perceived COVID risk	Mean (SD)	Mean (SD)
Someone in my household, or that I frequently spend time, with is at higher risk of complications of COVID-19 [1]	2.919 (0.082)	2.914 (0.053)
I am in the higher risk group for complications of COVID-19 [1]	2.571 Ψ (0.078)	2.976 Ψ (0.052)

Impact level of COVID-19 on daily life for those who reported children in the household (Kids N=347) and those who did not report children in the household (No Kids N=851)

	Mean Level of impact	
Household Activity	Kids	No Kids
Respondents daily activities outside of work/school	3.93$^{\Psi}$	3.40$^{\Psi}$
Ability to buy paper products (e.g., toilet paper, paper towels)	3.74$^{\Psi}$	3.36$^{\Psi}$
Ability to find meat, milk, and perishable grocery items	3.40$^{\Psi}$	2.85$^{\Psi}$
Ability to execute travel plans	4.07$^{\Psi}$	3.80$^{\Psi}$
Activities related to respondent's work/school	4.00$^{\Psi}$	3.29$^{\Psi}$

Comparison between % of respondents with and without children in the household who believe the following statements regarding masks.

	Children in the Household	No Children in the Household
	N=347	N=851
YES - masks have some potential role in U.S. society related to the spread of viral disease	82	84
Wearing a mask helps prevent the spread of COVID-19	62$^{\Psi}$	73$^{\Psi}$
Wearing a mask helps prevent me from getting COVID-19	51	54
Wearing a mask helps prevent me from spreading COVID-19	59$^{\Psi}$	66$^{\Psi}$
Wearing a mask will help prevent future lock-downs in my community related to COVID-19	41$^{\Psi}$	50$^{\Psi}$
There is social pressure in my community to wear a mask	33	30
Wearing a mask does not prevent the spread of COVID-19	16	13
Wearing a mask has negative health consequences for the mask wearer	17$^{\Psi}$	11$^{\Psi}$

Comparison of agreement with mask-related statements between respondents who do and do not voluntarily wear a mask.

	Voluntarily wears mask	Masks will help prevent future lock-downs	There is social pressure in my community to wear a mask	Masks have negative health consequences for the mask wearer
In person religious service	Yes n=170	58 Ψ	28	11
	No n=155	39 Ψ	36	13
Big box grocery store/supermarket	Yes n=559	60 Ψ	25 Ψ	5 Ψ
	No n=325	46 Ψ	34 Ψ	11 Ψ
Specialty grocery store	Yes n=390	62 Ψ	27	6
	No n=265	49 Ψ	37	10
Gym	Yes n=116	63 Ψ	33	10
	No n=120	42 Ψ	30	15
Home improvement store	Yes n=437	61 Ψ	26	5
	No n=292	48 Ψ	35	11
Restaurant	Yes n=270	61 Ψ	26	8
	No n=255	45 Ψ	36	12
Workplace	Yes n=195	61 Ψ	32	11
	No n=268	43 Ψ	29	10
School	Yes n=111	62 Ψ	31	14
	No n=88	37 Ψ	27	9
Clothing store	Yes n=341	58 Ψ	29	9
	No n=237	43 Ψ	35	10
Retail store other than grocery, clothing, or home improvement	Yes n=471	58 Ψ	26	6 Ψ
	No n=283	44 Ψ	36	12 Ψ

Agreement with social statements and correlation with belief that masks have a place in society (N=1198; percentage (%) of respondents)

Personal, Social, and Societal Statement Presented	Mean 1=strongly disagree; 5= strongly agree	Correlation between level of agreement and belief that masks have a place in society
Gun ownership is a right based on the U.S. Constitution	3.78	-0.123***
Healthcare is a human right	4.01	0.214***
I always wear my seat belt when driving	4.49	0.106***
I frequently drink alcohol	2.20	0.052*
I frequently smoke	1.95	-0.046
I believe we have a societal responsibility to protect children	4.37	0.184***
I believe we have a societal responsibility to protect the elderly	4.25	0.183***
Someone in my household, or that I frequently spend time, with is at higher risk of complications of COVID-19	2.92	0.135***
I am in the higher risk group for complications of COVID-19	2.86	0.188***

June 2020 Take Aways

- Yes - Evidence of Altruism

  Believing masks help protect others = more likely to voluntarily wear
- Yes – Evidence of free-riding

  Evidence of free-riding among those who believe masks work but do not wear in at least one location
- No – Social shaming does not work

  Perceiving social pressure negatively impacted probability of wear
- Yes – Evidence of willful non-compliance

  Some with misinformation; some unexplained
- Yes – Unequal impacts in households with children; impacts on women within those households

  Confusion surrounding masks and kids

Extensions

Findings – June 2020

- Clear and present ‘us versus them’ in media searches

  (and some evidence in shaming responses to survey)

- Ag & Food Markets & related conversations

  Public discord surrounding meat and milk especially

- Restaurants, food service, food choices → it matters

  How and what we eat changes at home versus away from home

  Testable (in progress) hypothesis … do you shop differently when ordering online? Is it because of the ‘times’ or the mode?

January 2021

Human Behavior & Decision Making

- January 2021 (6 months later)
  - Impacts on everyday activities & Childcare/Schooling
  - Food Insecurity Measurement (USDA Methodology)
  - Masking & Personal Protective Measures (with public consequences)
  - Personal vaccination Intentions (with public consequences)

Demographic Variable	% of Respondents (n=929)	US Census
Gender		
Male	46	49
Female	54	51
Age		
18-24	8ψ	12
25-34	13 ψ	18
35-44	19 ψ	16
45-54	16	16
55-65	20 ψ	17
65 +	23	21
Income		
$0-$24,999	19	18
$25,000-$49,999	22	20
$50,000-$74,999	16	17
$75,000-$99,999	13	13
$100,000 and higher	29	31

	Does not apply to me (number of respondents)	Mean level of impact on scale of 1 (not impacted) to 5 (impacted) for those to whom the statement applies; Higher mean value indicates more impact	Rank in order of most to least impacted
Ability to execute travel plans	36	3.29 n=591	1
I took on education-related responsibilities for my child	57	2.606 n=404	2
Ability to buy paper products (e.g., toilet paper, paper towels)	11	2.511 n=829	2
I took on care responsibilities for an adult member of my family	52	2.448 n=442	2/3
Lack of childcare impacted my ability to work	61	2.265 n=366	3/4
Ability to find meat, milk, and perishable grocery items	14	2.180 n=798	4
Illness in my family/household from COVID-19	43	2.209 n=527	4
Death of family member(s) from COVID-19	52	2.145 n=448	4

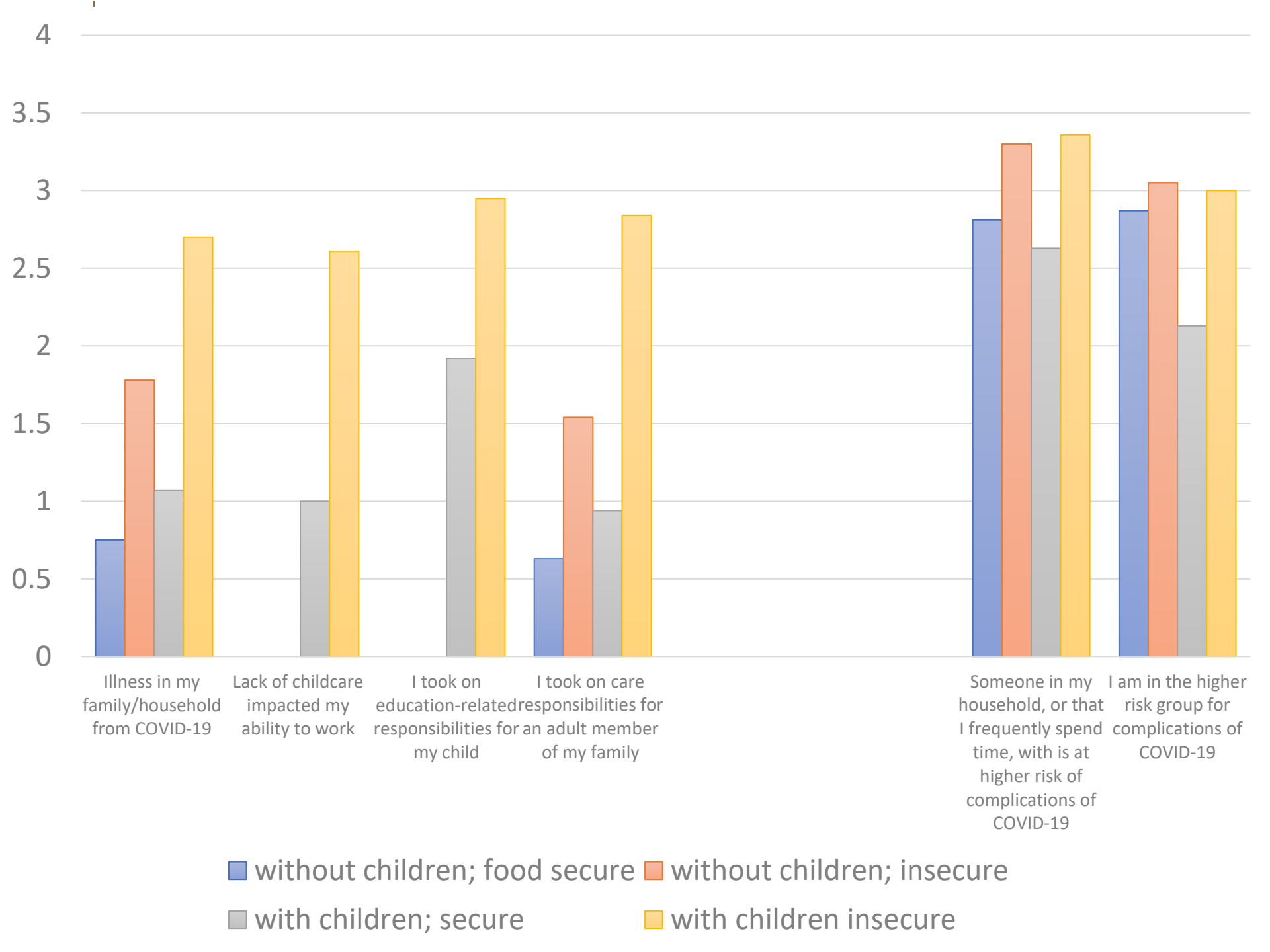
Food Security in Households with Children

USDA Food Insecurity Question/Panel

- Followed up on 'inkling' from June 2020 data about the massive scale of impacts in households with children
- Children's household are more likely to be food insecure (regularly) but the disparity is stark

More than half (53%) of households with children reported some degree of food insecurity in 2020.

84% of households without children were food secure in 2020
47% of households with children were food secure in 2020


4
3.5
3
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Illness in my family/household from COVID-19
Lack of childcare impacted my ability to work
I took on education-related responsibilities for my child
I took on care responsibilities for an adult member of my family
Someone in my household, or that I frequently spend time, with is at higher risk of complications of COVID-19
I am in the higher risk group for complications of COVID-19
without children; food secure
without children; insecure
with children; secure
with children insecure

Seemingly unrelated regression results. Impact of COVID-19 on lifestyle factors and demographics. Level of impact from 1 (un-impacted) to 5 (impacted) N=929.

	Independent Variables Coefficient							
				Region of residence[1]				
Dependent Variables	Male	Age	Income	Northeast	South	Midwest	Rurality	Constant
Ability to buy paper products (e.g., toilet paper, paper towels)		-0.265***		-0.420**	-0.361**	-0.425**		3.970***
Ability to find meat, milk, and perishable grocery items		-0.296***		-0.396**		-0.322**		3.497***
Ability to execute travel plans	0.254*	-0.242***	0.305***					2.420***
Illness in my family/household from COVID-19	0.201*	-0.308***	0.085**					2.382***
Death of family member(s) from COVID-19		-0.305***	0.111***					2.193***
I took on care responsibilities for an adult member of my family	0.298***	-0.378***	0.089**					2.588***

Seemingly unrelated regression results. Impact of COVID-19 on lifestyle factors and demographics. Level of impact from 1 (un-impacted) to 5 (impacted) N=929.

	Independent Variables Coefficient									
				Region of residence[1]						
Dependent Variables	Male	Age	Income	NE	South	Midwest	Young kids	School kids	Rurality	Constant
Lack of childcare impacted my ability to work	0.368***	-0.275***	0.092***	-0.315**		-0.276**	0.455***	0.534***		1.774***
I took on education-related responsibilities for my child	0.236**	-0.257***	0.083**	-0.392**			0.585***	1.197**	-0.043**	1.922***

In Summary – explaining self-reported impacts

When controlling for these factors simultaneously

- Men overall reported feeling more impact **We could talk more
- The West (region) more often reported impact
- Higher income more often reported impacts related to travel & restrictions
- Older respondents less impacted overall
- Rurality is NOT significant for predicting anything except lessened probability of taking on education for a child

Mean level of Agreement with Societal Value Statements & Participation in Behaviors Associated with Possible Personal Risk Factors (n=929)
(Scale of Agreement was 1=Strongly Disagree to 5=Strong Agree)
I am in the higher risk group for complications of COVID-19
2.8
2.86
Someone in my household, or that I frequently spend time, with is at higher risk of complications of COVID-19
2.94
2.92
I believe we have a societal responsibility to protect the elderly
4.27
4.25
I believe we have a societal responsibility to protect children
4.36
4.37
I frequently smoke
1.88
1.95
Mean level of agreement is statistically higher in Jan 2021 than June 2020
I frequently drink alcohol
2.35
2.2
I always wear my seat belt when driving
4.53
4.49
Healthcare is a human right
4.07
4.01
Gun ownership is a right based on the U.S. Constitution
3.83
3.78
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
January 2021 Mean Level of Agreement
June 2020 Mean Level of Agreement

Seemingly unrelated regression of COVID-19 related precautions and demographics n=922.

	Wear a mask or face covering in public	Reduce number of non-essential errands/ interactions around town	Reduce out-of-town travel	Comply with governmental orders regarding closures or lock downs	Comply with government recommendations regarding social distancing
Male				-0.123*	
Age	0.058**			0.094***	0.095***
Income				0.044*	
Rurality					
Impact level of COVID on ability to buy paper products		0.074**			
Impact level of COVID on ability to find meat, milk, and perishable grocery items					
Impact level of COVID on ability to execute travel plans			0.035**		
Impact level of COVID-19 illness in family/household				0.067**	0.066**
Impact level of COVID-19 death of family member(s)	-0.059**		-0.060*	-0.049*	-0.076**

CONTINUED

	Wear a mask or face covering in public	Reduce number of non-essential errands/ interactions around town	Reduce out-of-town travel	Comply with governmental orders regarding closures or lock downs	Comply with government recommendations regarding social distancing
Gun ownership is a right based on the U.S. Constitution	-0.094***	-0.139***			-0.082**
Healthcare is a human right	0.217***	0.259***	0.298***	0.297***	0.248***
I always wear my seat belt when driving	0.166***	0.147**	0.116**	0.174***	0.178***
Frequently drinks alcohol					
Frequently smokes					
Believes we have a societal responsibility to protect children	0.078*			0.094*	
Believes we have a societal responsibility to protect the elderly	0.107**	0.120**	0.168**	0.133**	0.141**
Someone in my household or that I frequently spend time with is at higher risk of complications of COVID-19	0.046**	0.061**	0.067**	0.053*	0.044*
I am in the higher risk group for complications of COVID-19	0.045*	0.077**	0.095**	0.079**	0.058**
Constant	1.707***	1.017***	1.272***	0.524**	1.057***

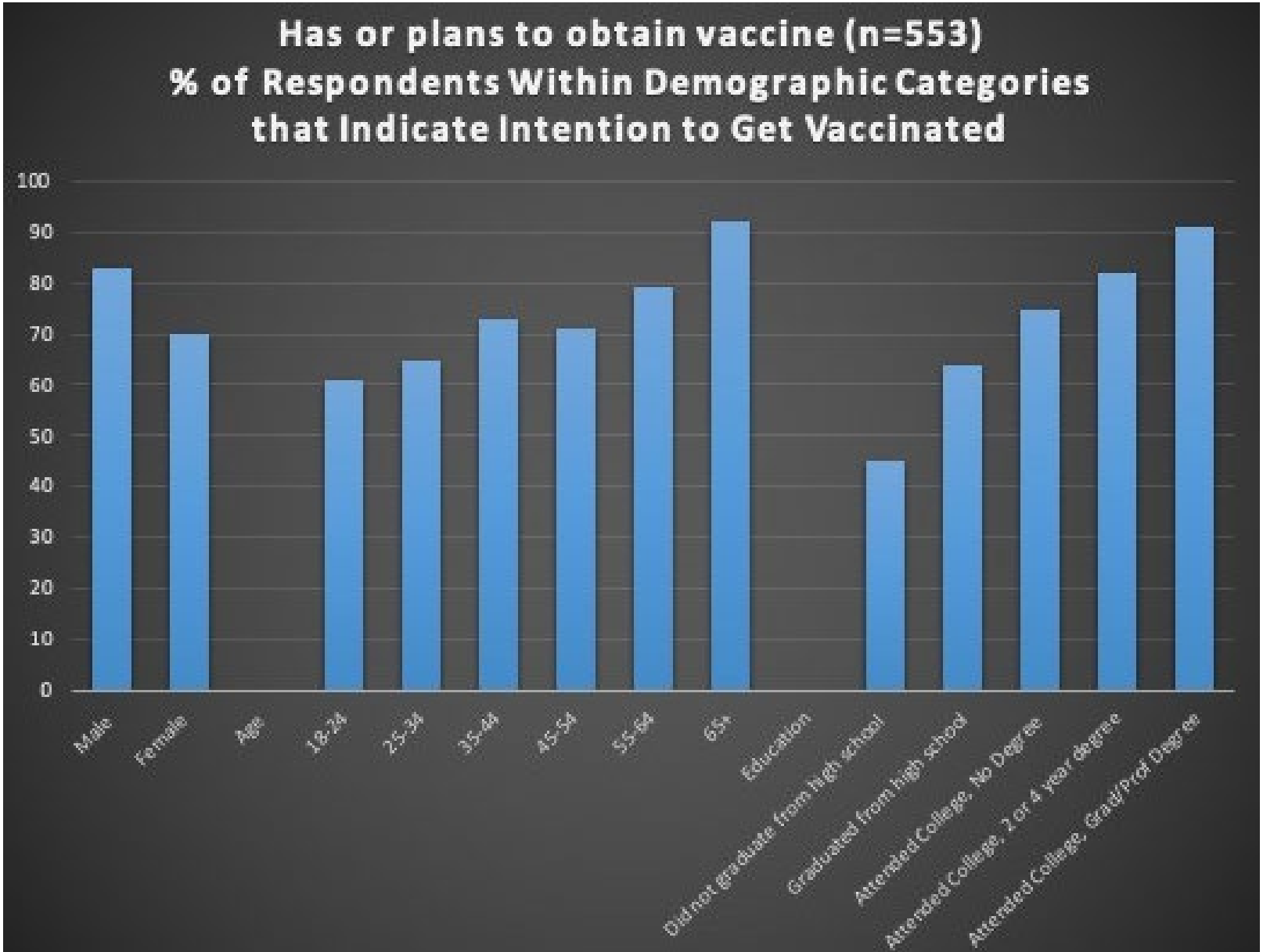
In Summary – explaining self-reported participation in mitigation practices

When controlling for these factors simultaneously … to explain the participation in mitigating practices

- Older people complied with government orders & mask wearing
- Men were less likely to comply with government orders (only 1 of 5 practices)
- Rurality was NOT significant
- Personal experience with illness = more compliant
- Loss of loved one = less compliant

- Belief that gun ownership is a right = less compliant
- Belief that healthcare is a right = more complaint (strongest)
- Belief in societal responsibility for elderly = more compliant
- Belief in societal responsibility for children = mixed more compliant
- Believing you are higher risk in household = more compliant
- Personal risk avoidance (seatbelts) = more compliant

What We Learned – January 2021



Societal Values, Public 'Good' & Communication

Impacts in food & ag markets … Why I care (and think it matters in ag/food)

- What is essential?
- Who do you trust?

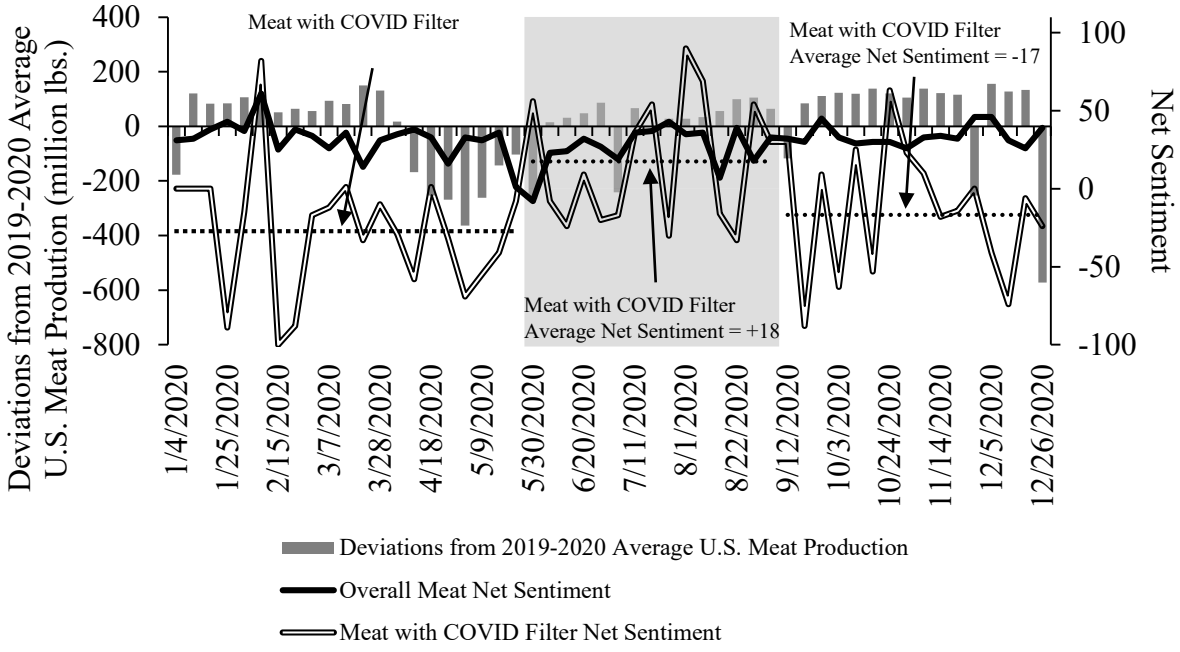
- Consequences … conversation about meat packers, COVID-era supply chain disruptions, 'big ag' versus local supply chains, regulation

- All in the same storm, but definitely not all in the same boat

- **Beware the Conflict Industry**

Societal Values, Public 'Good' & Communication

Food & Ag -- #Meat Example



Societal Values, Public 'Good' & Communication

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Nebraska's gap between urban and rural vaccination is wide...

Nebraska as a whole has ranked well in getting shots into arms, but public health officials say lagging rural rates are ...

omaha.com

Analyses ongoing – regional analyses & University leadership

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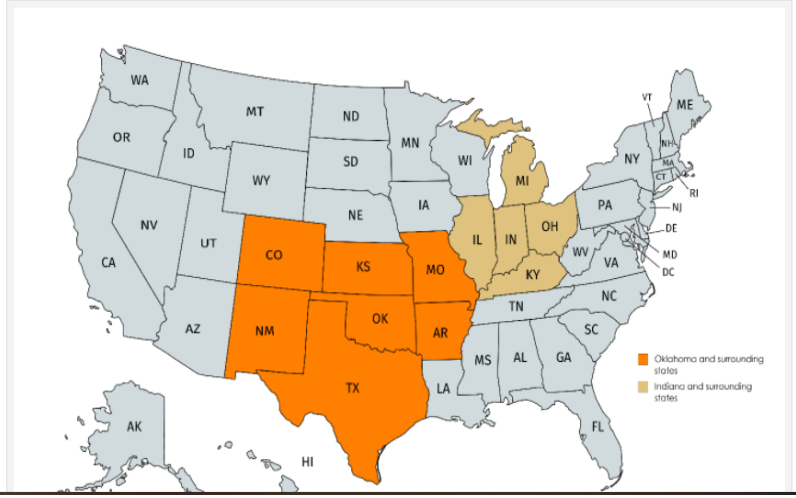
Purdue Pete and Pistol Pete — The COVID-19 Vaccine Edition: Vaccine Intentions by Purdue and OSU Territories vs. Rest of the U.S.

April 5, 2021 | Articles

Authors: *Dr. Nicole Olynk Widmar, Associate Head and Professor, Purdue University Department of Agricultural Economics*
Dr. Courtney Bir, Department of Agricultural Economics, Oklahoma State University

In the summer of 2020, we reported on the mask wearing beliefs and intentions of residents of two regions, namely Purdue University and the states surrounding Indiana and Oklahoma State University and the states surrounding Oklahoma, compared to the rest of the U.S. Six months later in January 2021, we collected new data on personal behaviors associated with COVID-19 spread and personal/societal risk factors.

The sample collected was split out according to Indiana and surrounding states versus all other states (labeled non-Indiana and surrounding states), and Oklahoma and surrounding states versus all other states (labeled non-Oklahoma and surrounding states). Figure 1 displays the states designated as *Indiana and surrounding states* and as *Oklahoma and surrounding states*.



Help

THANK YOU

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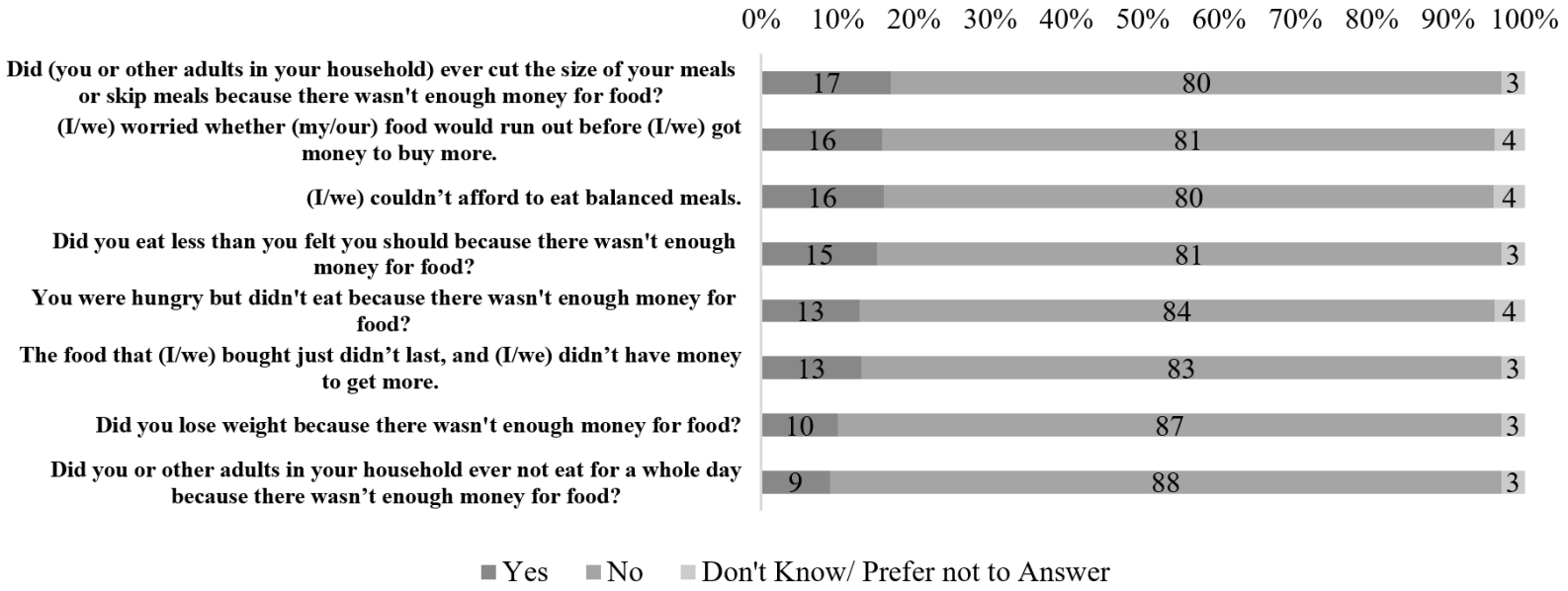
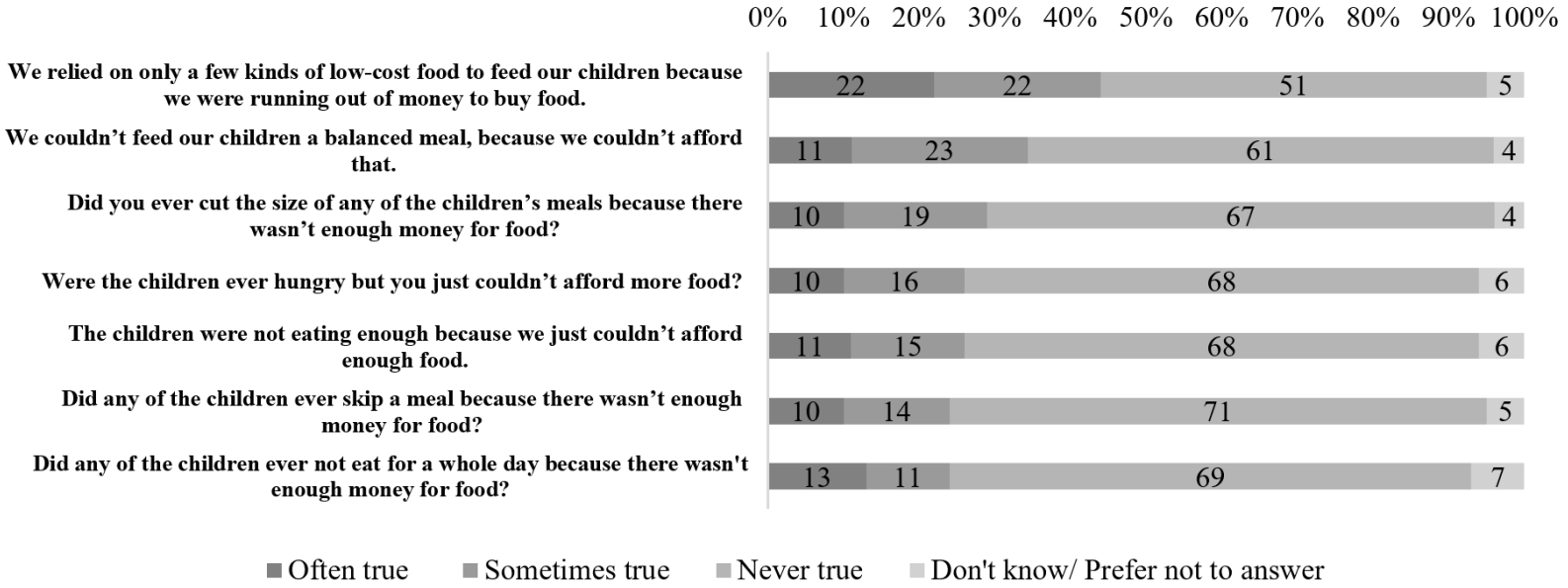
Panel A: In households **without children** (n=929), 84% did not experience any indicators of food insecurity.



Panel B: In households **with children** (n=307), only 47% did not experience any indicators of food insecurity.