







This project is funded by a Rapid Response National Science Foundation grant #2032790, #2032787, and #2032787.

2020 COVID-19 RAPID Response: *Pandemic Preparedness in Remote Rural Fishing Communities Facing Rapid, Massive, Seasonal In-Migration*

Survey 1 Results:

Presentation to Bristol Bay region policymakers, regional organizations, and community members.

January 11, 2021

UAA: Kevin Berry, Hannah Hennighausen, Lance Howe, Mike Jones and Aaron Wood (also at University of Tampa)

Penn State: Guangqing Chi and Luke Smith

UAF: Davin Holen, Todd Radenbaugh, and Gabe Dunham

Agenda

- Introductions
- Modelling
  - Dr. Kevin Berry and Dr. Aaron Wood will present a model that simulates the spread of COVID-19 in the Bristol Bay region during a fishing season. (25 minutes)
- Survey overview (30 minutes)
  - Basic demographics / survey respondents
  - Labor force information
  - Satisfaction with government policy
  - Health information
  - COVID-19 related policy questions
  - Risk perceptions
- Your feedback
- Additional info on the survey / Answer any questions
- Follow-up questions for wave #2 of the survey

- Modelling
  - Dr. Kevin Berry and Dr. Aaron Wood will present a model that simulates the spread of COVID-19 in the Bristol Bay region during a fishing season. (25 minutes)

Survey overview (30 minutes)

- Basic demographics / survey respondents
- Labor force information
- Satisfaction with government policy
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Survey Background

- We designed the survey in June 2020 and conducted it online in July and August 2020
- Gabe Dunham worked with many of you to get emails out, post cards in PO Boxes, and post notices at fishing and processor sites. Thank you for your help!
- We had many invalid responses (probably computer robot responses) in August and Mike Jones helped us identify valid responses.
- We estimate that we received about 926 valid responses from real people who were eligible for the survey.
- We emailed participants Amazon Gift Cards based on their response to the lottery question. People could earn between $30 and $5 based on the coin toss and their response to the lottery question.

Survey overview (30 minutes)

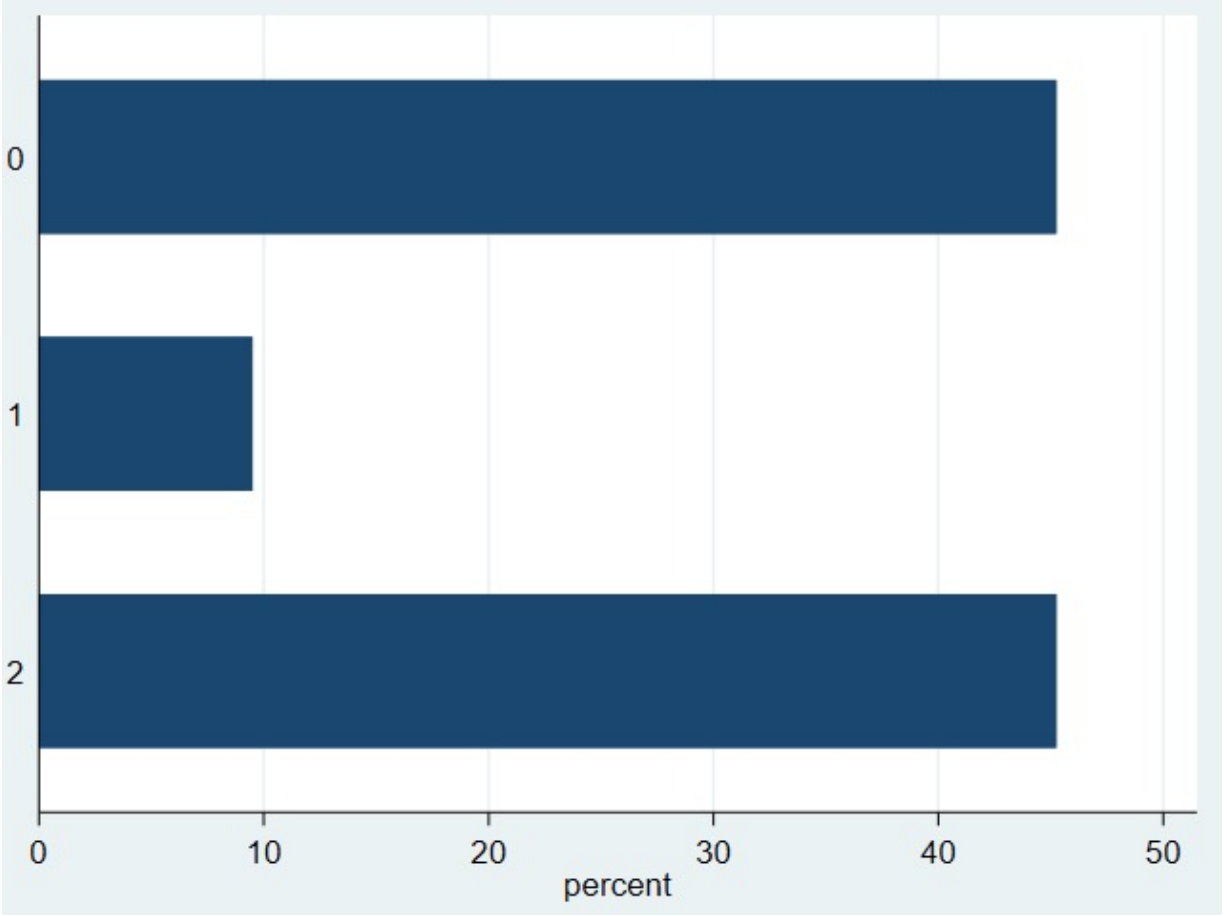
- Basic demographics / survey respondents
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- Risk perceptions

Basic demographics – 926 respondents

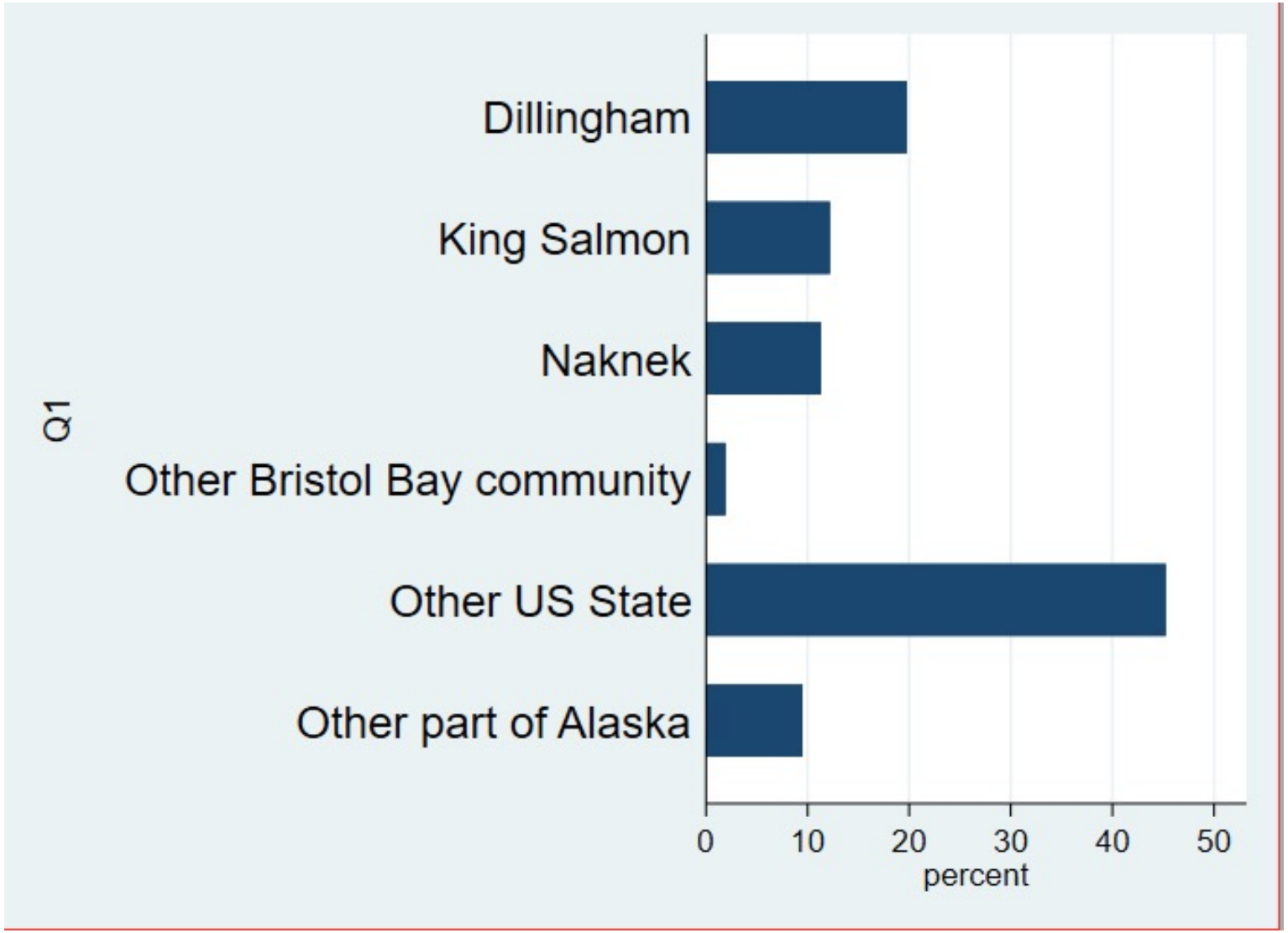
Bristol Bay region

Other part of Alaska

Other part of US

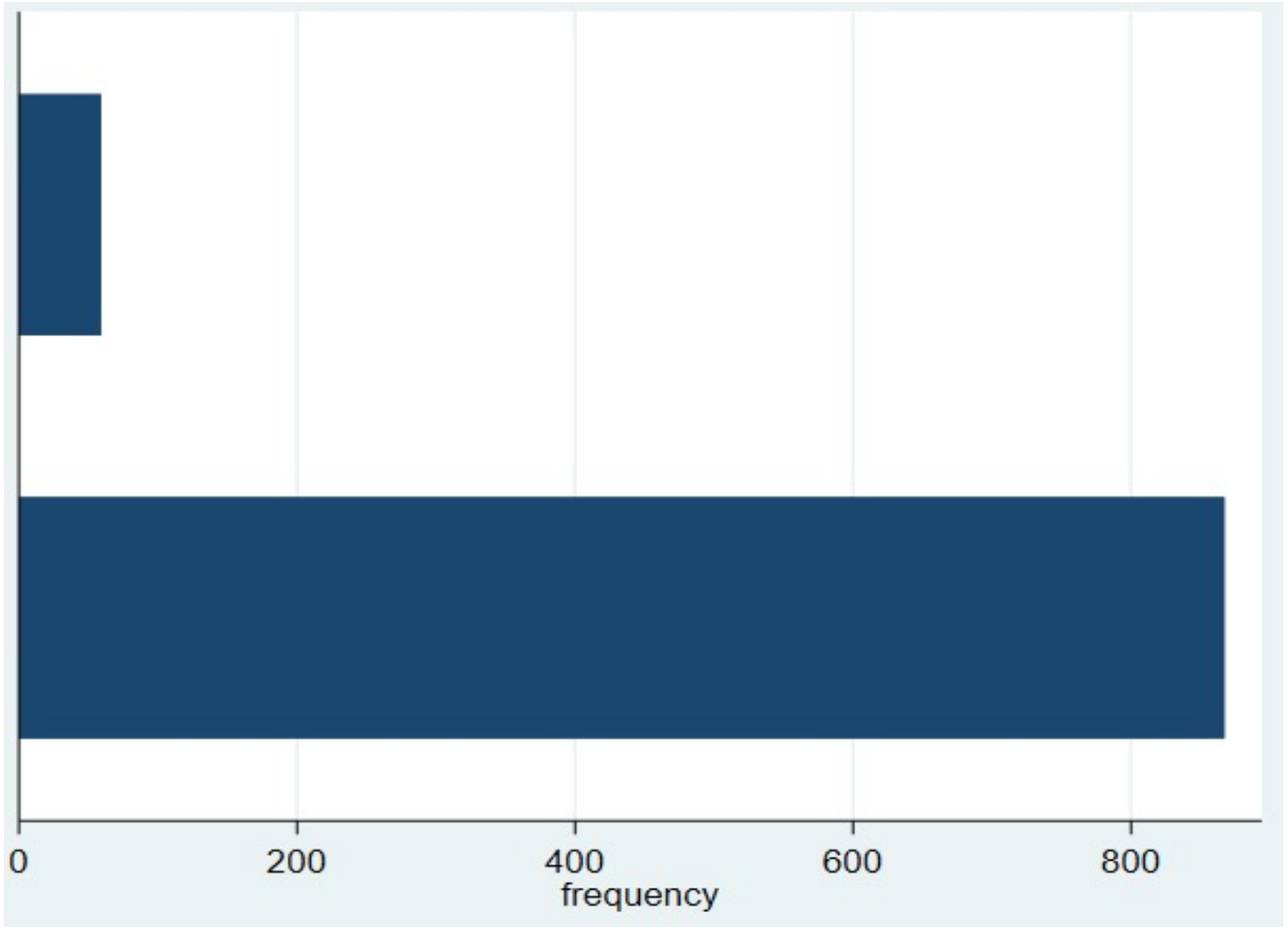


Basic demographics – 926 respondents

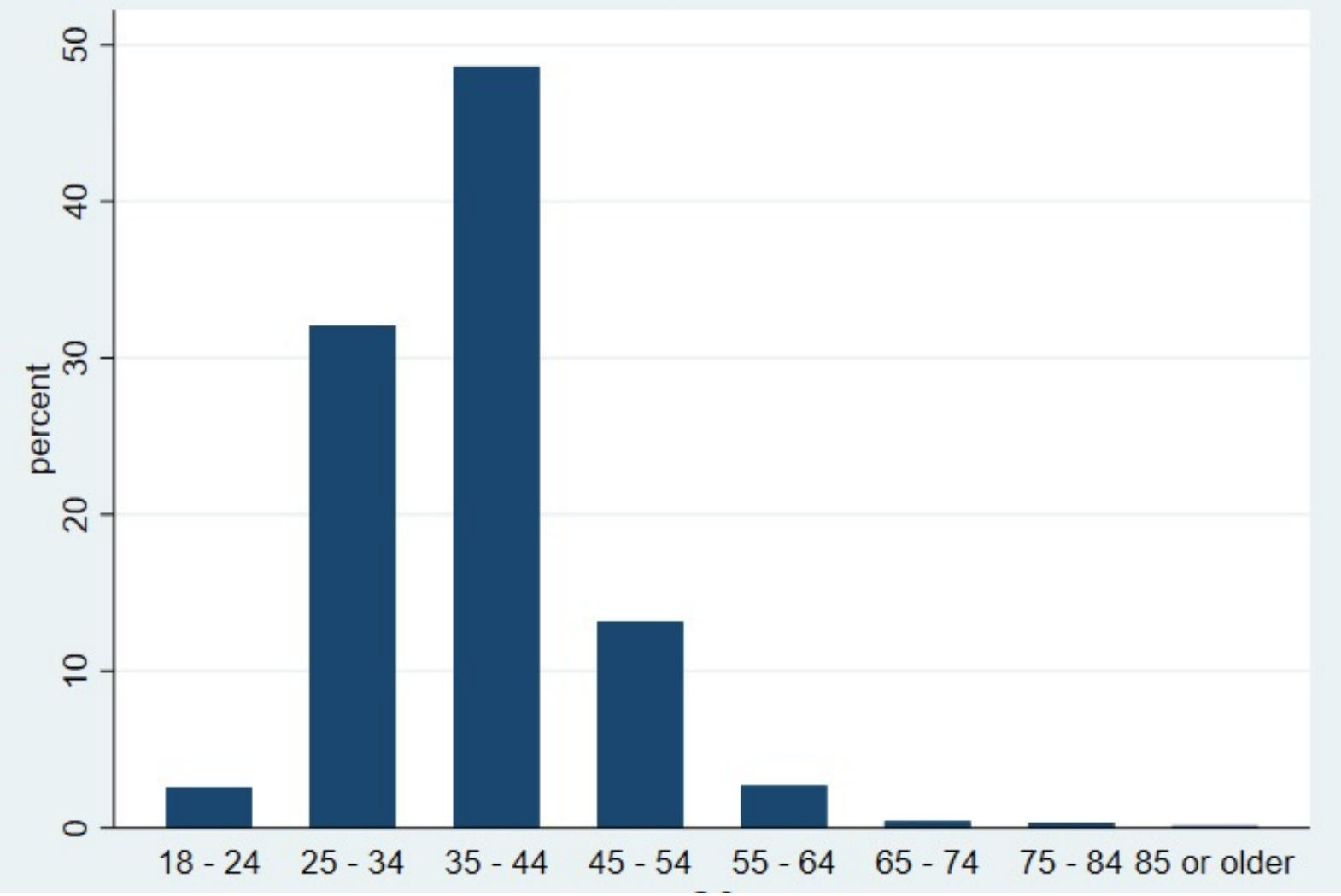


Basic Demographics

- Do you work in the fishing industry

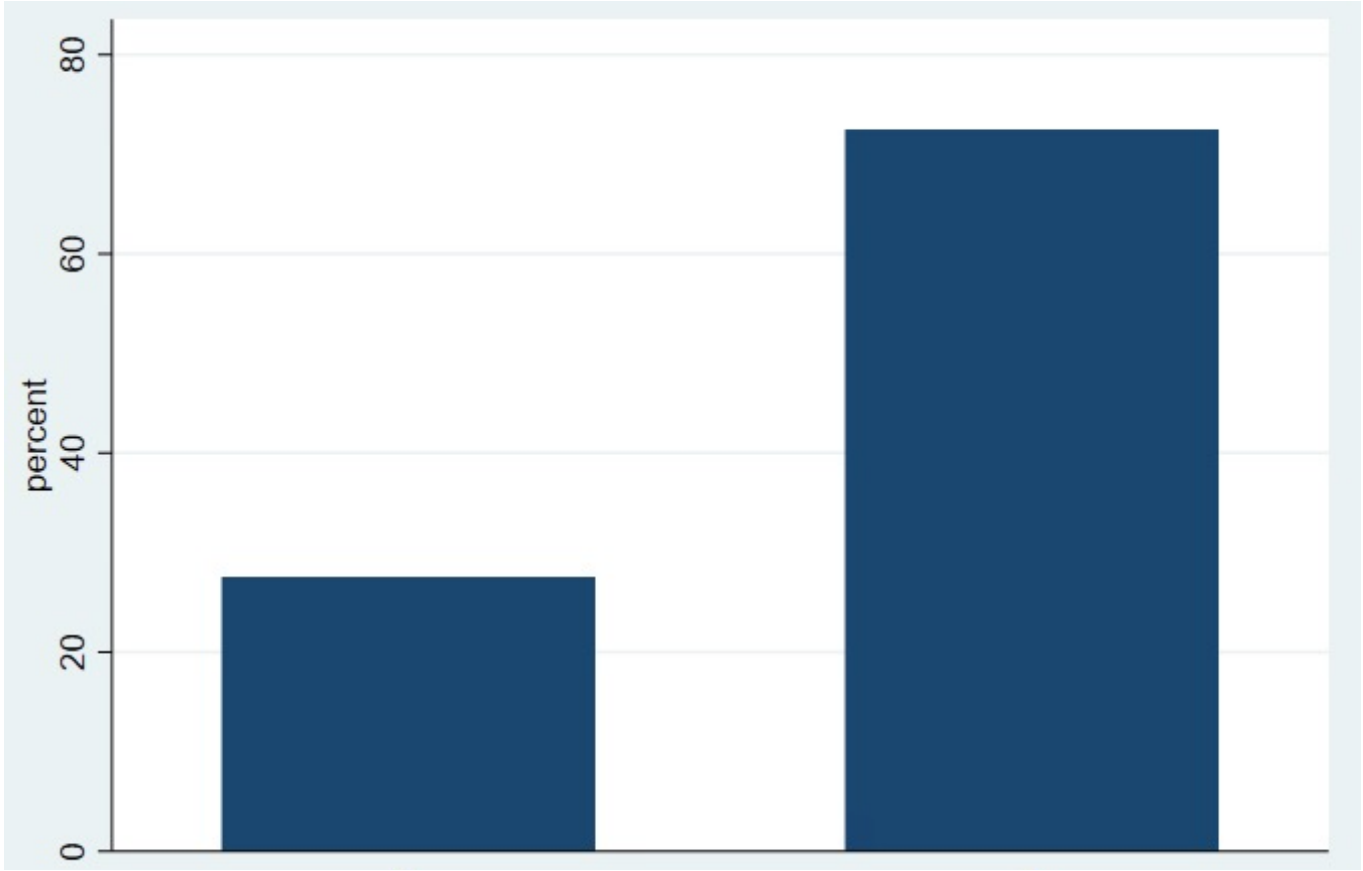


Basic Demographics : age



N=926

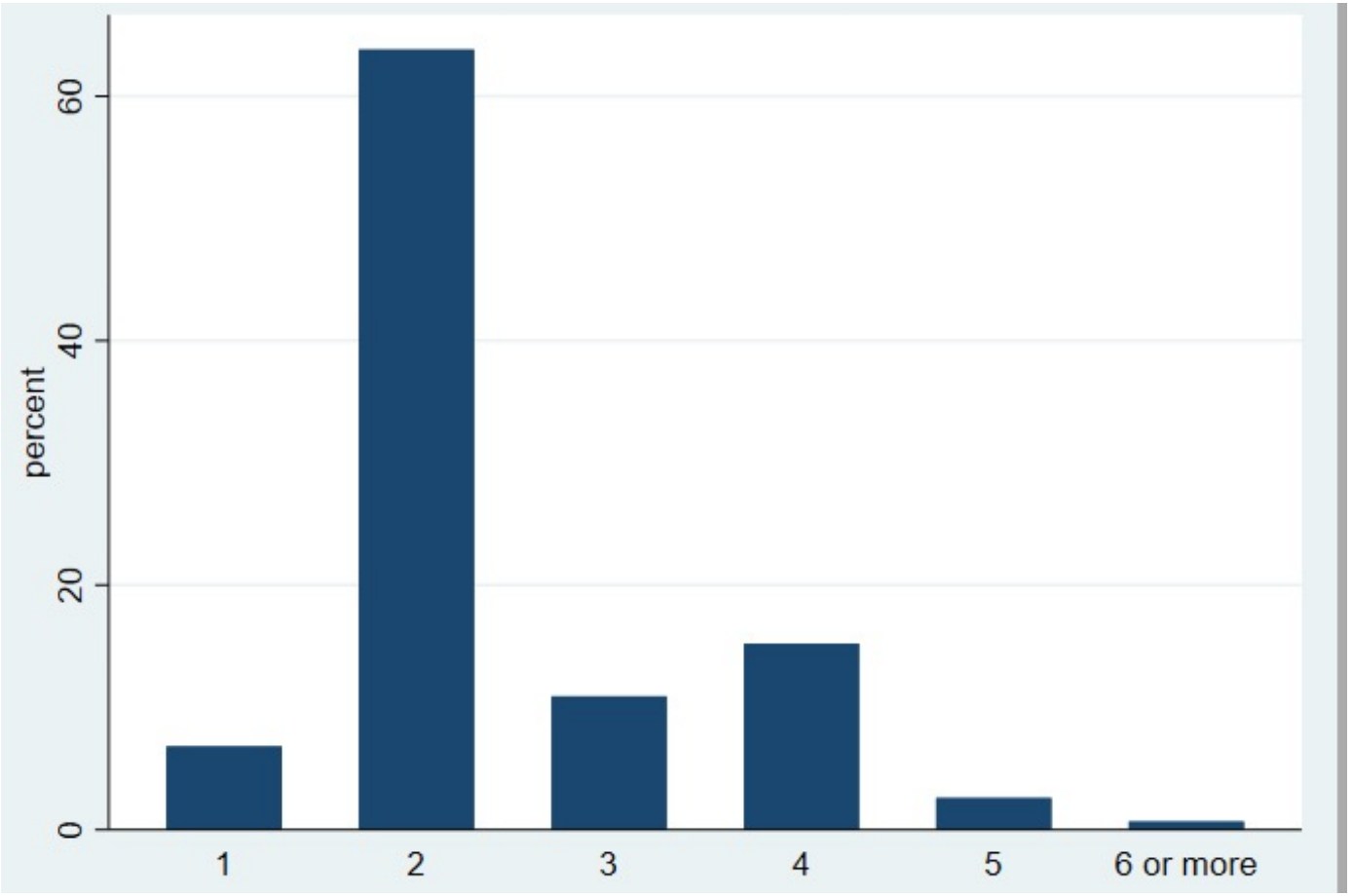
Basic demographics : gender



N=926

Basic demographics : household

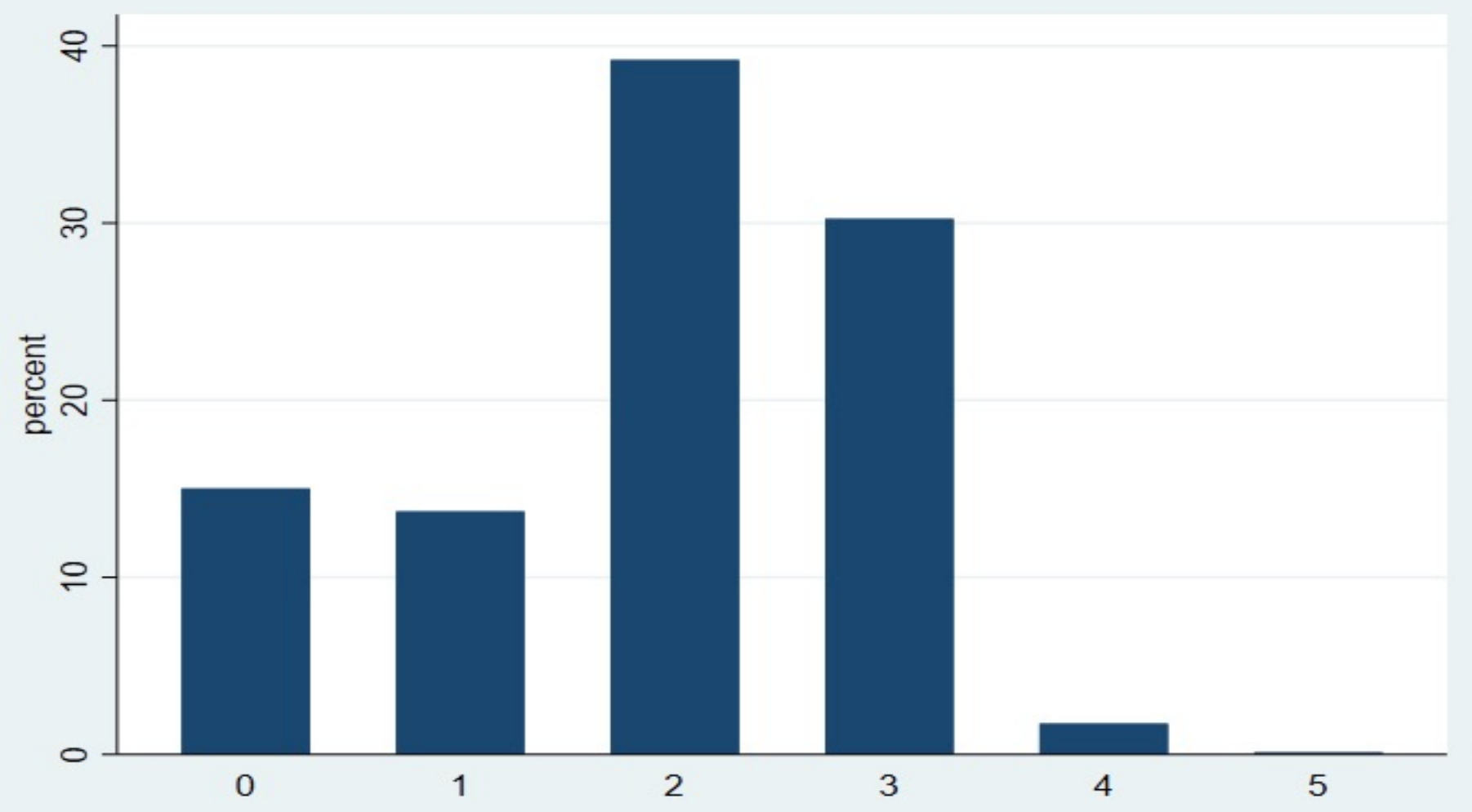
N=926



How many adults live in your household

Basic demographics : household

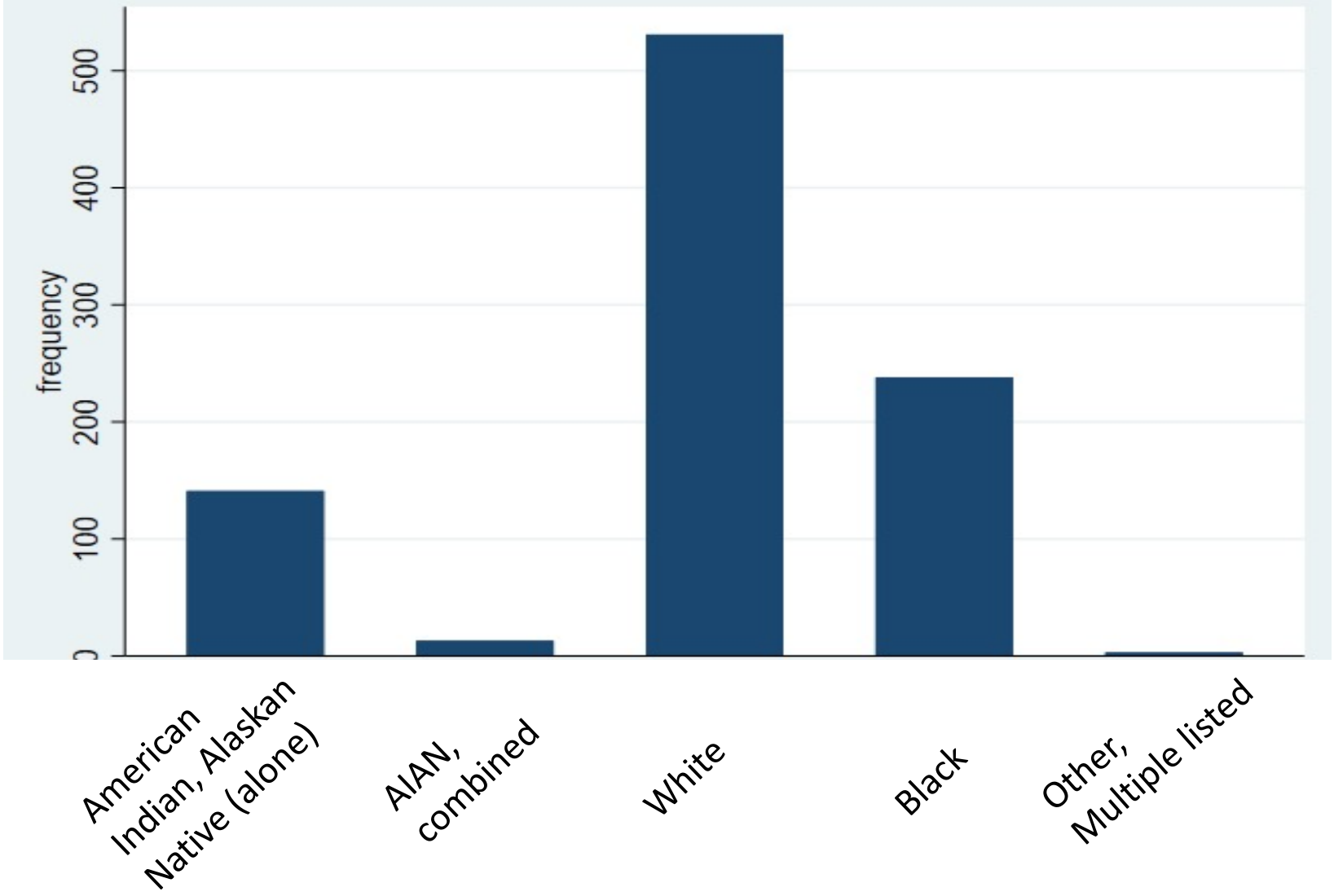
N=926



How many children live in your household?

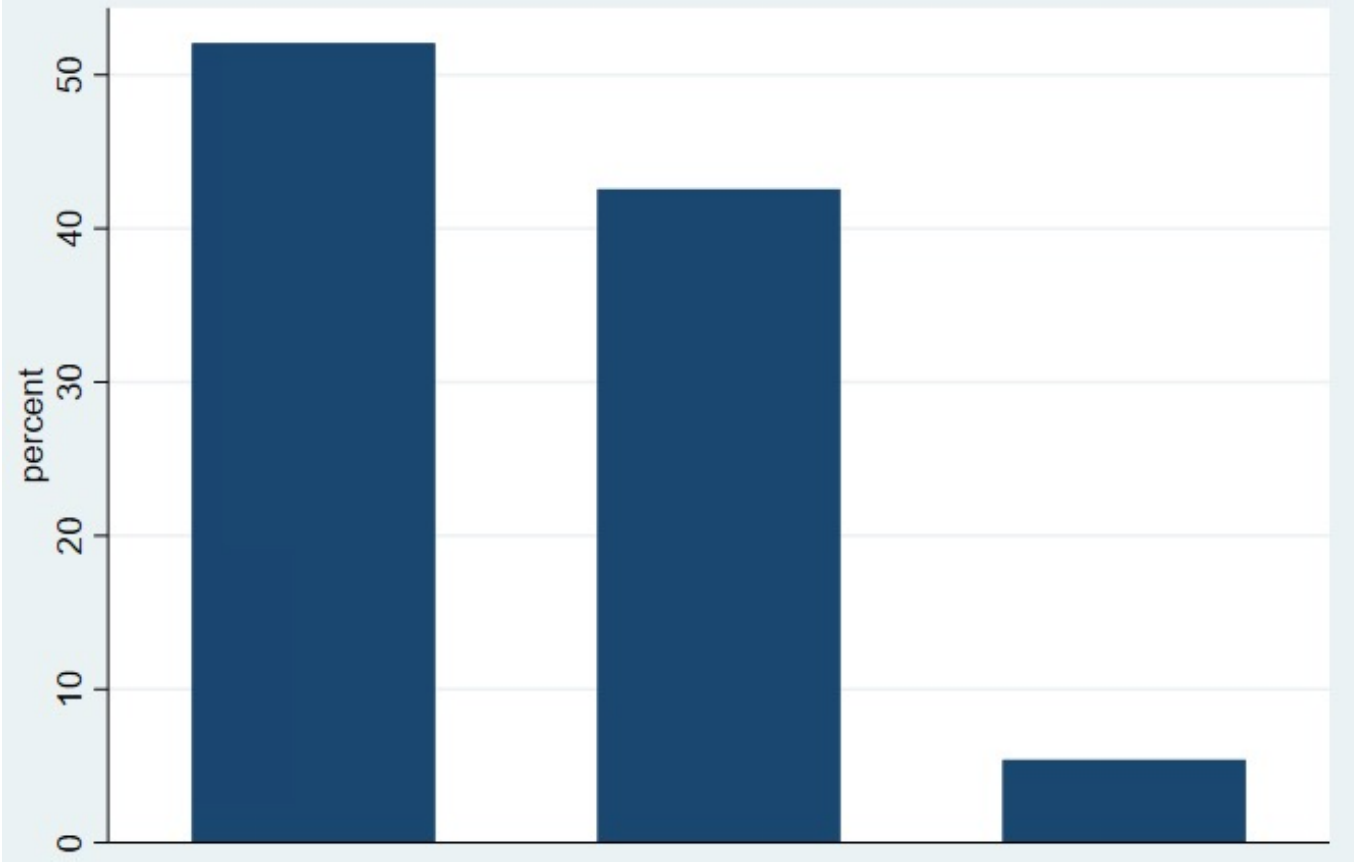
Basic Demographics : race

N=926



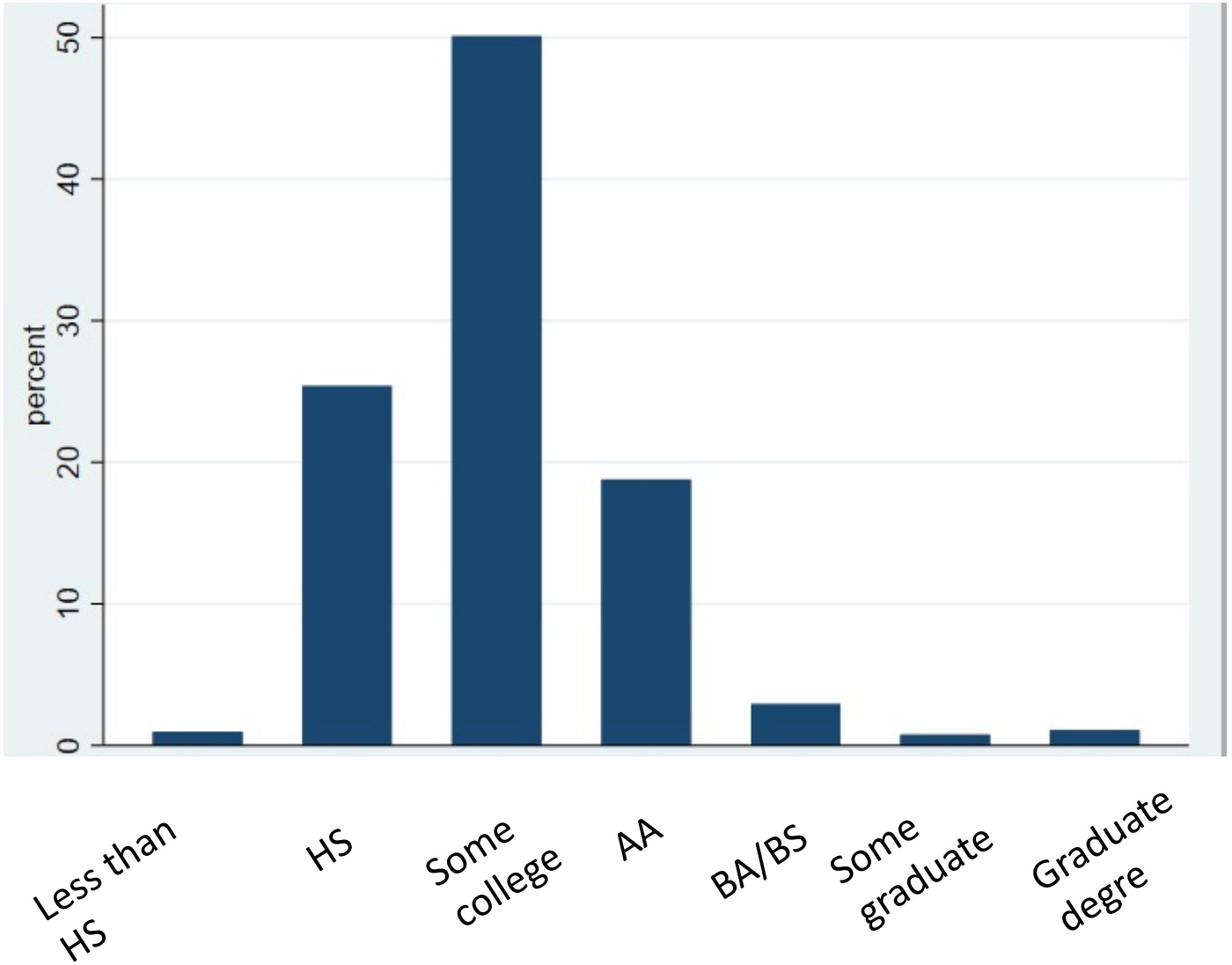
Basic demographics : ethnicity

N=926



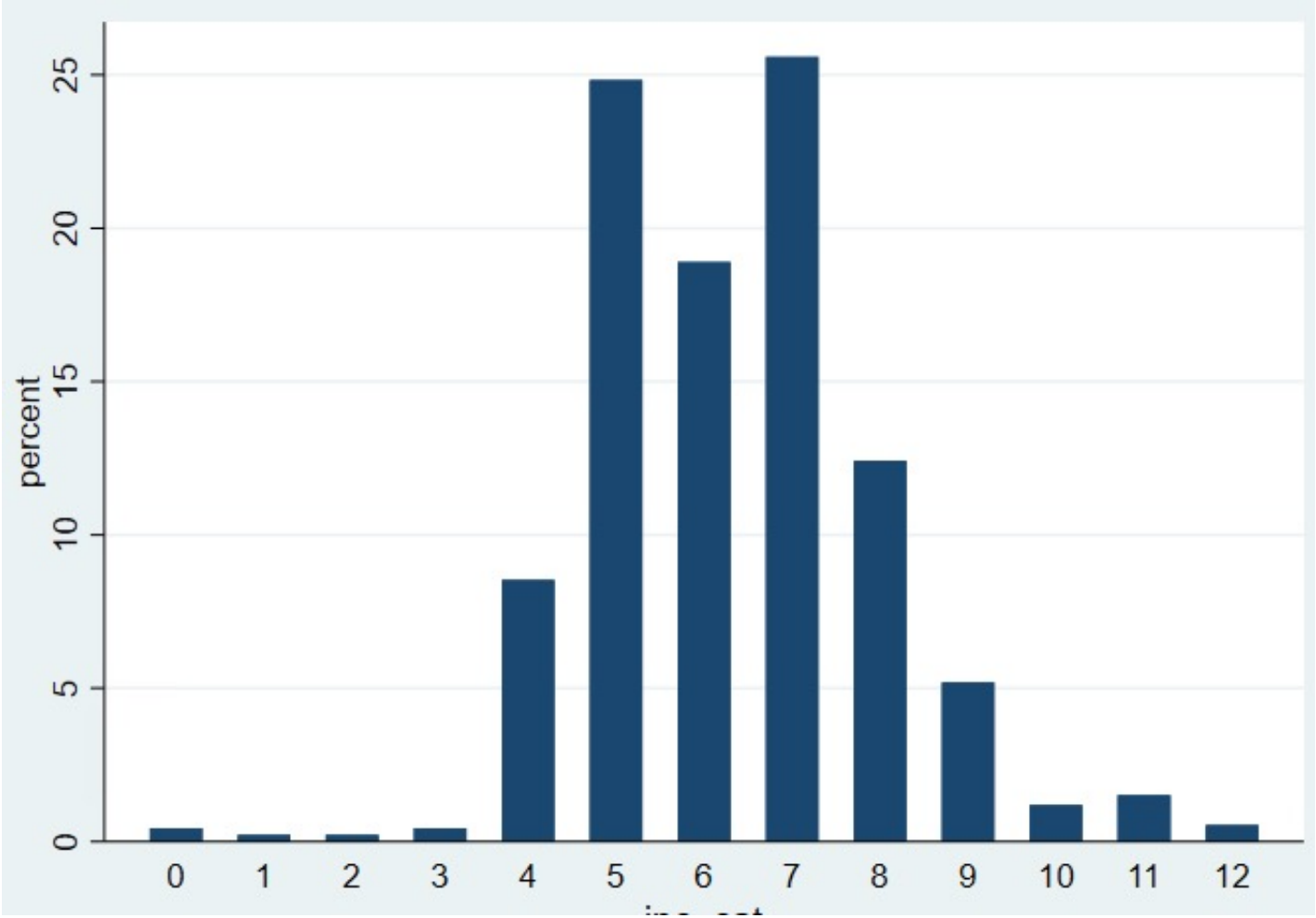
Basic demographics : education

N=926

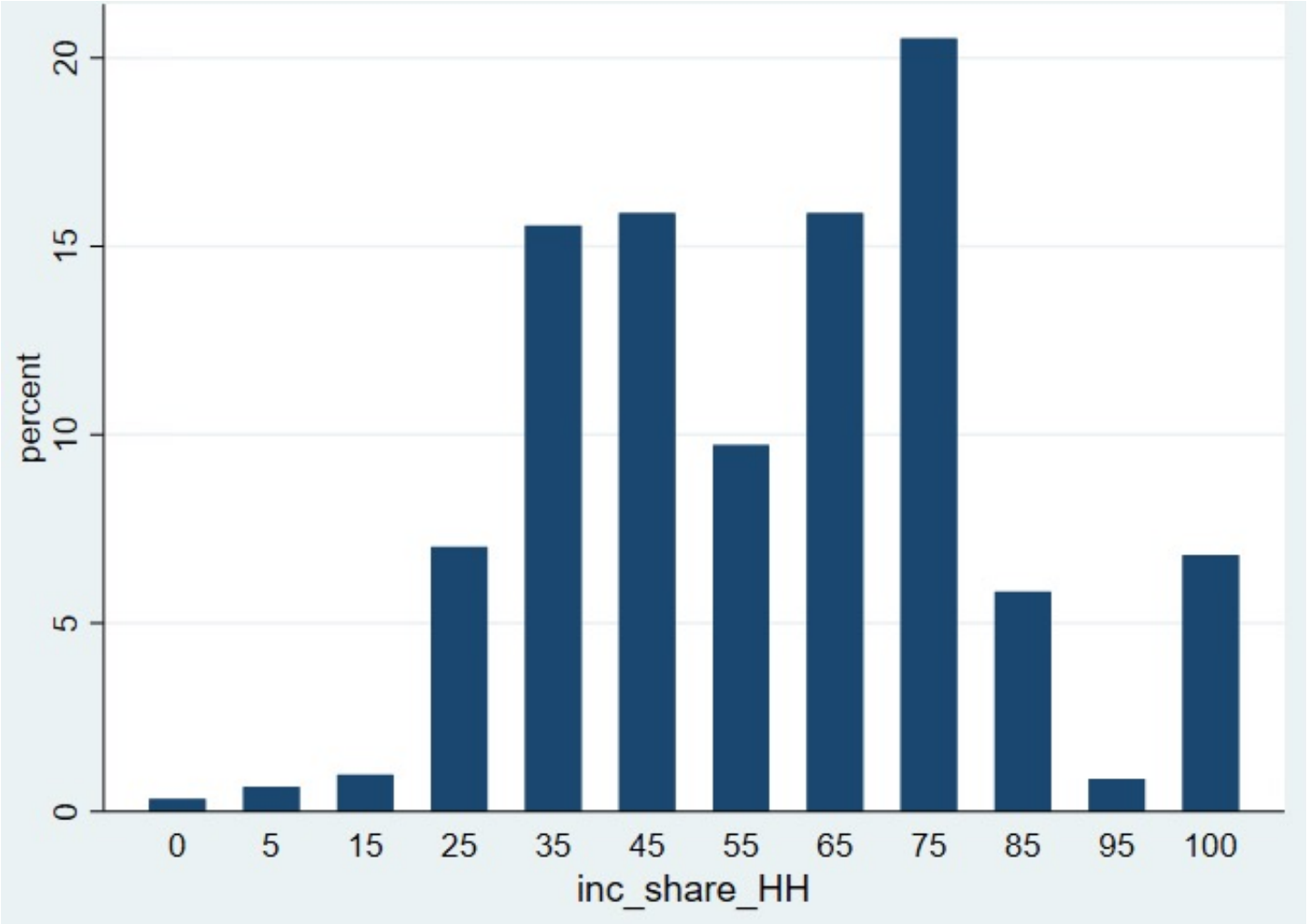


Basic demographics:income

N=926



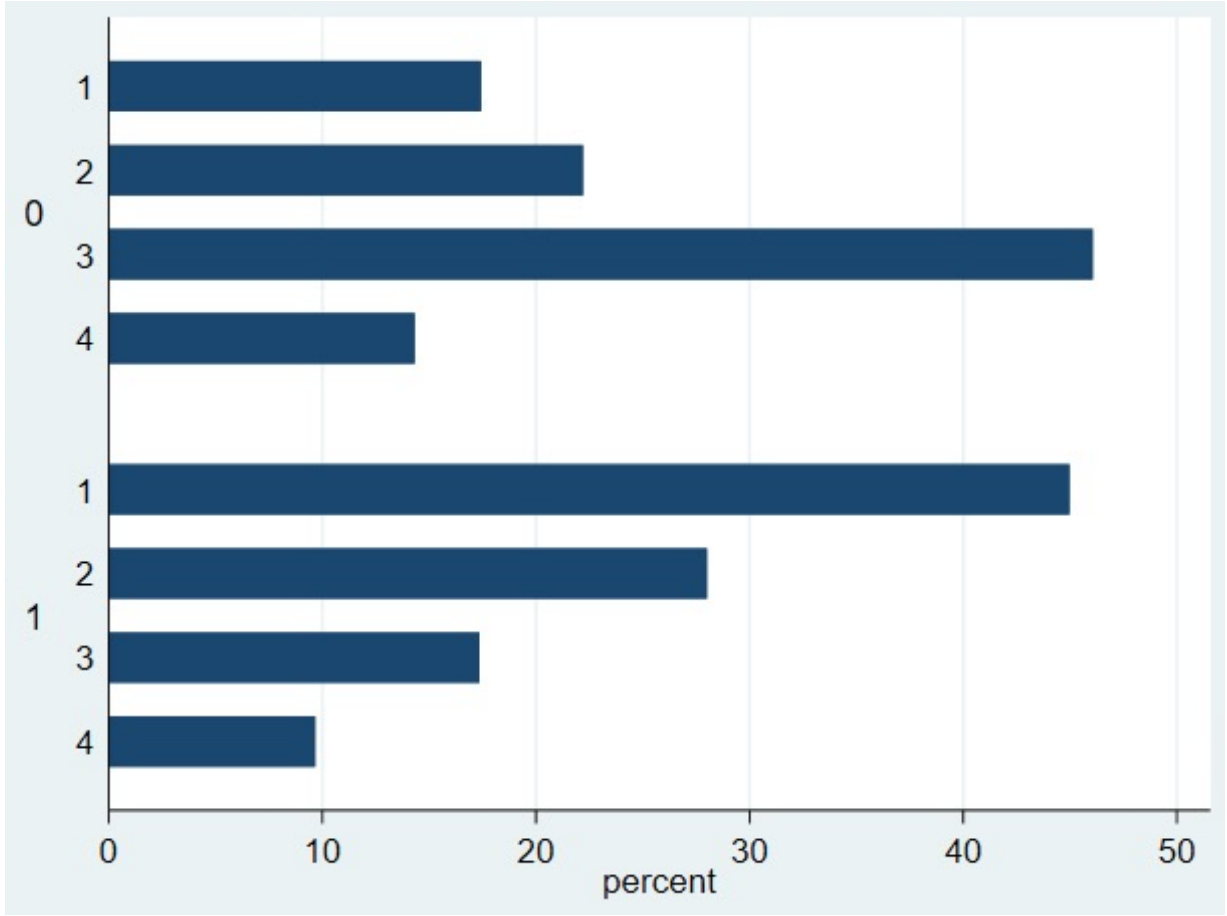
Demographics : Percent HH income comes from your personal income



Demographics : percent Household income from fishing.

Non-AK Residents
N=419
Mean=62%

AK residents
N=507
Mean=46%



Demographics : Percent HH income comes from your personal income

Non-AK Residents

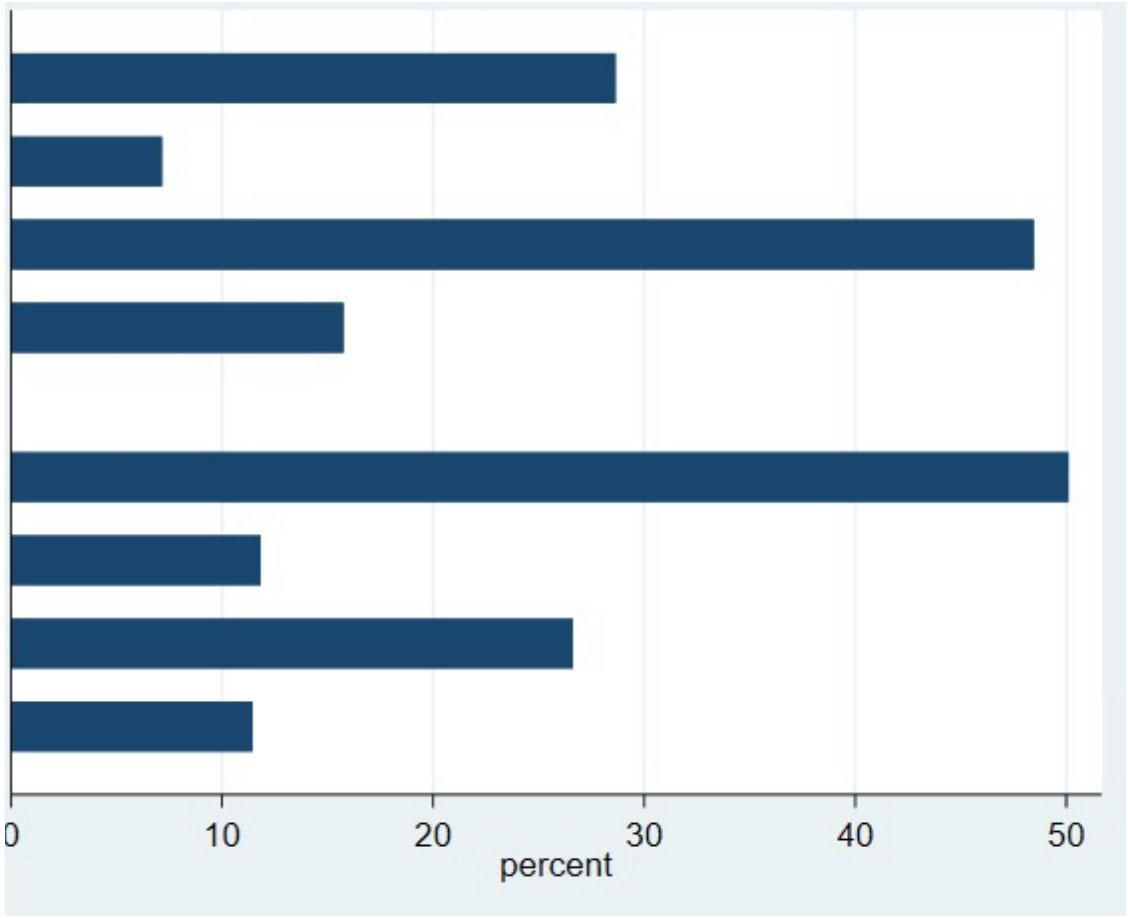
N=419

Mean = 64%

AK residents

N=507

Mean=53%



Demographics - Migration

Thinking about the last place you lived, where did you move FROM?

N=926

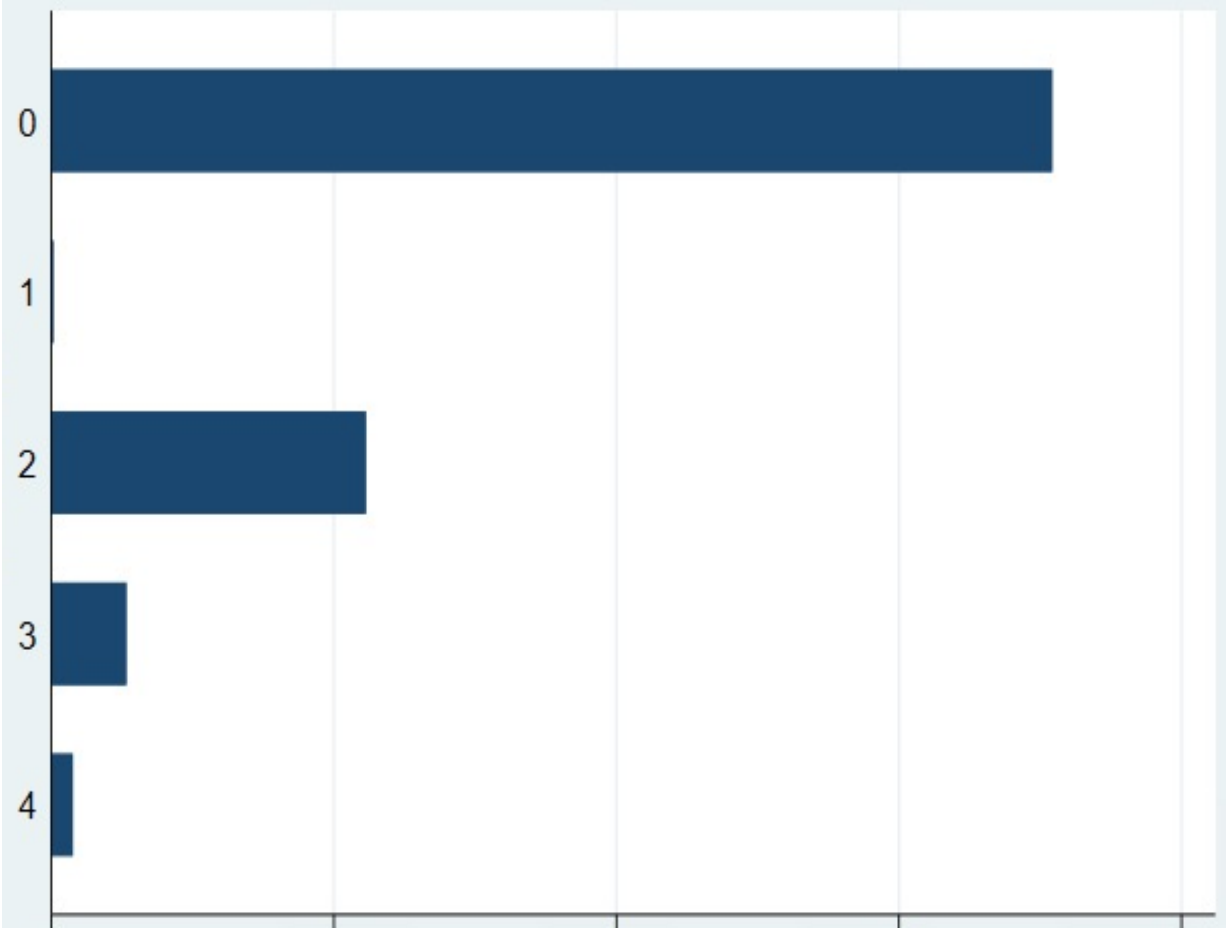
0 = no move 5 years

1 ="from another country

2 =“ from another US state

3 = “from another part of state

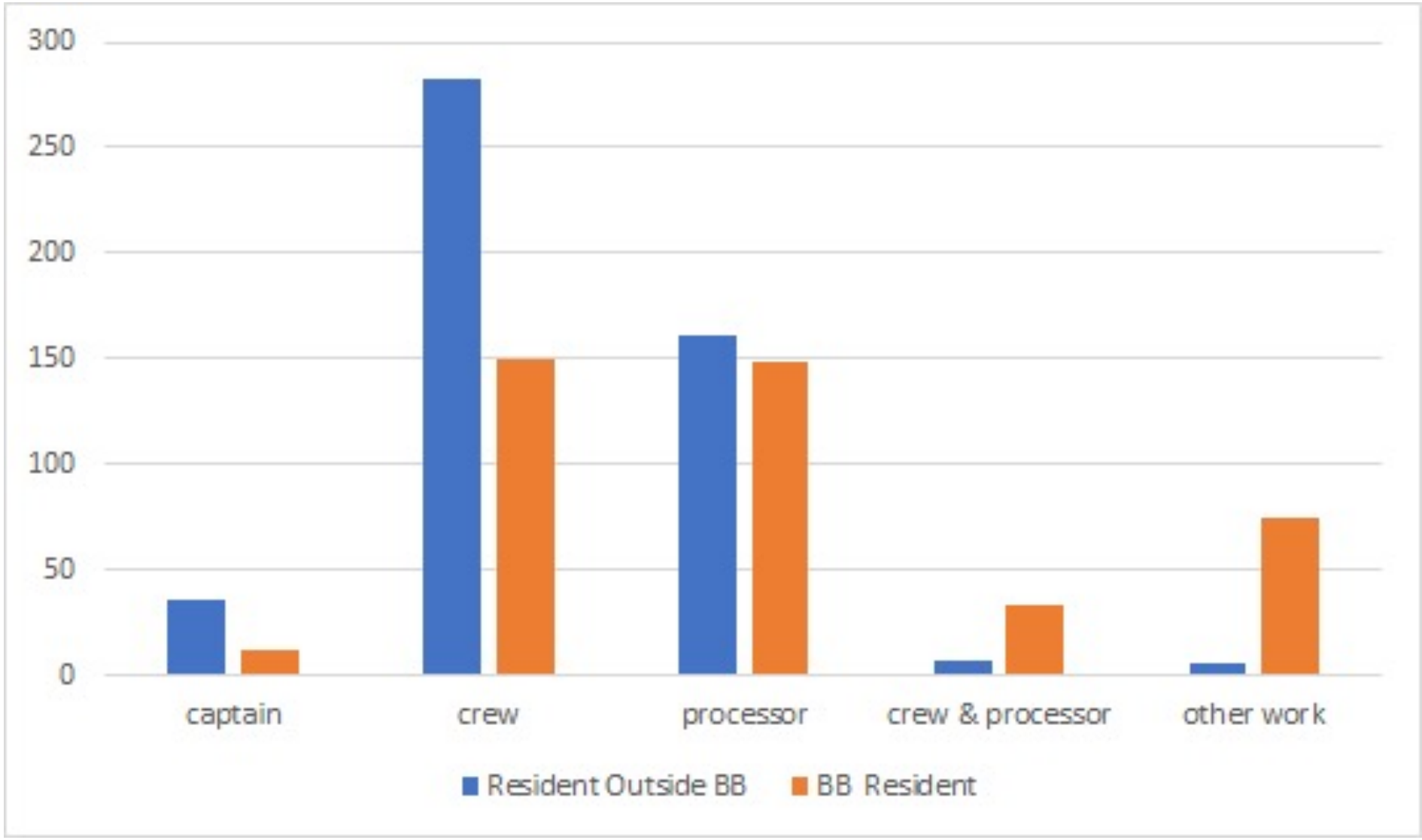
4 =“withing same census area or county



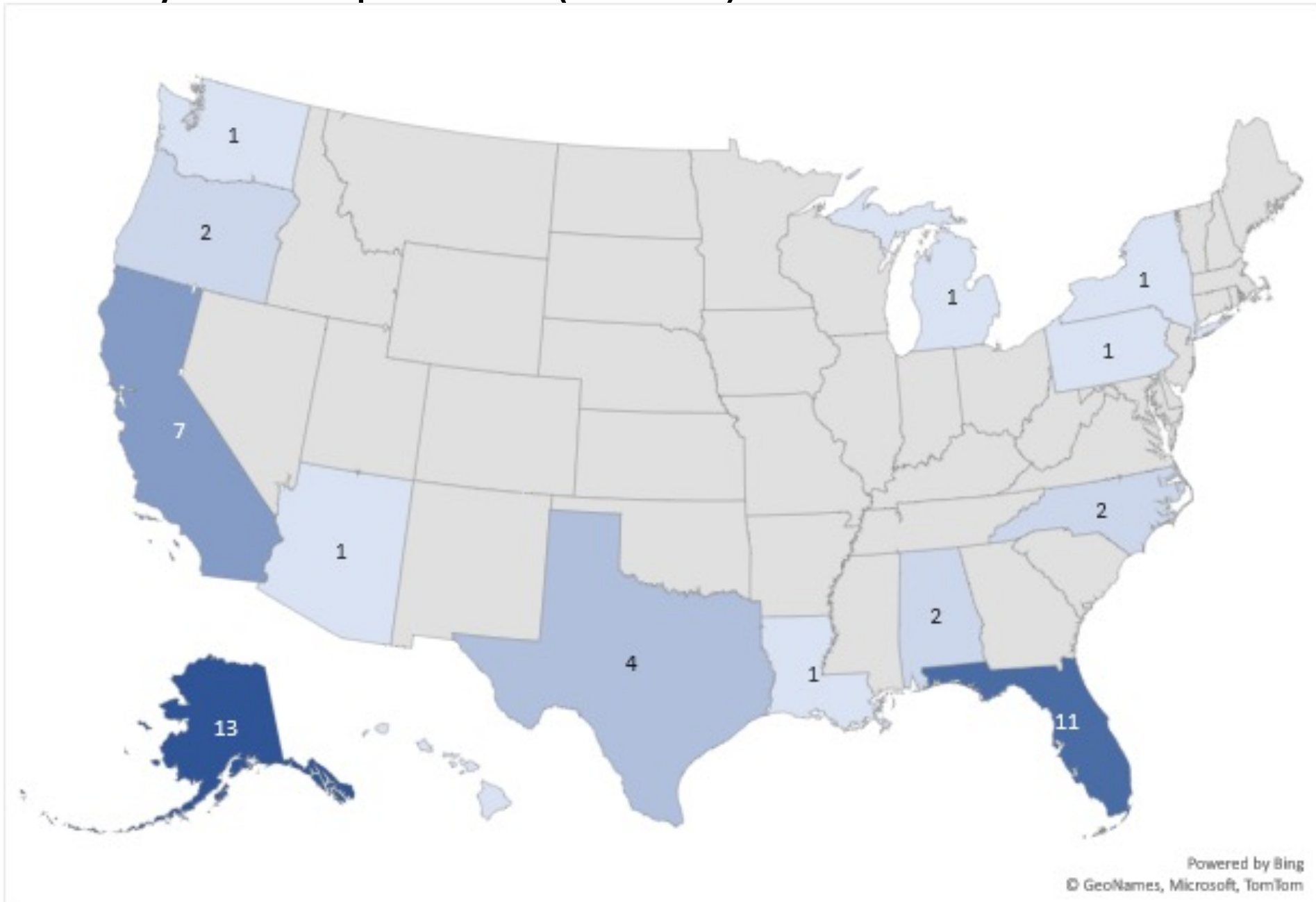
Survey overview (30 minutes)

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- Labor force information
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- Risk perceptions

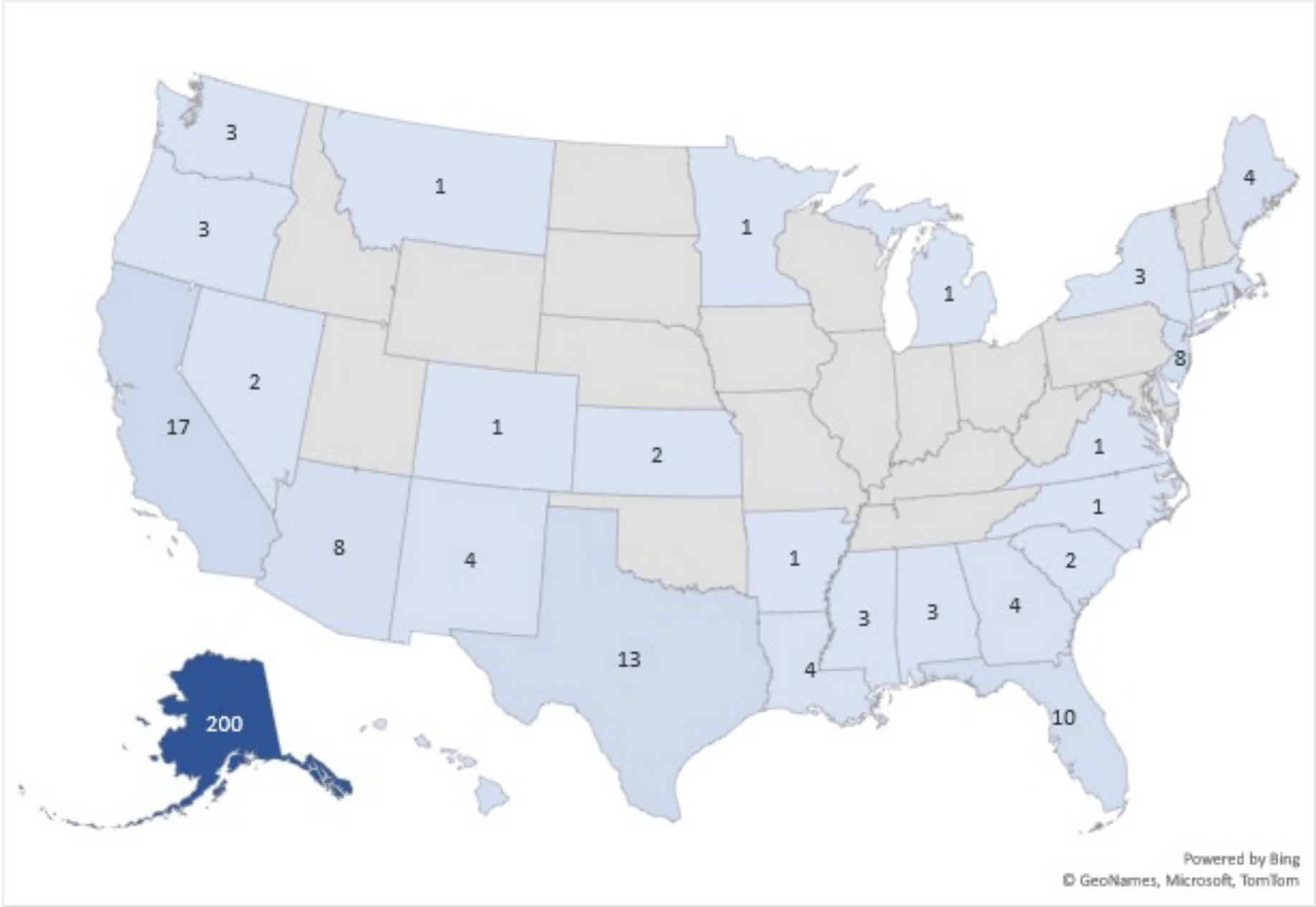
Labor force information



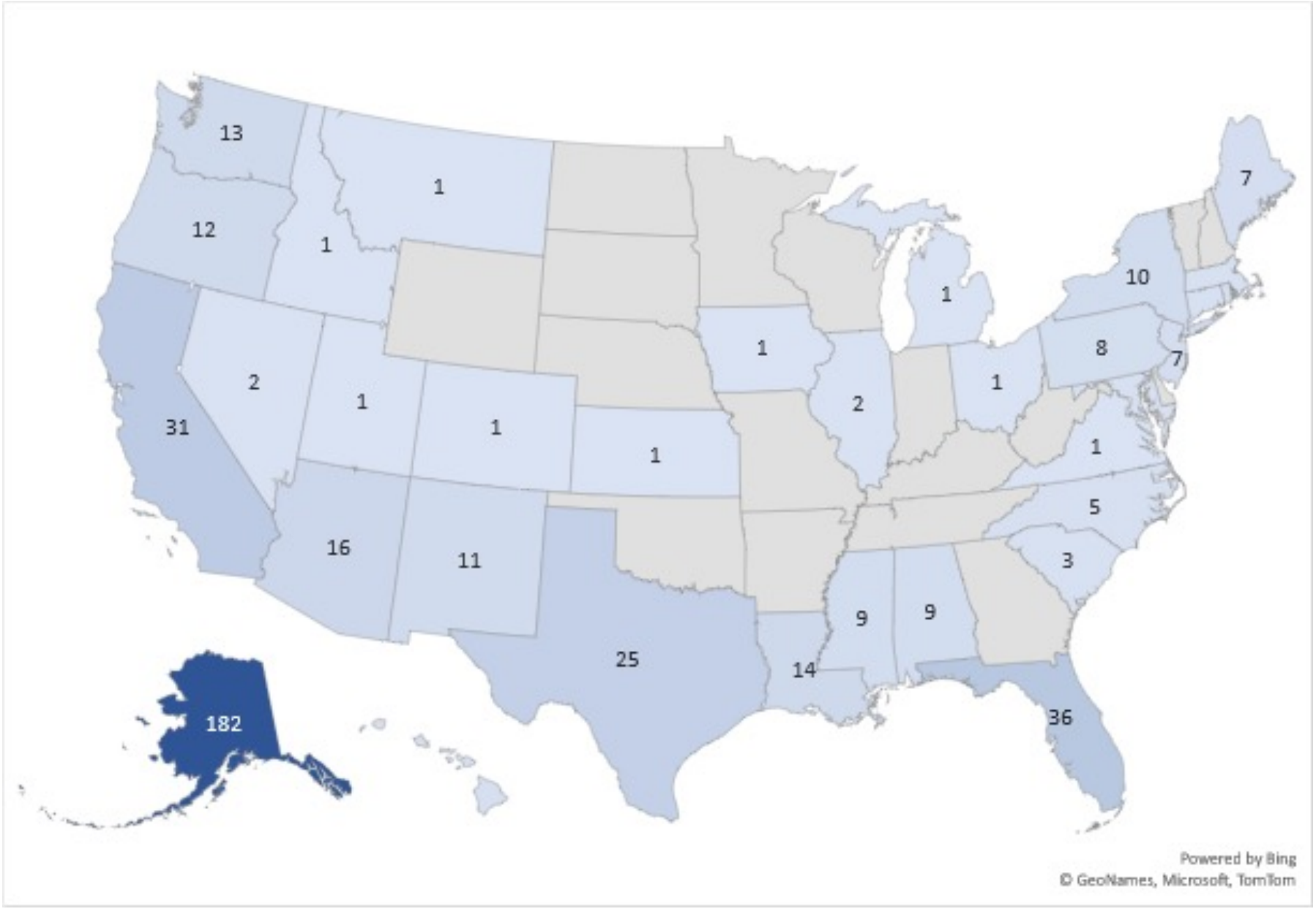
Residency of Captains (n=43)



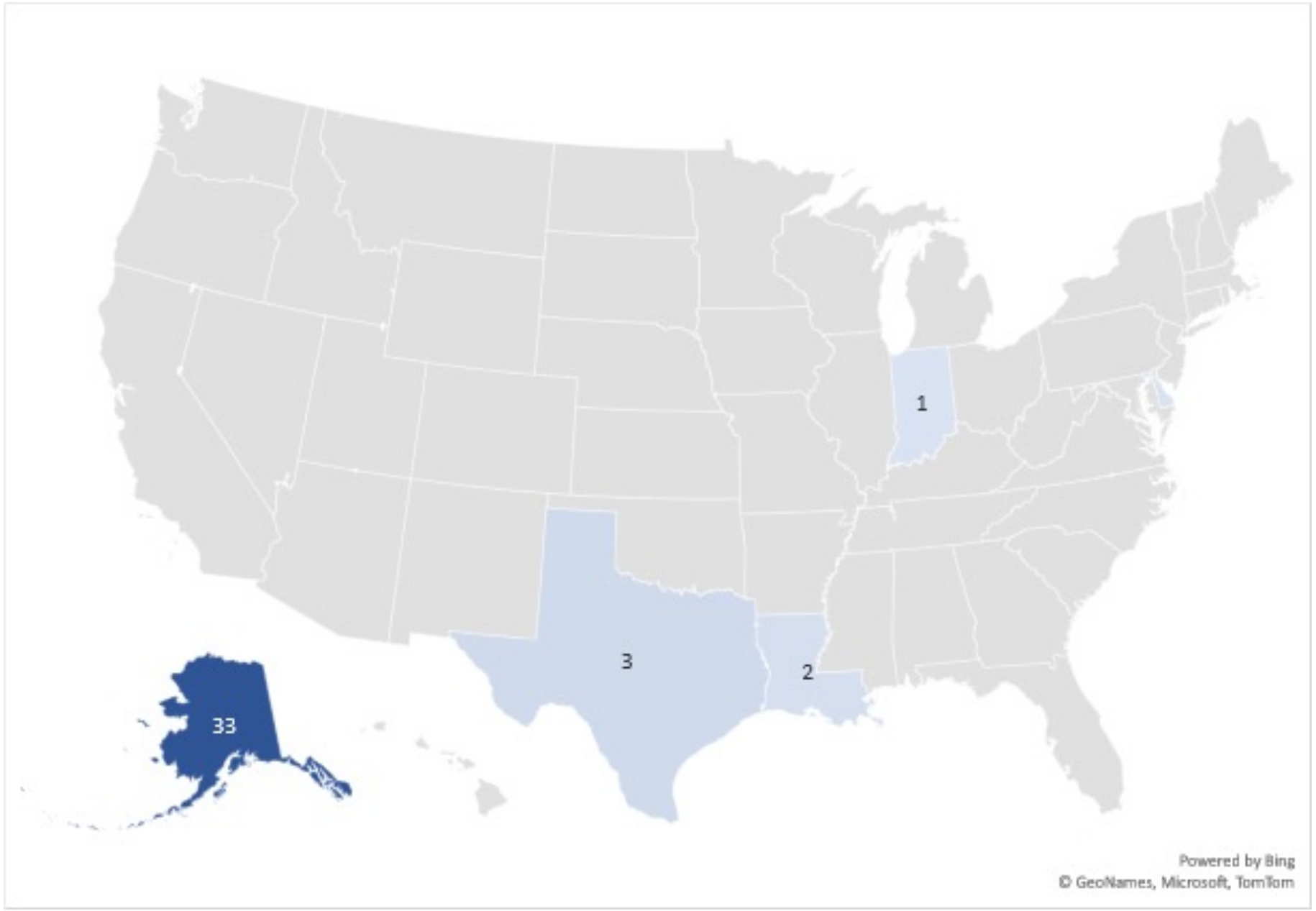
Residency of Processors (n=310)



Residency of Crew (n=432)



Residency of Crew & Processor Worker (n=40)

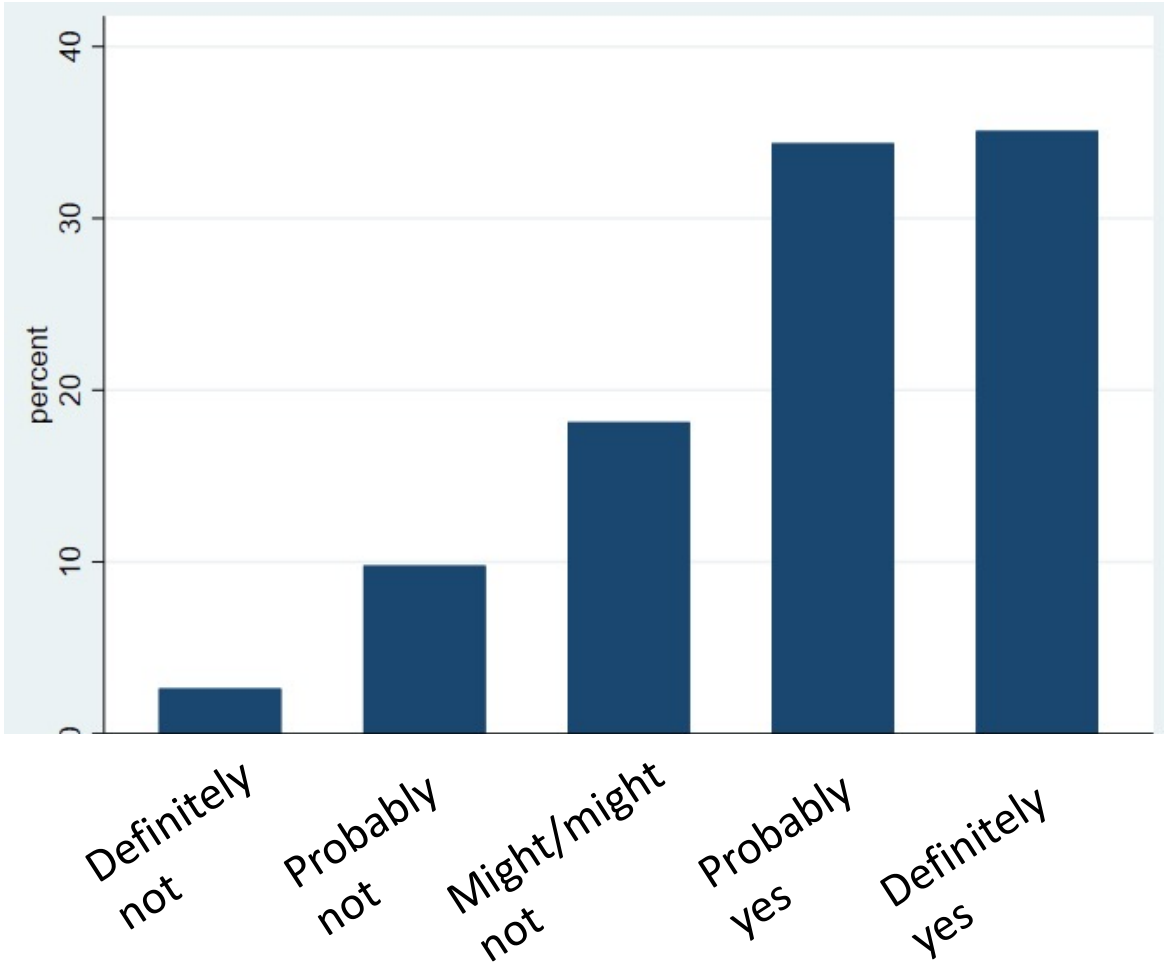


Survey overview

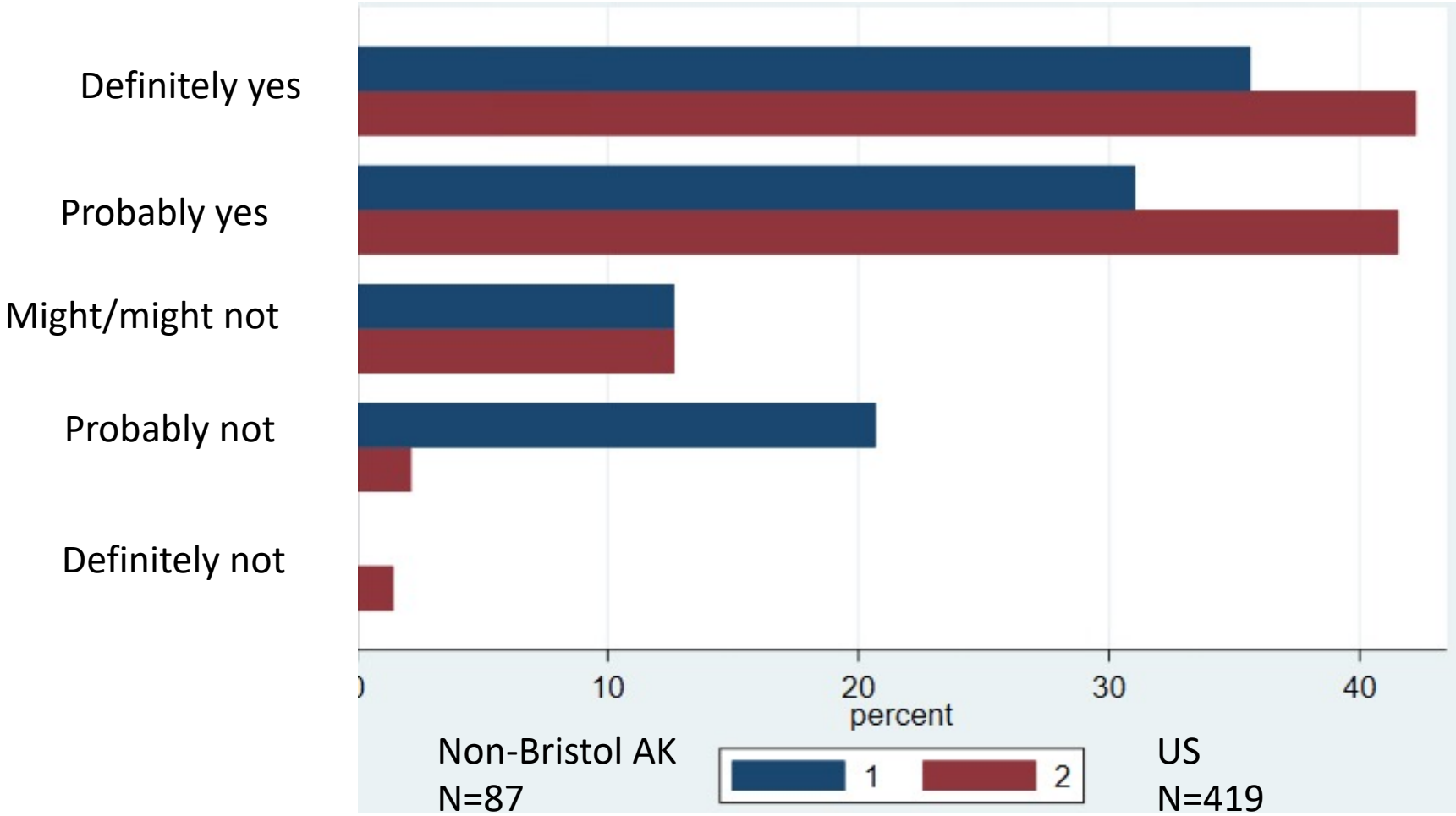
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Satisfaction with policy
Open fishery – Bristol bay area residents

Do you think the commercial fishery should be opening this year? N= (420)

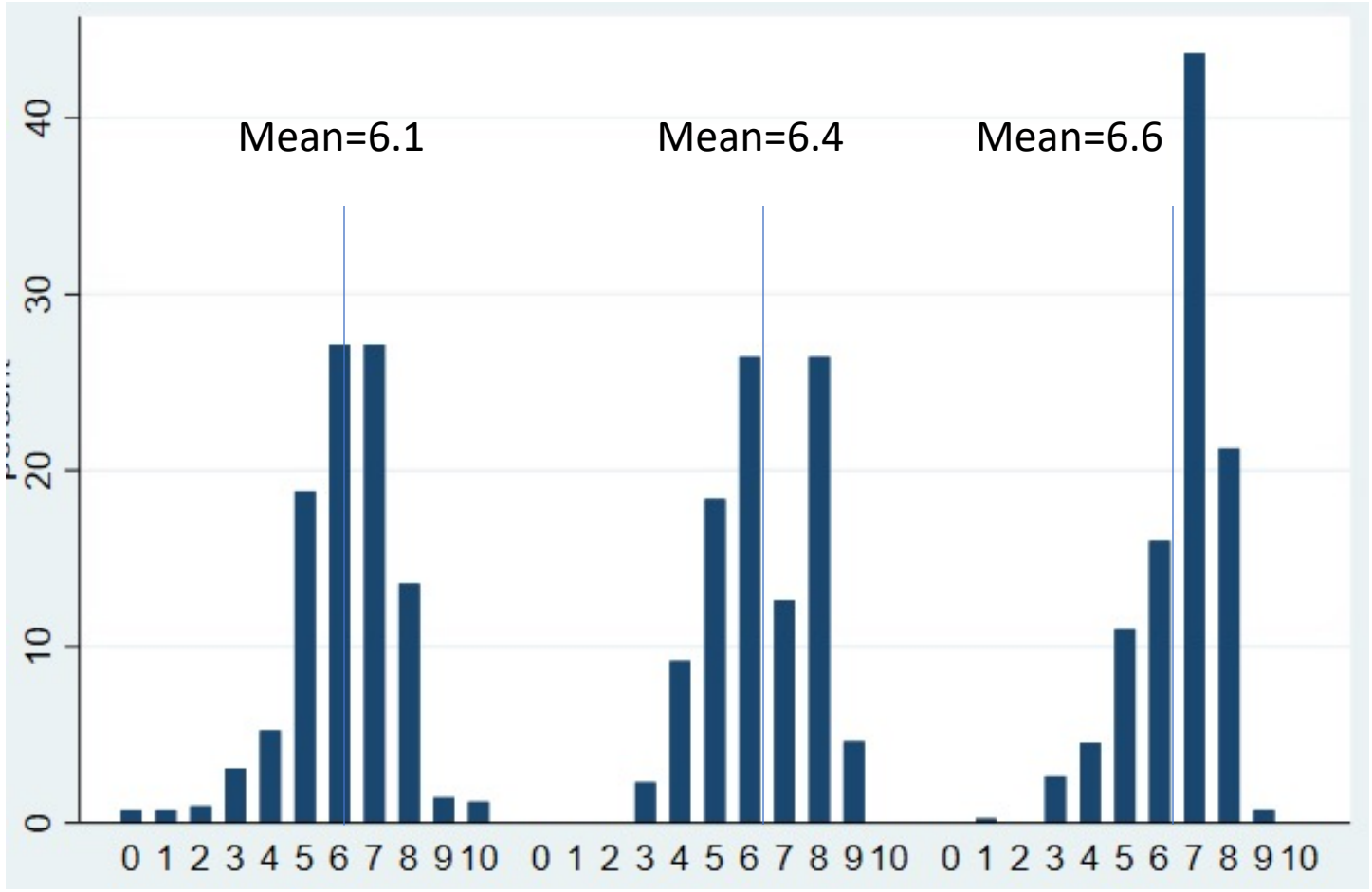


If not from Bristol Bay, Do the economic benefits of opening the commercial fishery outweigh the potential health costs of opening the fishery?



Satisfied with Municipal Response, by place of residence

On a scale of 0-10 - with 0 being not satisfied at all and 10 being highly satisfied - how satisfied are you with the actions and policies of your **city government** (or the city government where you work in Bristol Bay if you do not live in Alaska) in responding to Coronavirus so far this year?



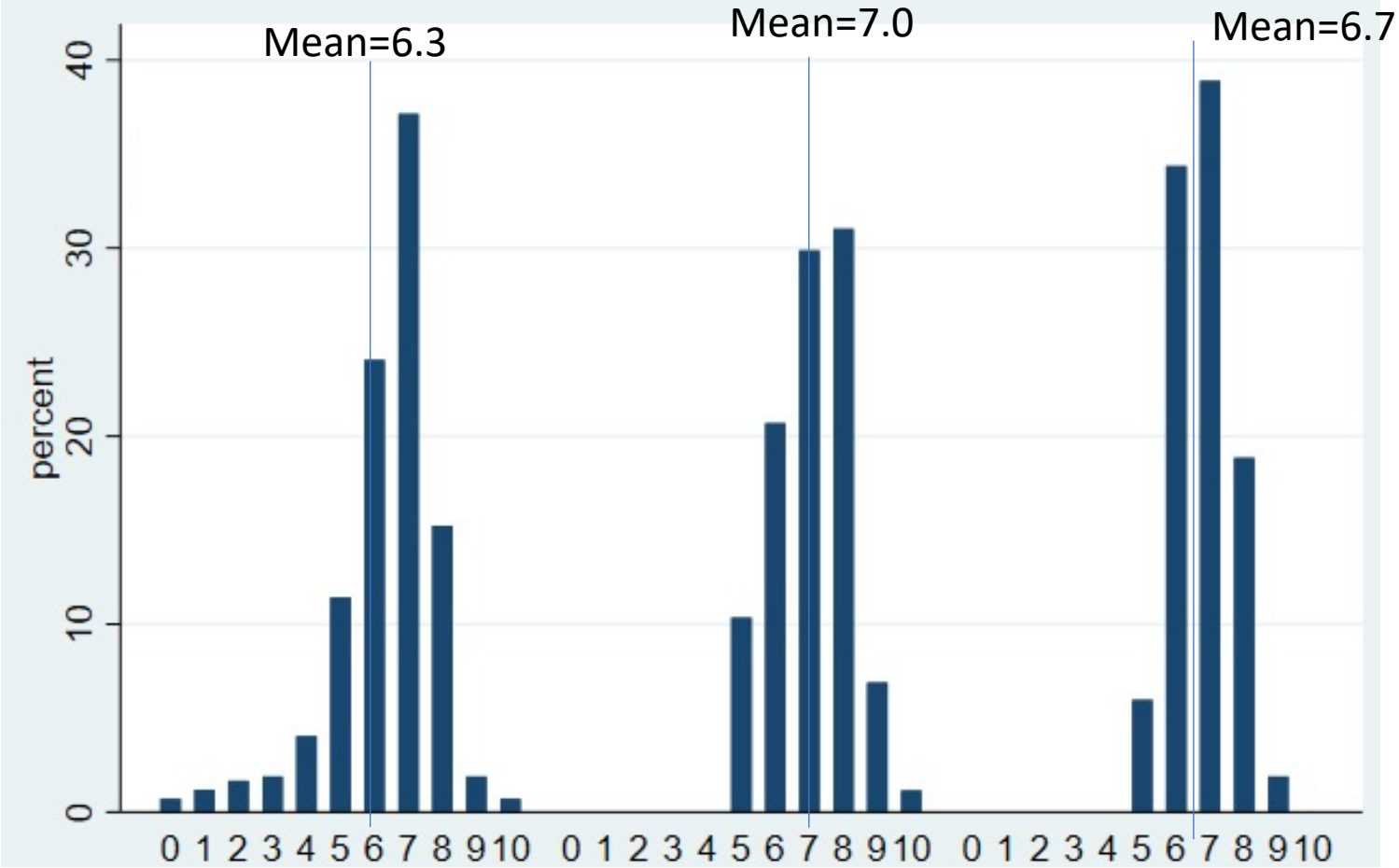
Bristol Bay
N=420

Greater AK
N=87

US
N=419

Satisfied with AK response, by place of residence

On a scale of 0-10 - with 0 being not satisfied at all and 10 being highly satisfied - how satisfied are you with the actions and policies of the **Alaska state governme nt** in responding to Coronavirus in the Bristol Bay region so far this year?



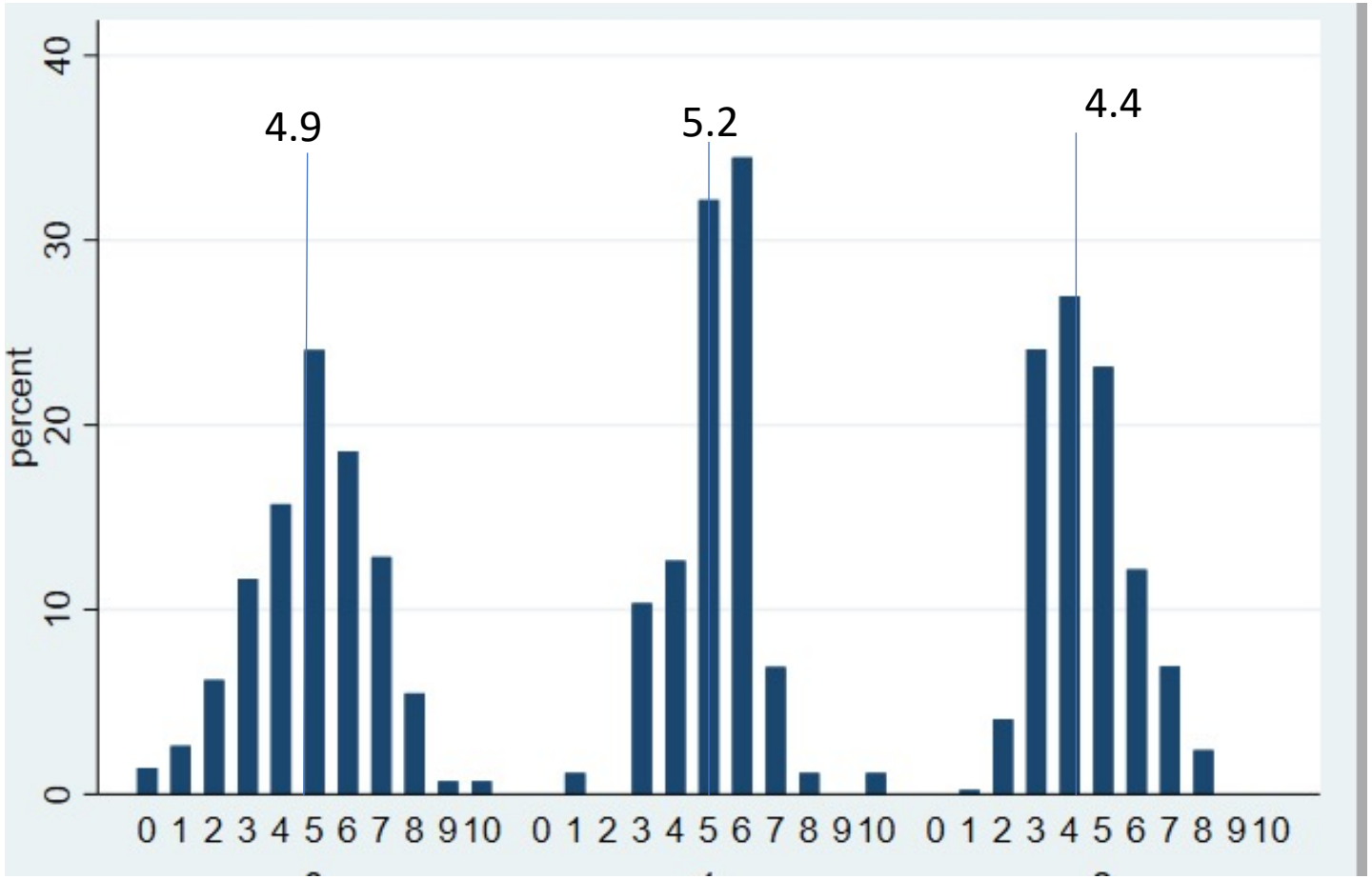
Bristol Bay
N=420

Greater AK
N=87

US
N=419

Satisfied with Federal Response, by place of residence

On a scale of 0-10 - with 0 being not satisfied at all and 10 being highly satisfied - how satisfied are you with the actions and policies of the **Federal government** in responding to Coronavirus in the Bristol Bay region so far this year?



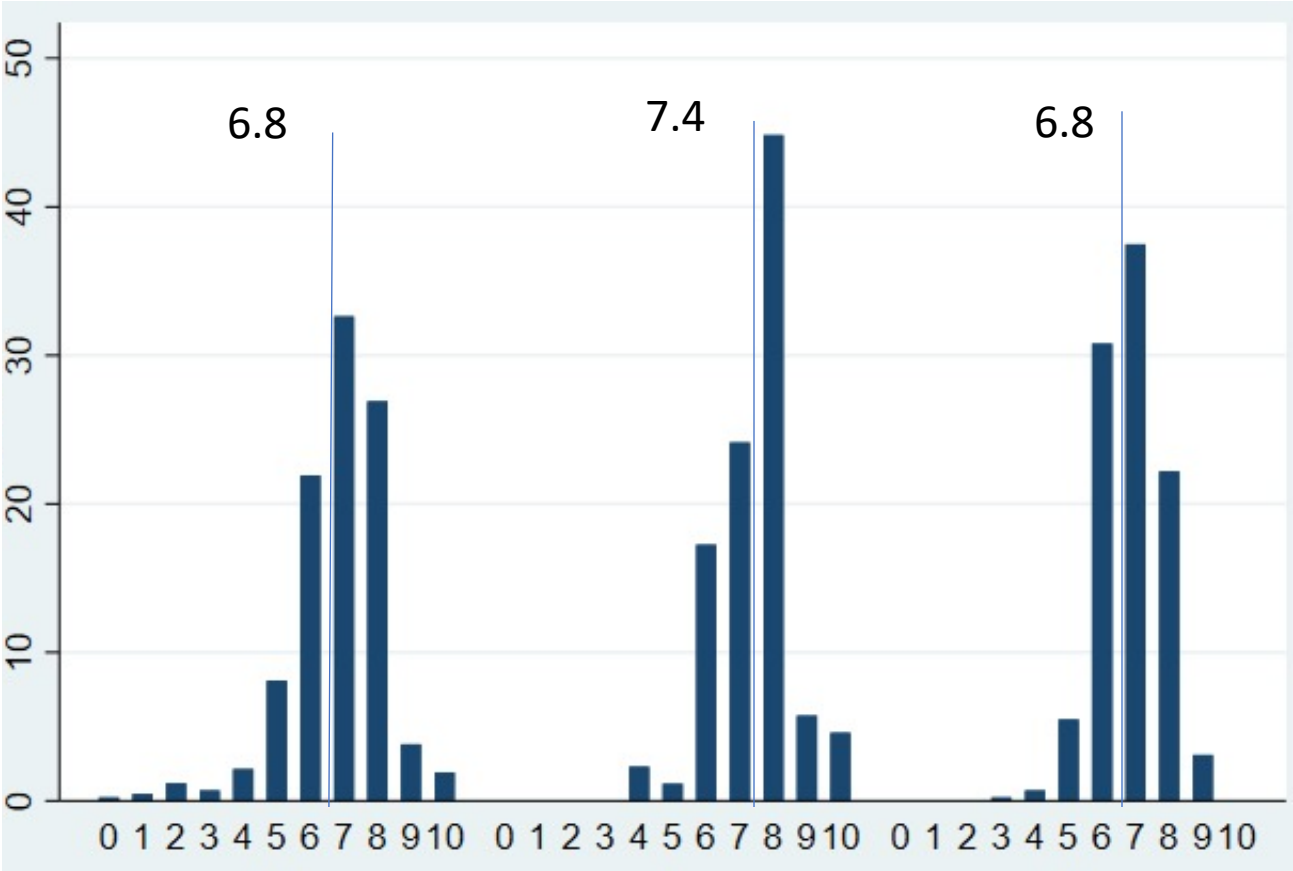
Bristol Bay
N=420

Greater AK
N=87

US
N=419

Satisfied with processors?

On a scale of 0-10 - with 0 being not satisfied at all and 10 being highly satisfied - how satisfied are you with the actions and policies of **processors** in responding to Coronavirus in the Bristol Bay region so far this year?



Bristol Bay
N=420

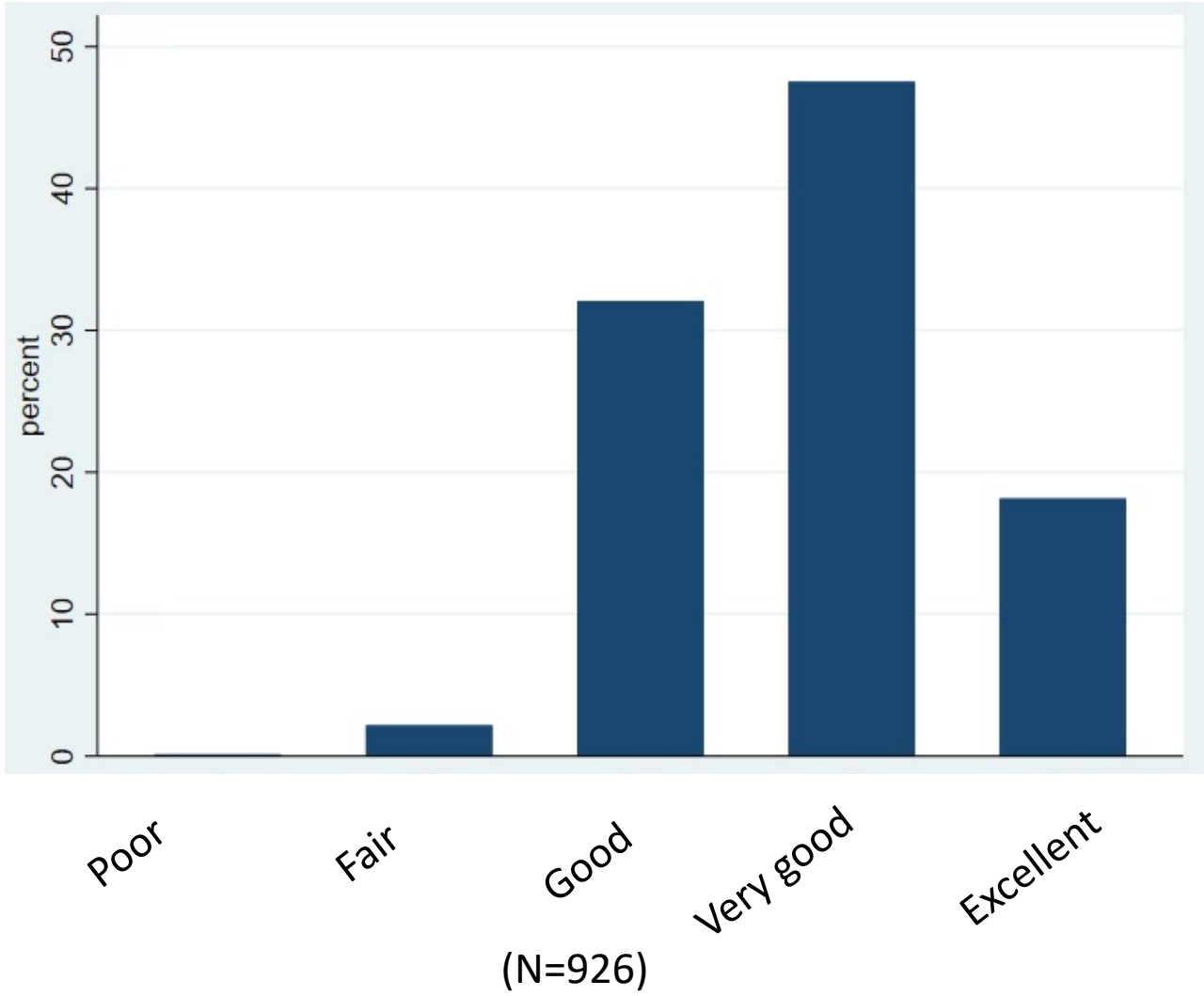
Greater AK
N=87

US
N=419

Survey overview

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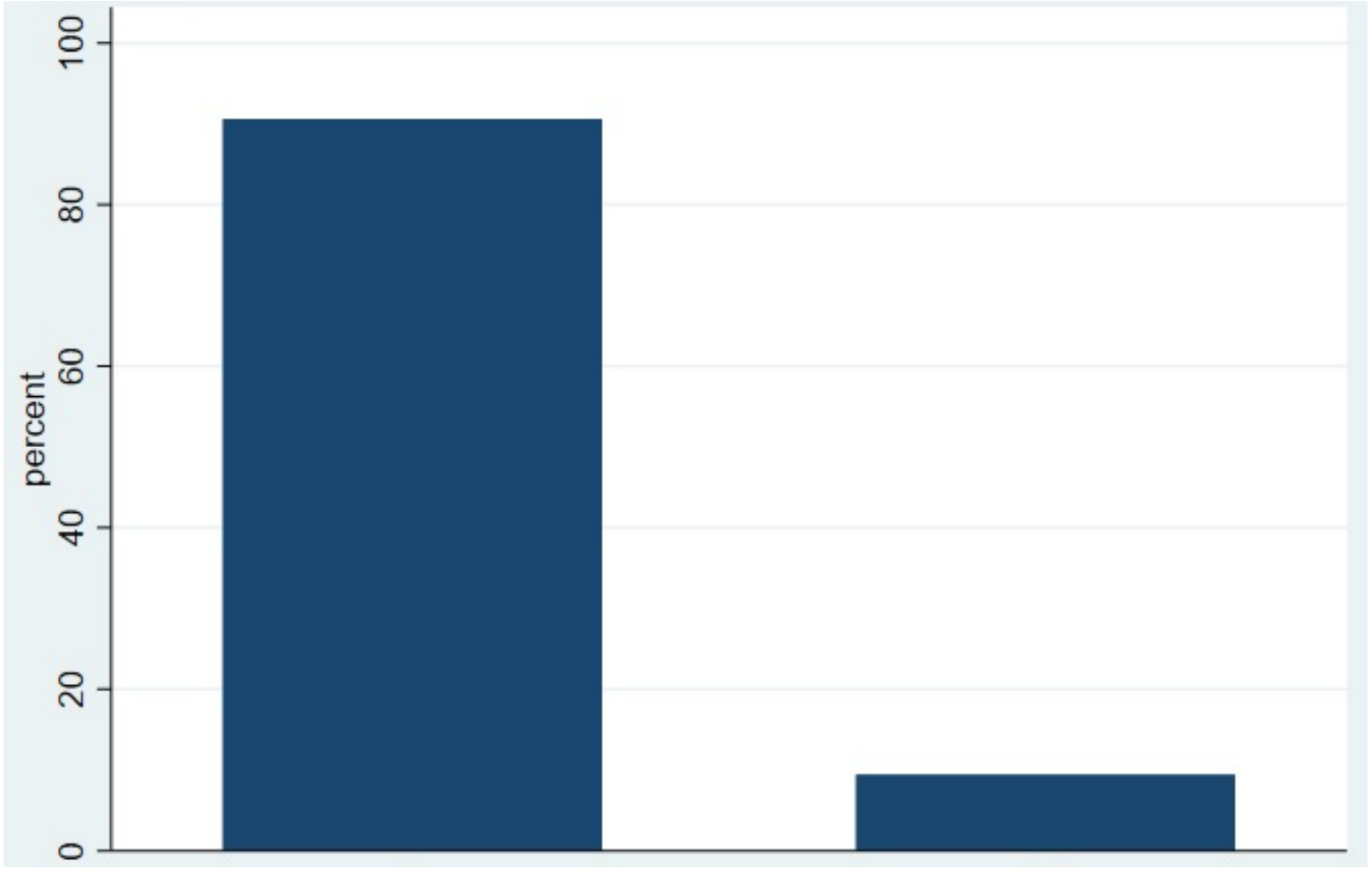
Health information - overall



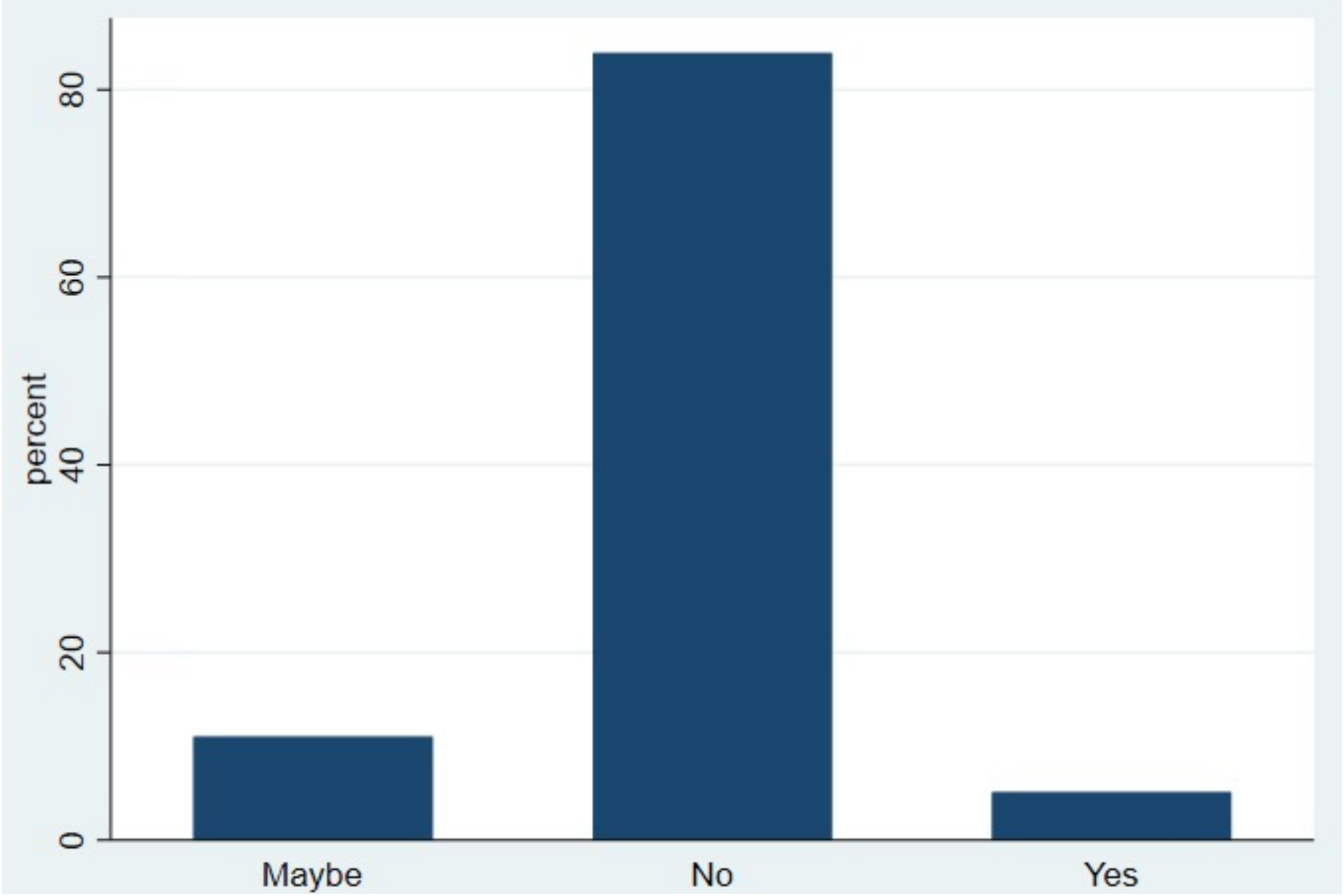
(N=926)

Health information: pre-existing conditions (n=926)

- Diabetes or high blood sugar
- Lung disease such as chronic bronchitis or emphysema
- A heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems
- Other conditions (list if you wish)



Health information : do you live with someone with pre-existing condition?

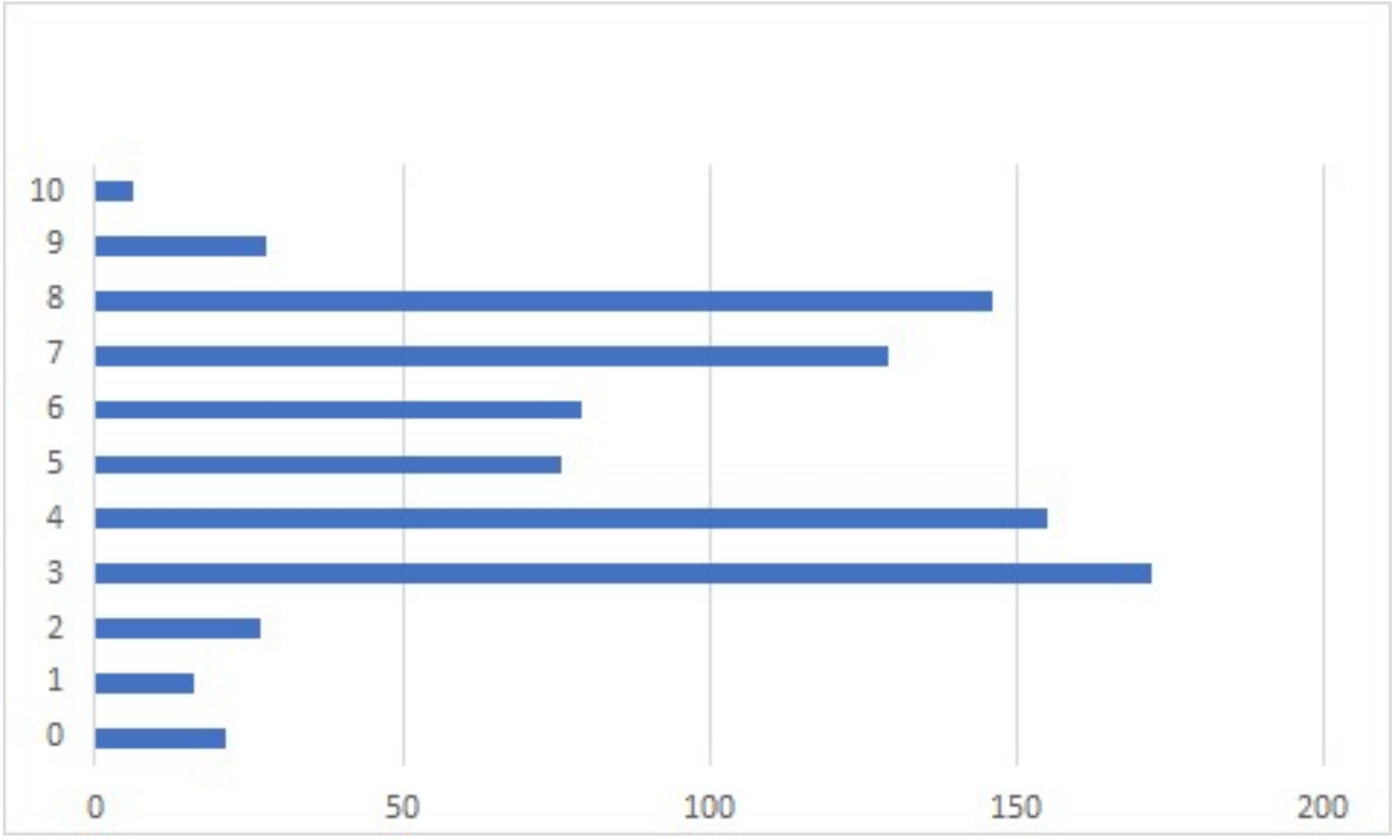


N=926

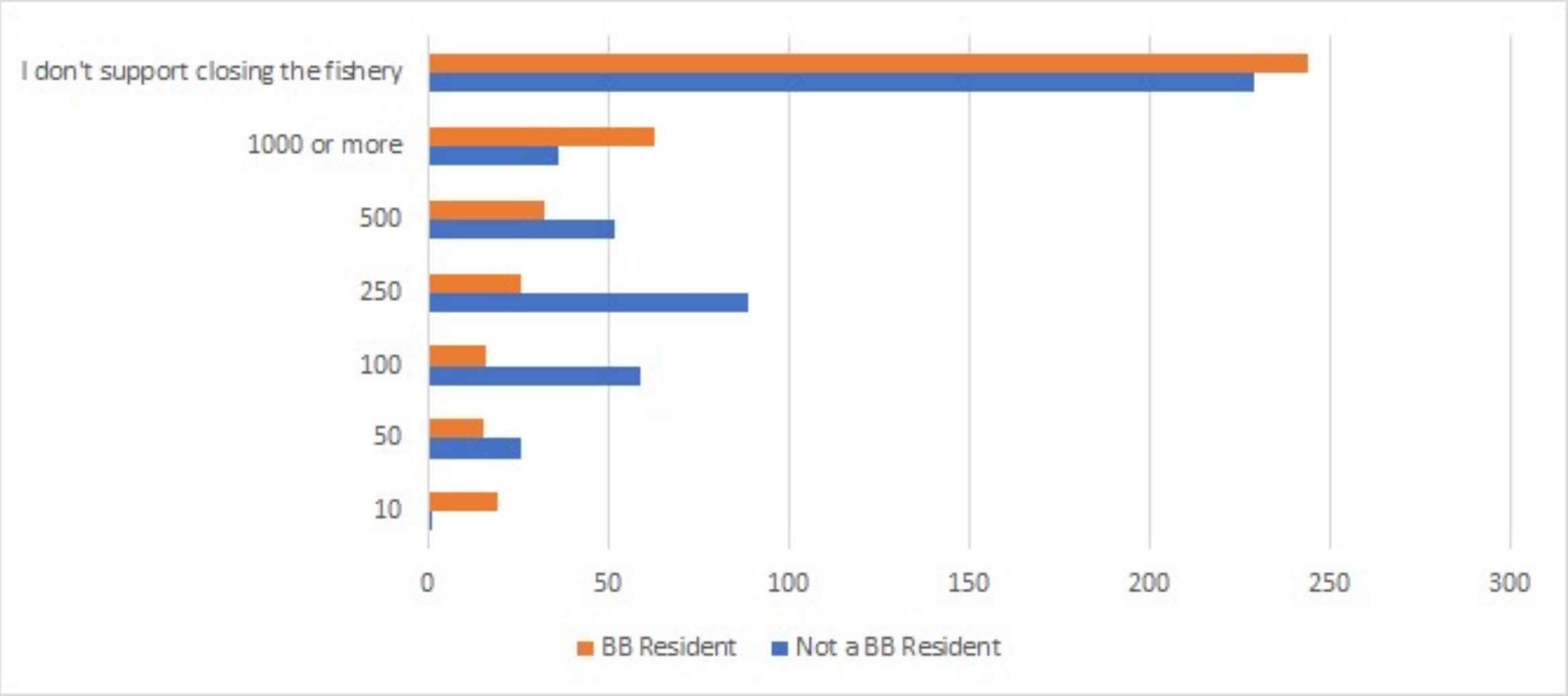
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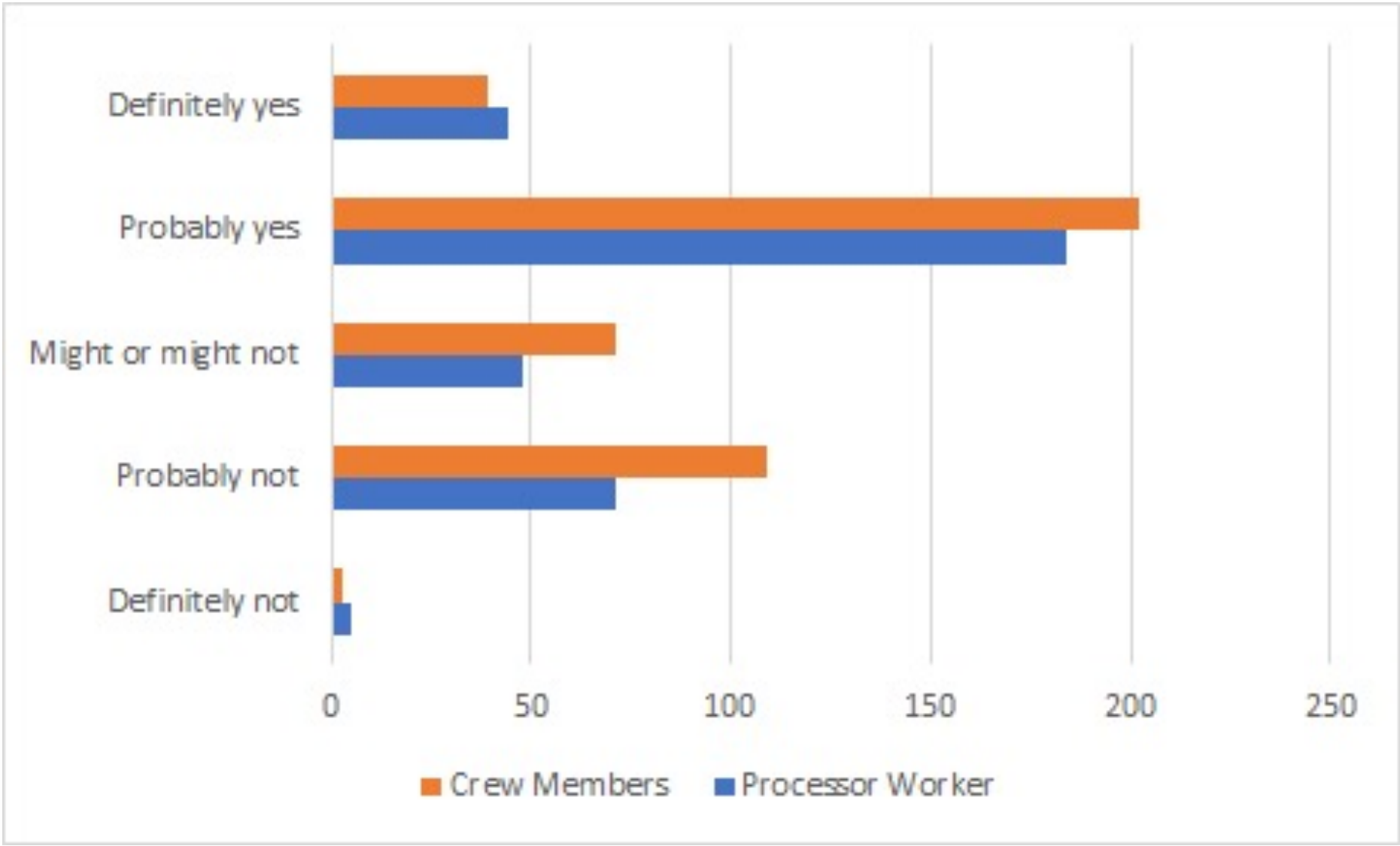
How much do you agree with the following statement? "Coming to work is more important to me than my health." 10=strongly agree...



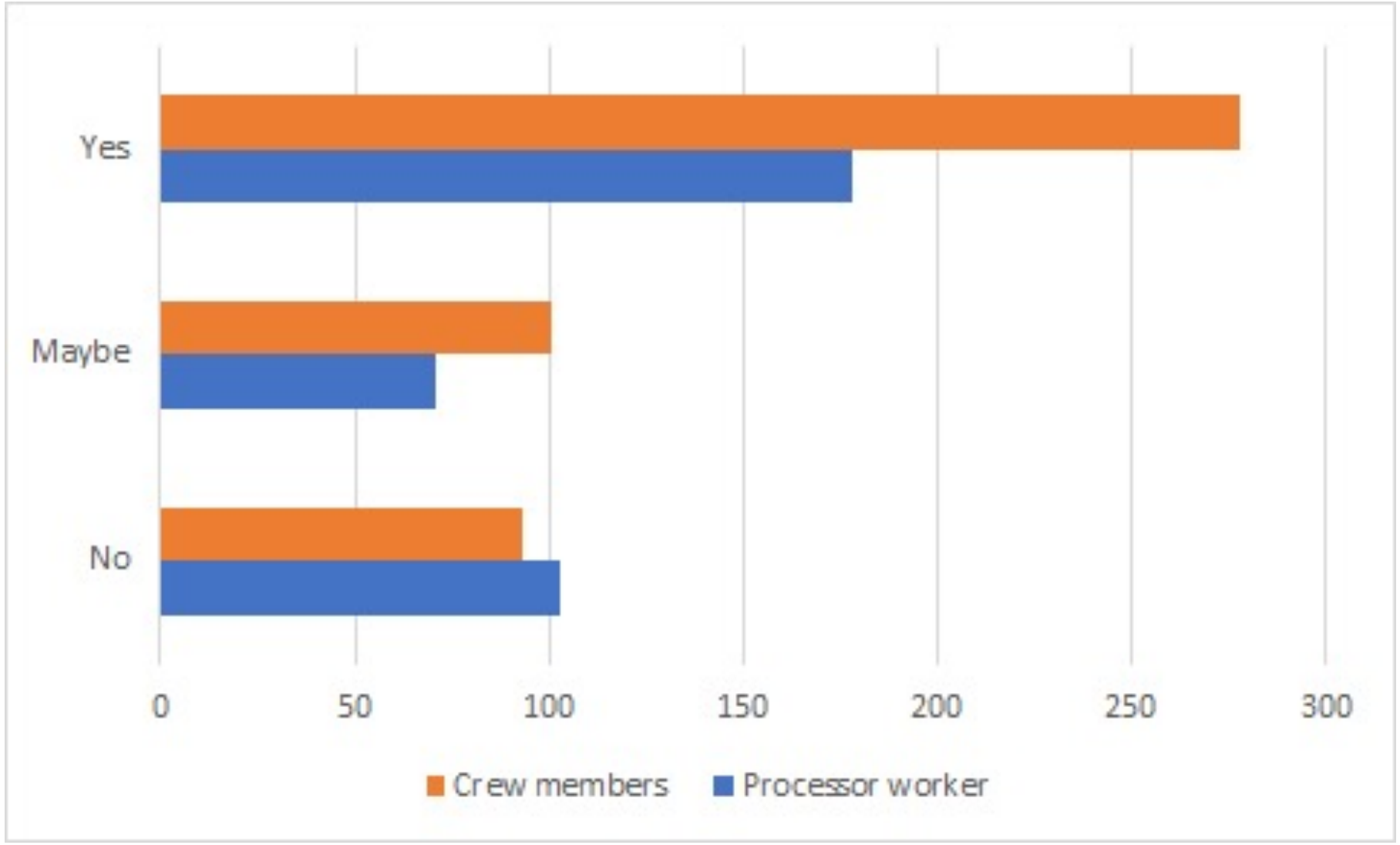
When would you support a closure of the commercial fishery? If the number of COVID-19 cases in the community were equal to ...



If you should need to be evacuated due to contracting COVID-19, is your employer responsible for covering these costs?



Do you know of another worker from the boat /processing plant who decided to sit out this season due to health risks related to COVID-19?



Some Bristol Bay communities have adopted various mitigation rules. Which of the following rules do you support?

- [ ] Mandatory 14 day quarantine period.
- [ ] Mandatory testing.
- [ ] Mandatory wearing of masks when in the premise of any indoor business.
- [ ] Social distancing of 6 feet or more for those not working on a boat or in a processing plant.
- [ ] Mandatory Quarantine (Lima) flags for vessels with an infected crew member.
- [ ] Mandatory quarantine areas/restricted zones for crew and processors.
- [ ] Mandatory quarantine for vulnerable adults and children living in the community
- [ ] Fines for breaking any of the local or state rules.
- [ ] Criminal prosecution for breaking any of the local or state rules
- [ ] None of the above
- [ ] Other (please describe)

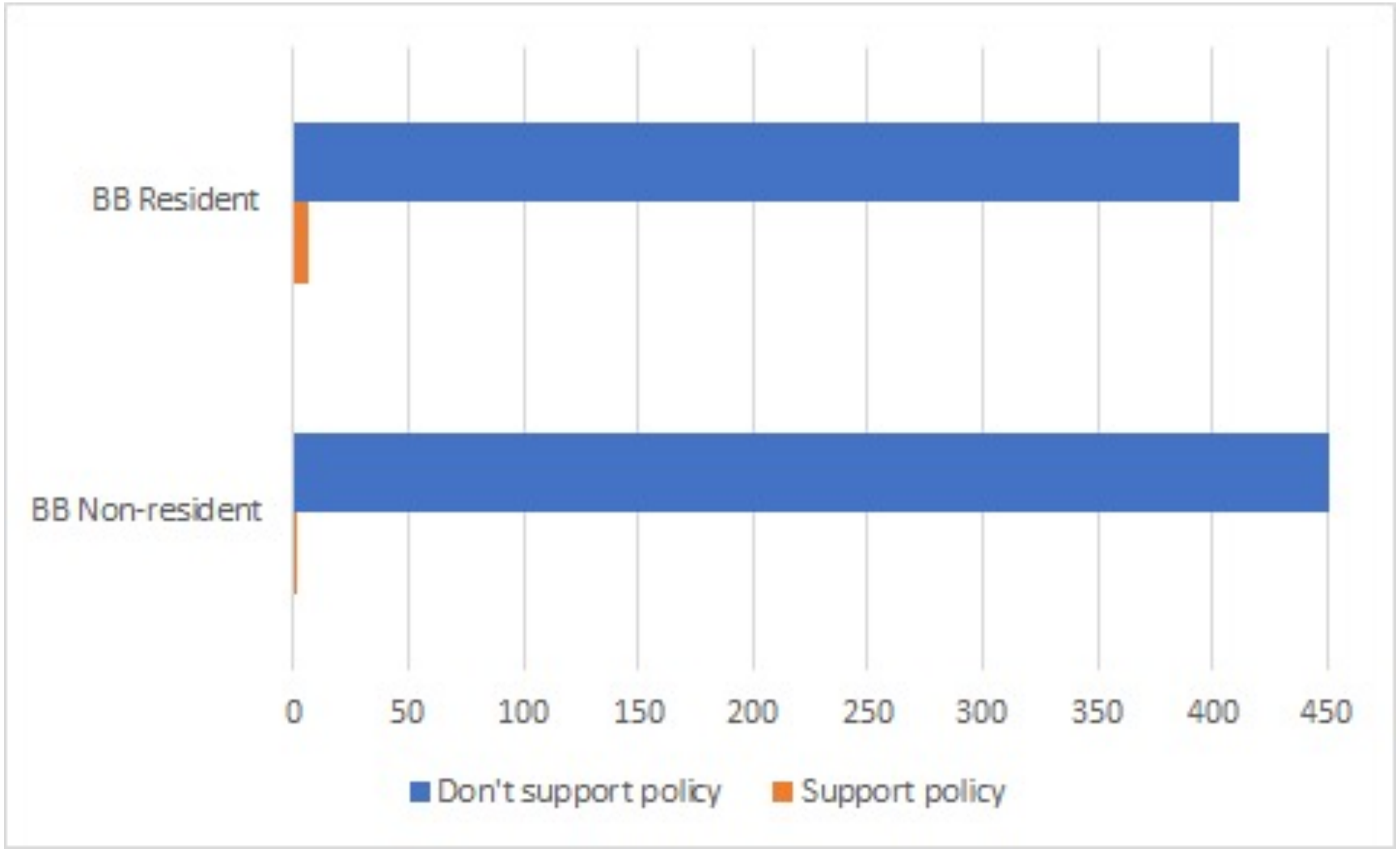
Some Bristol Bay communities have adopted various mitigation rules. Which of the following rules do you support?

None of the rules/policies.

"Don't support" means a box was not checked.

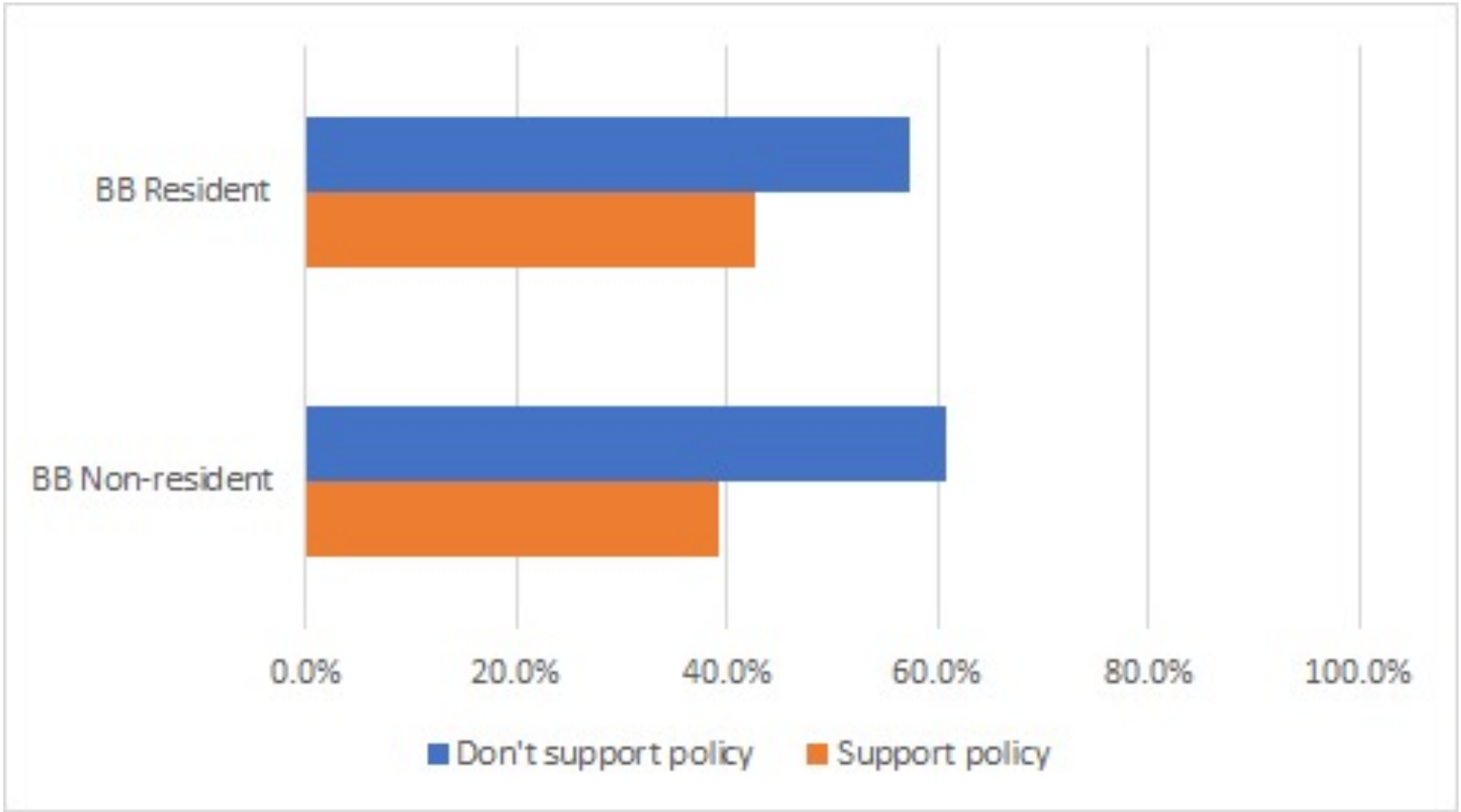
Almost everyone in both groups supports one or more of the policies.

All remaining policy slides will be a percentage of BB residents or BB non-residents.



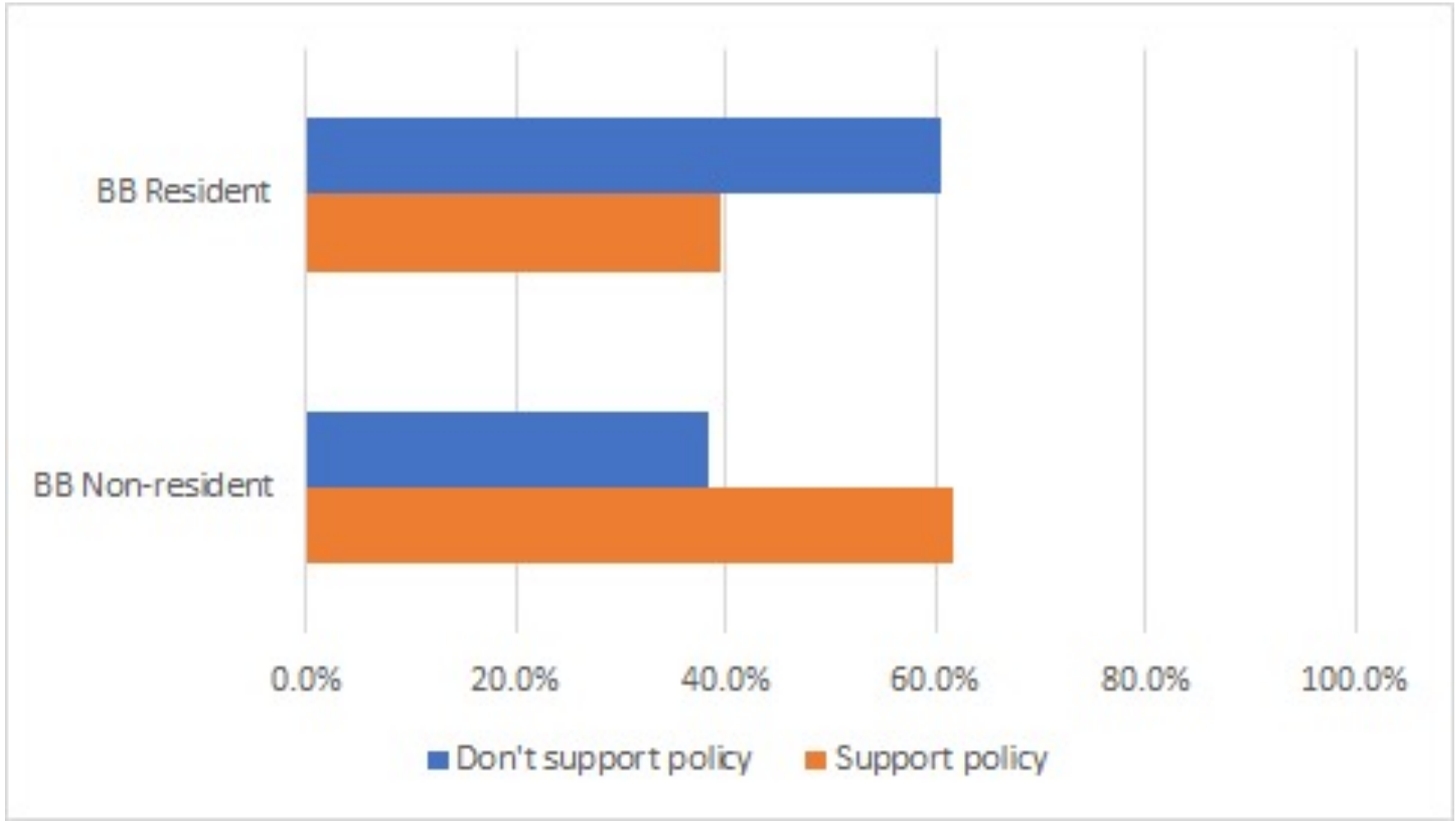
Some Bristol Bay communities have adopted various mitigation rules. Which of the following rules do you support?

Mandatory 14 day quarantine period.



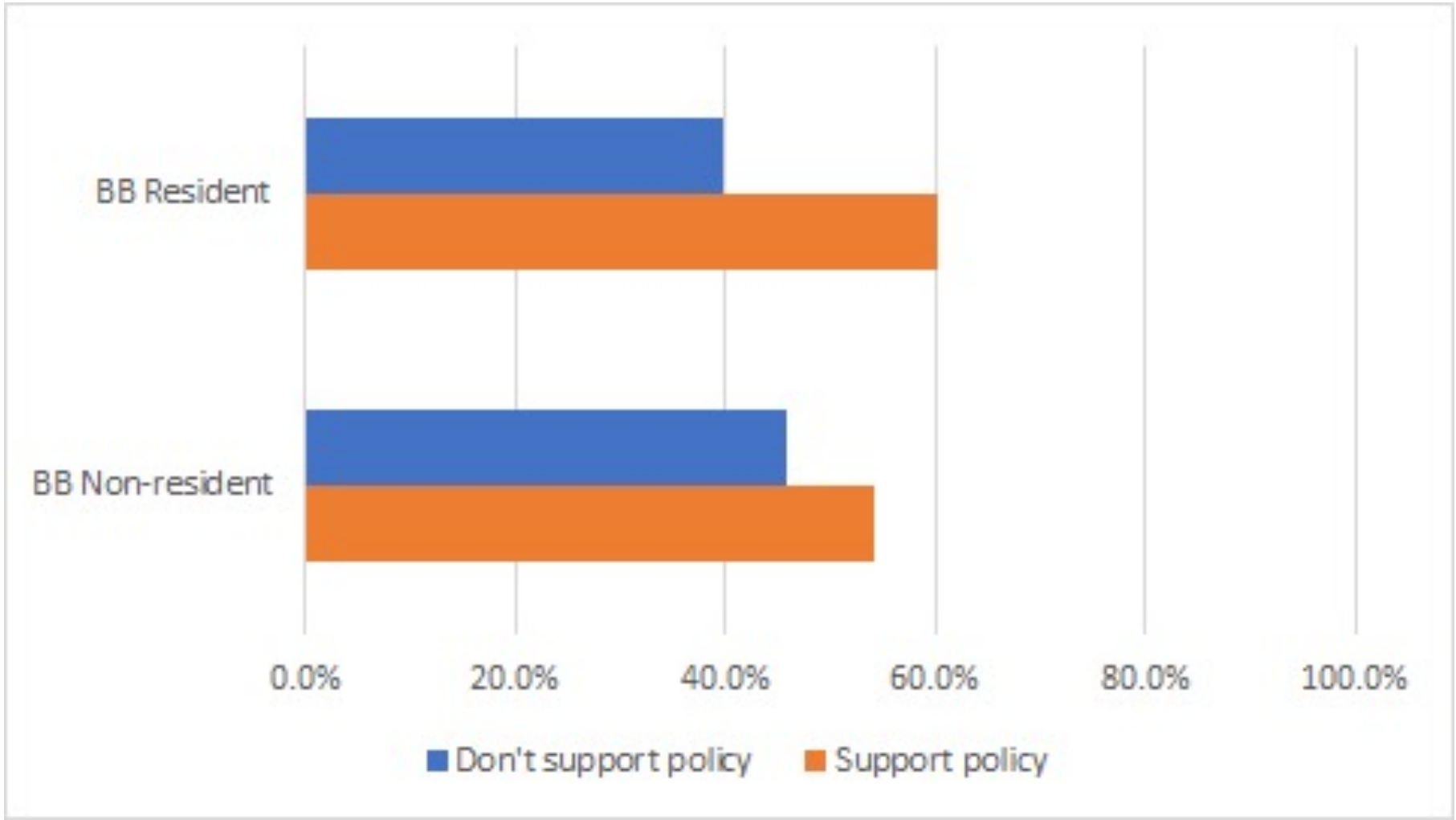
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Mandatory testing.



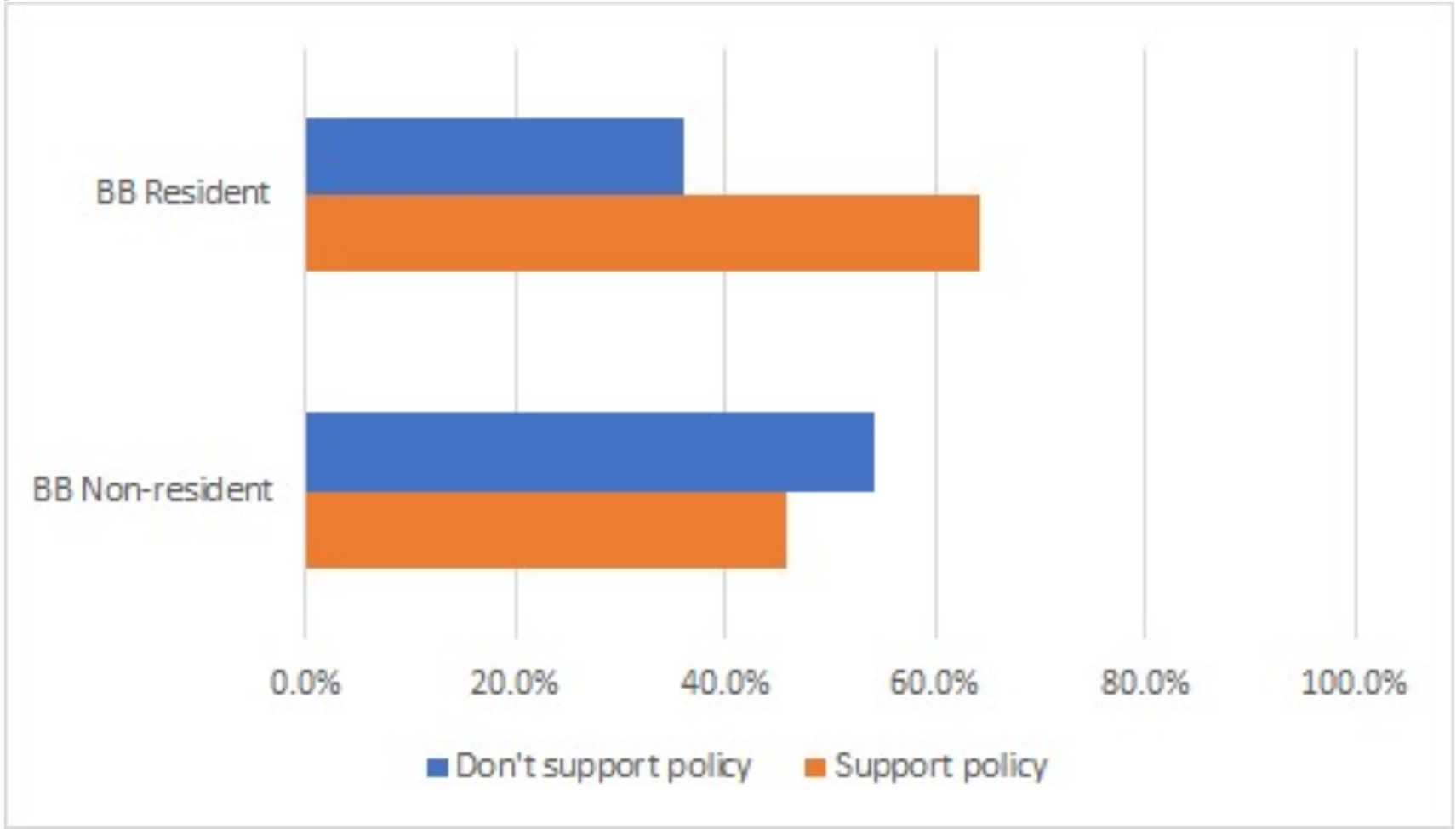
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Mandatory wearing of masks when in the premise of any indoor business.



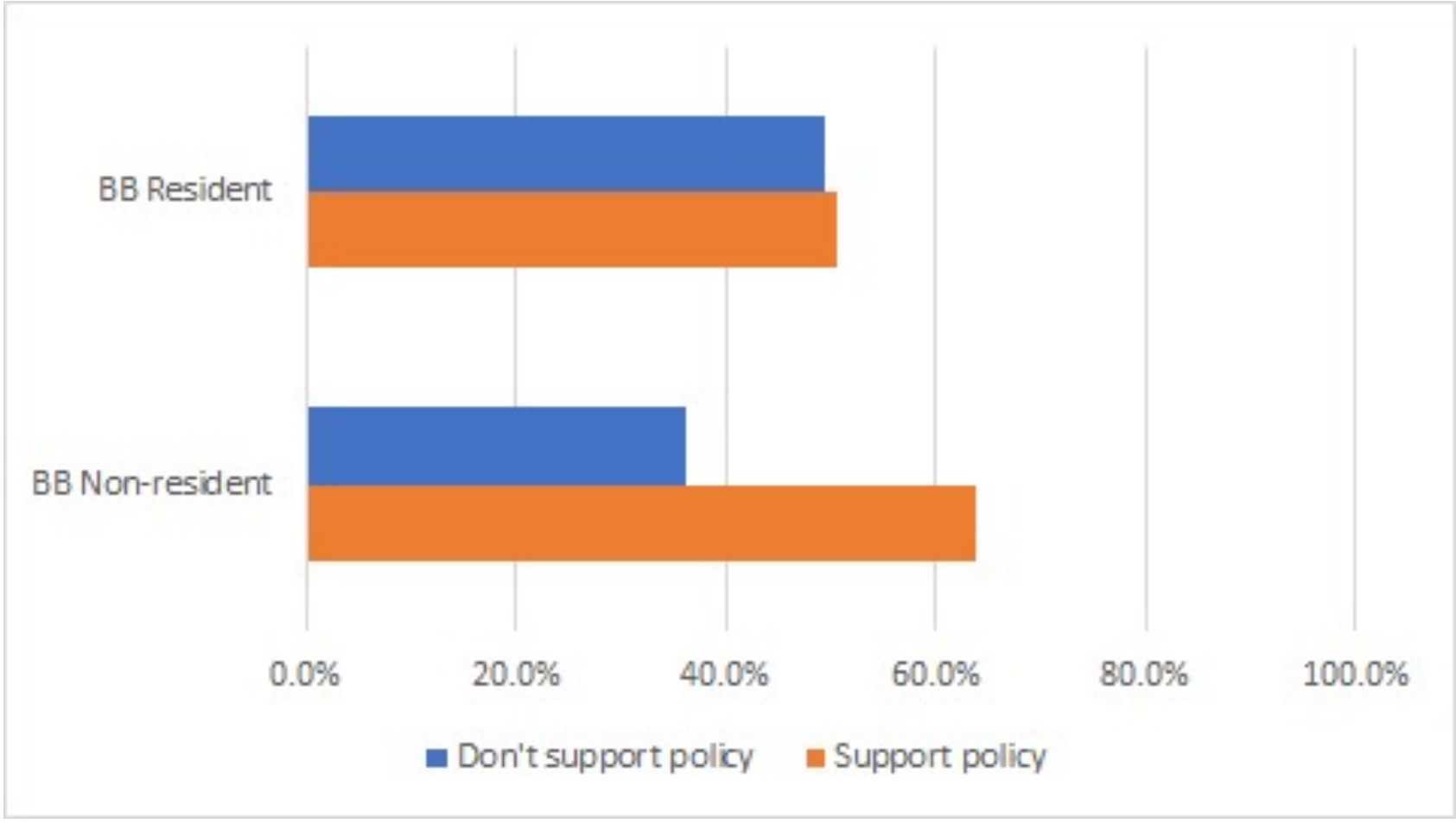
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Social distancing of 6 feet or more for those not working on a boat or in a processing plant.



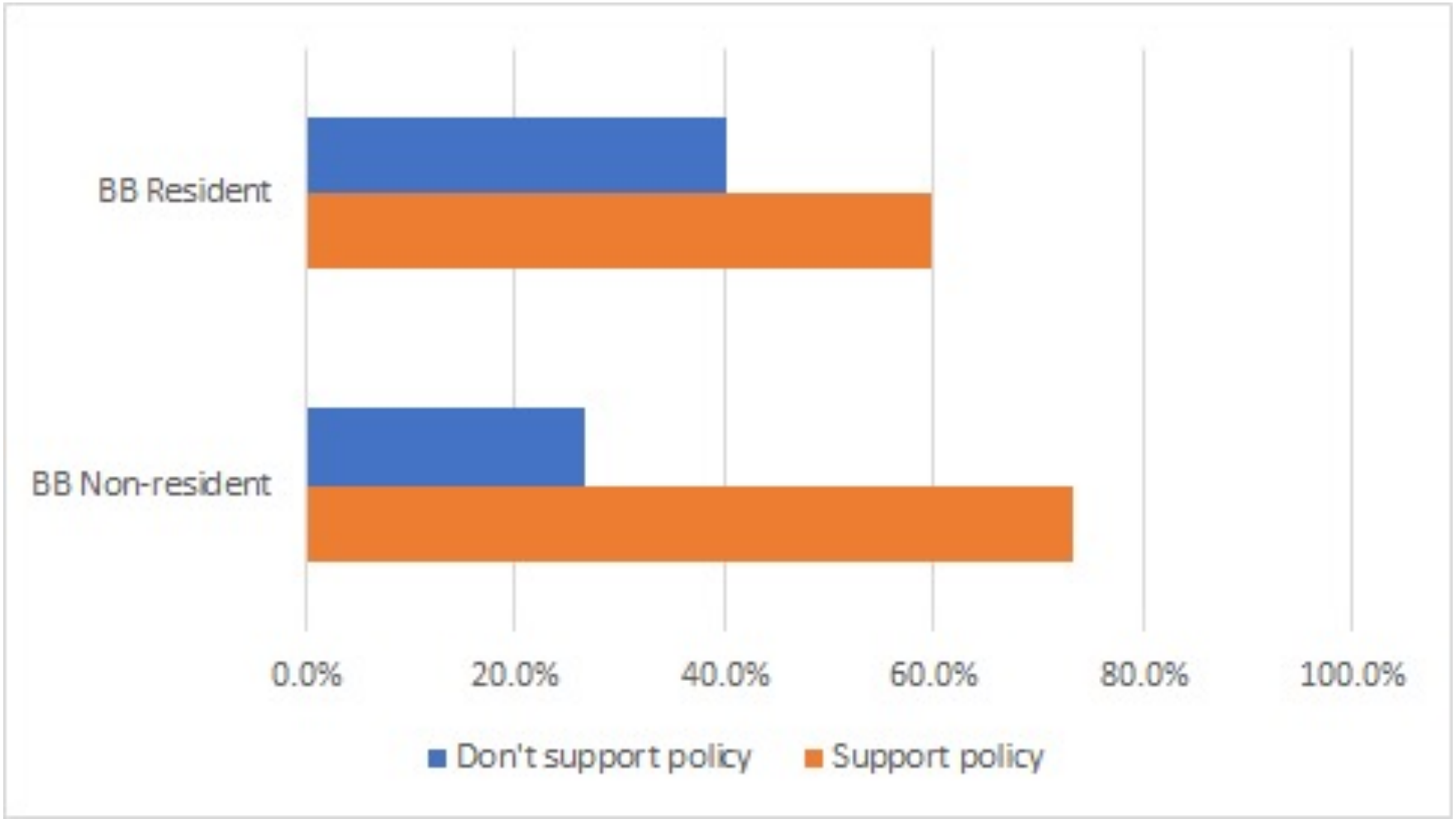
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Mandatory Quarantine (Lima) flags for vessels with an infected crew member.



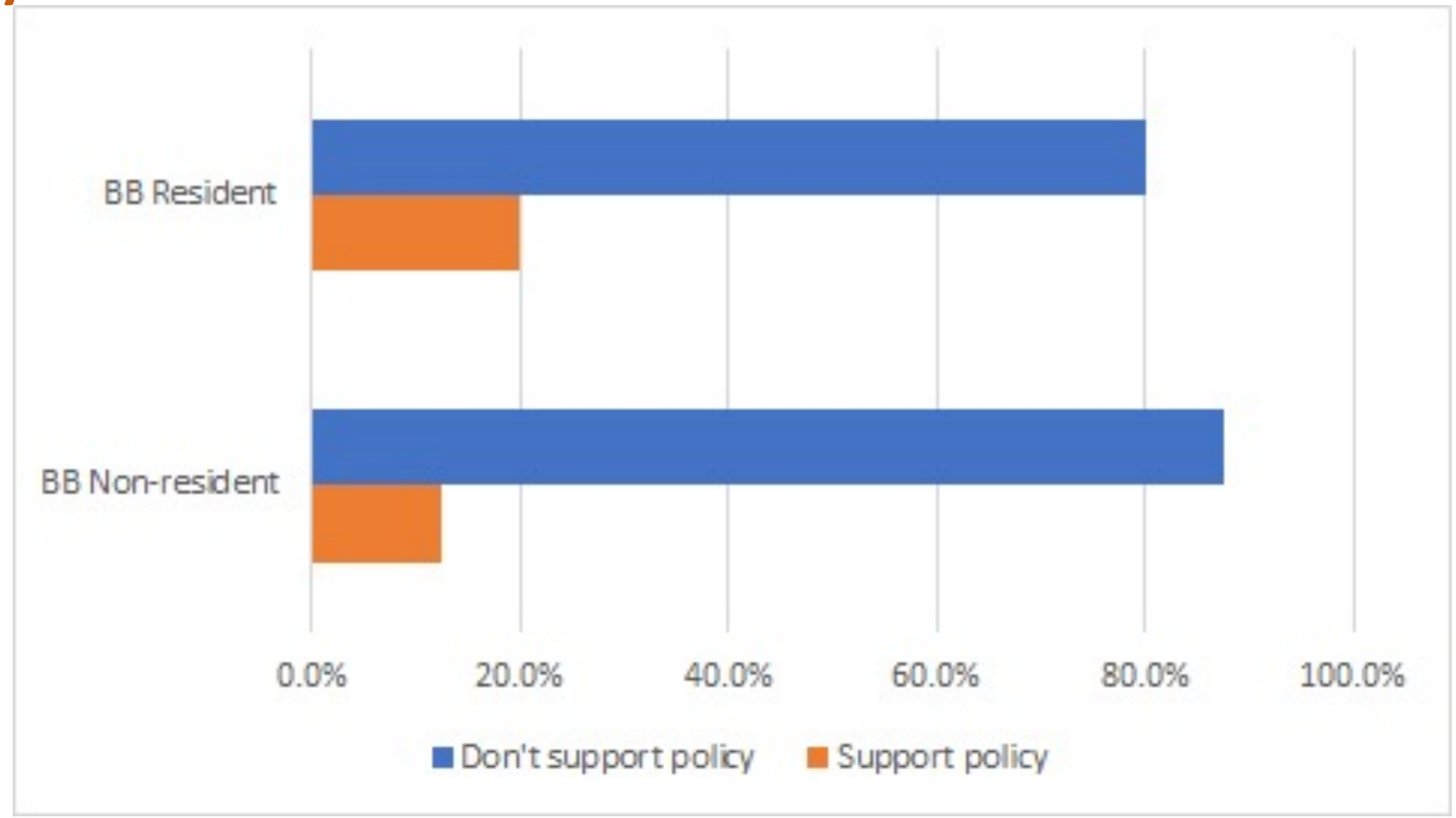
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Mandatory quarantine areas/restricted zones for crew and processors.



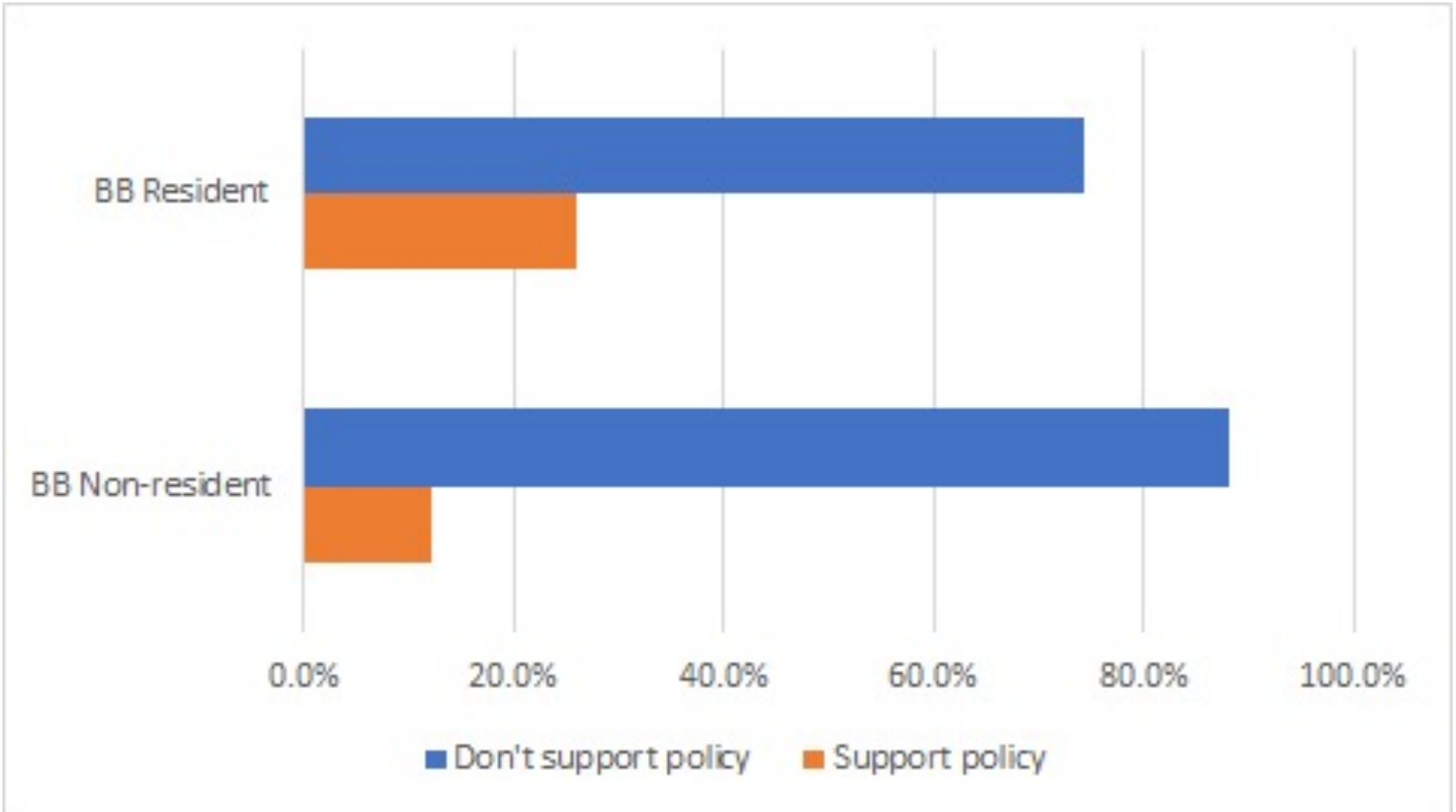
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Mandatory quarantine for vulnerable adults and children living in the community



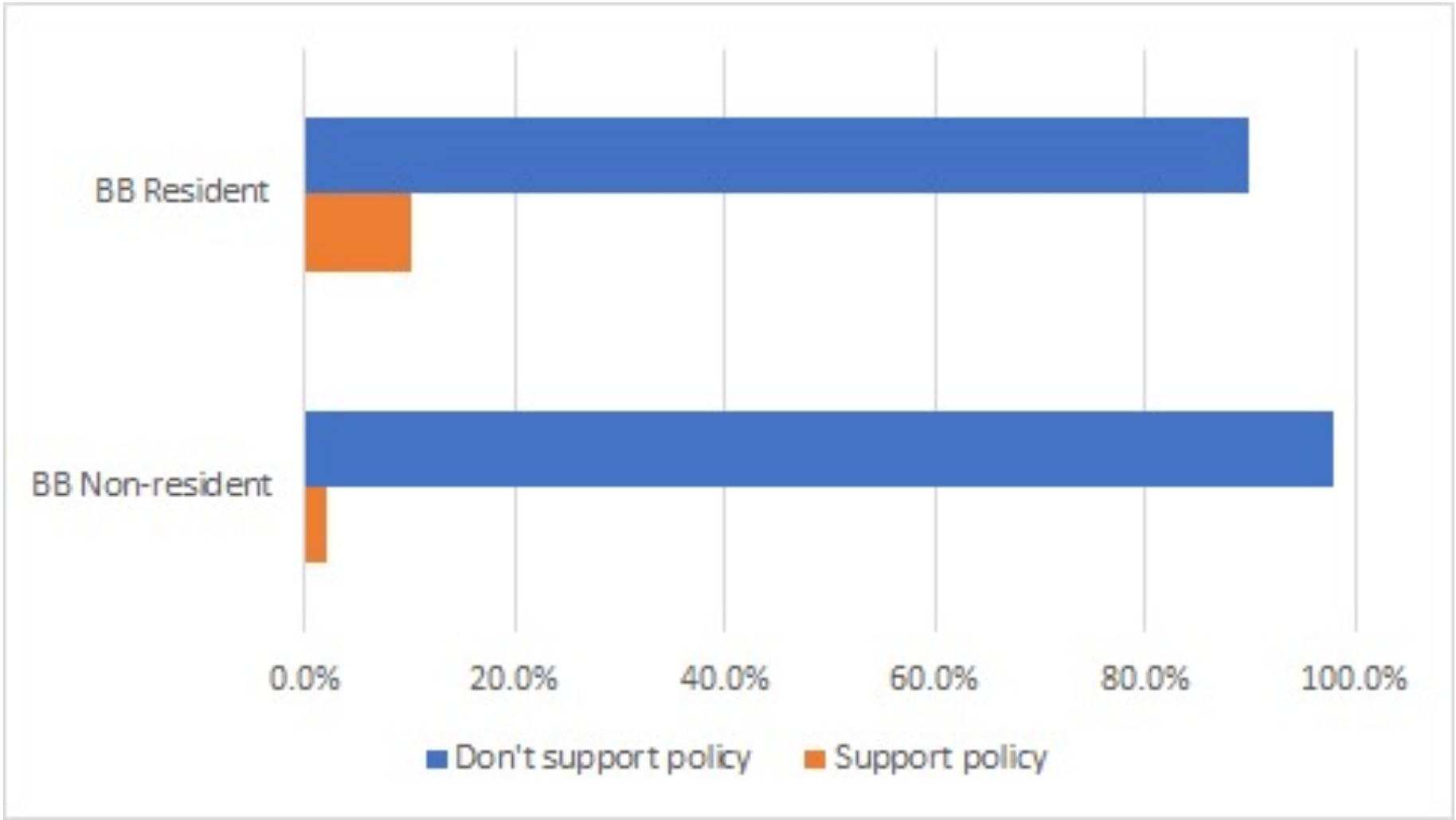
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Fines for breaking any of the local or state rules.



Some Bristol Bay communities have adopted various mitigation rules. Which of the following rules do you support?

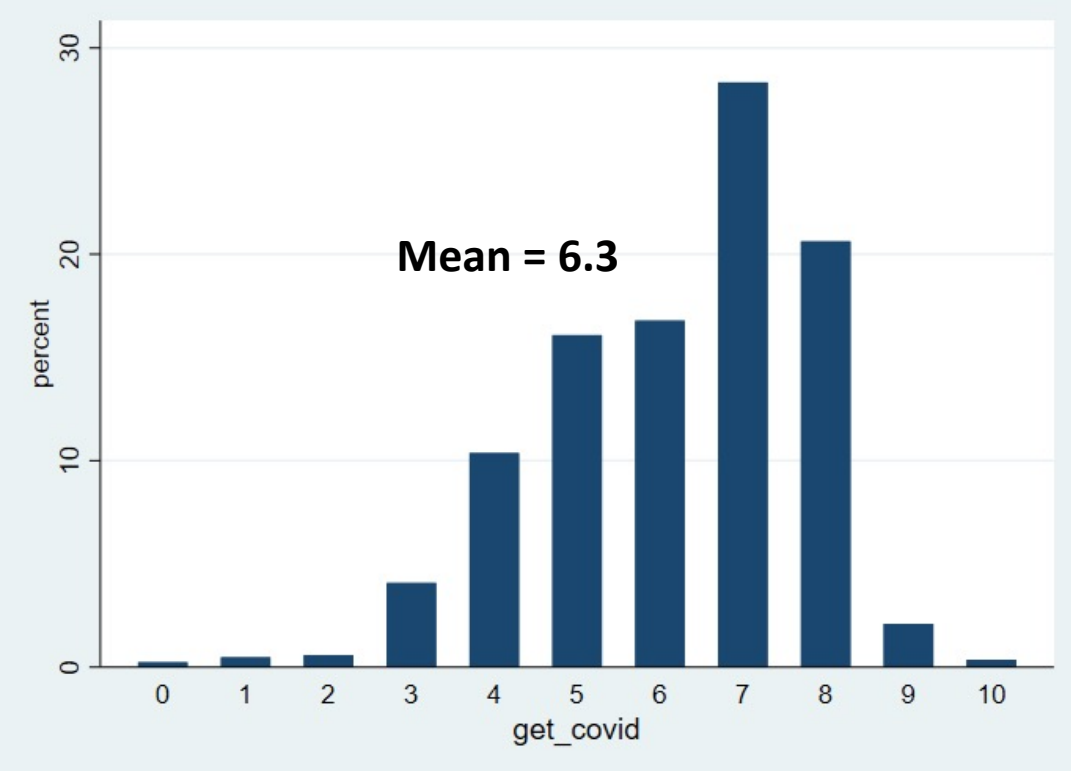
Criminal prosecution for breaking any of the local or state rules



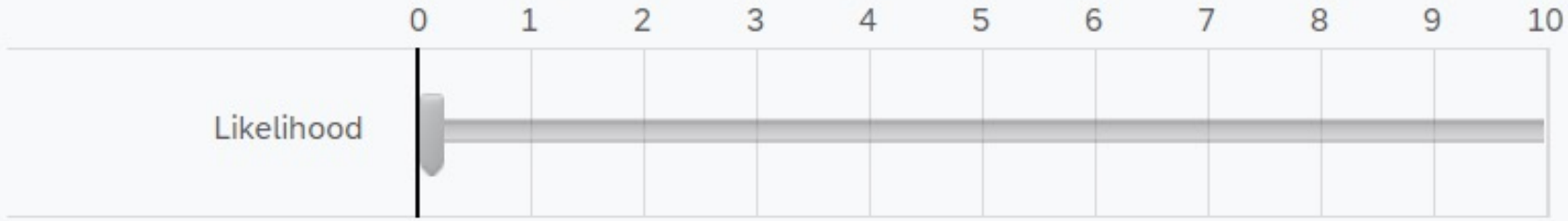
Survey overview (30 minutes)

- Basic demographics / survey respondents
- Labor force information
- Satisfaction with government policy
- Health information
- COVID-19 related policy questions
- Risk perceptions

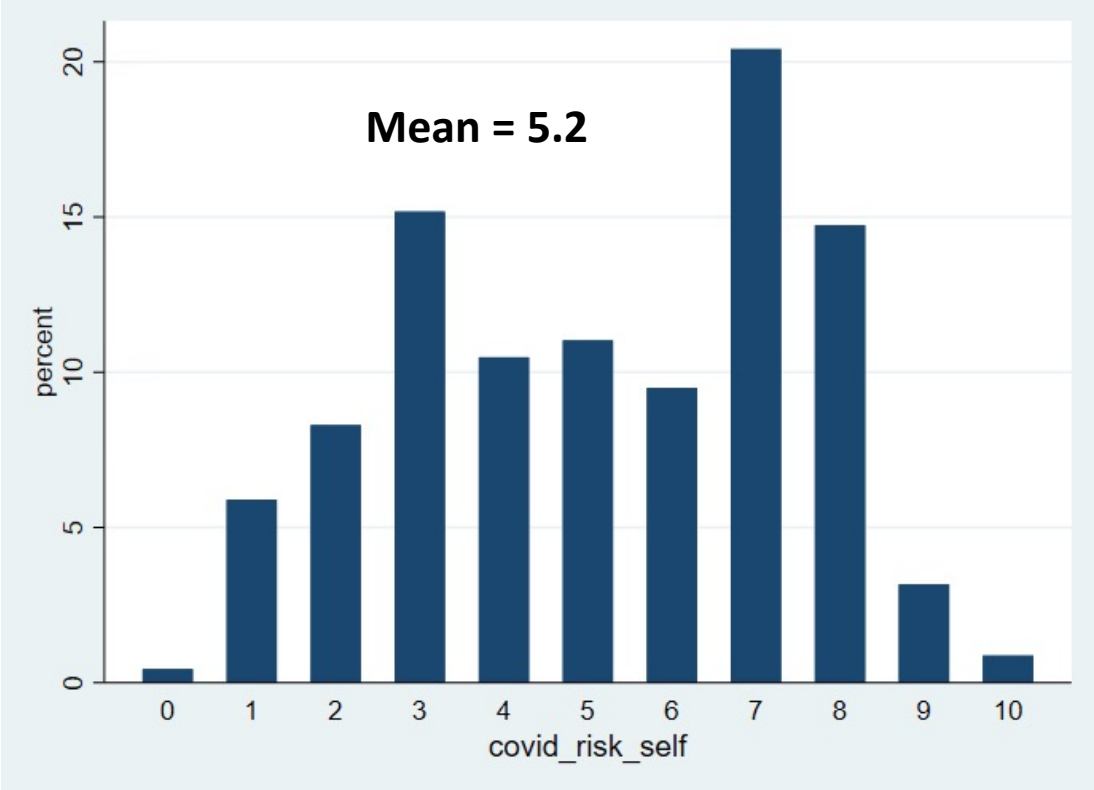
Perceived risk of contracting COVID-19. Question asked of captains, processors and crew members



On a scale of 0-10, if one of your crew members contracts COVID-19 how likely do you think it is that you will contract the virus?



Perceived risk of COVID-19 serious illness: captains, processors and crew members



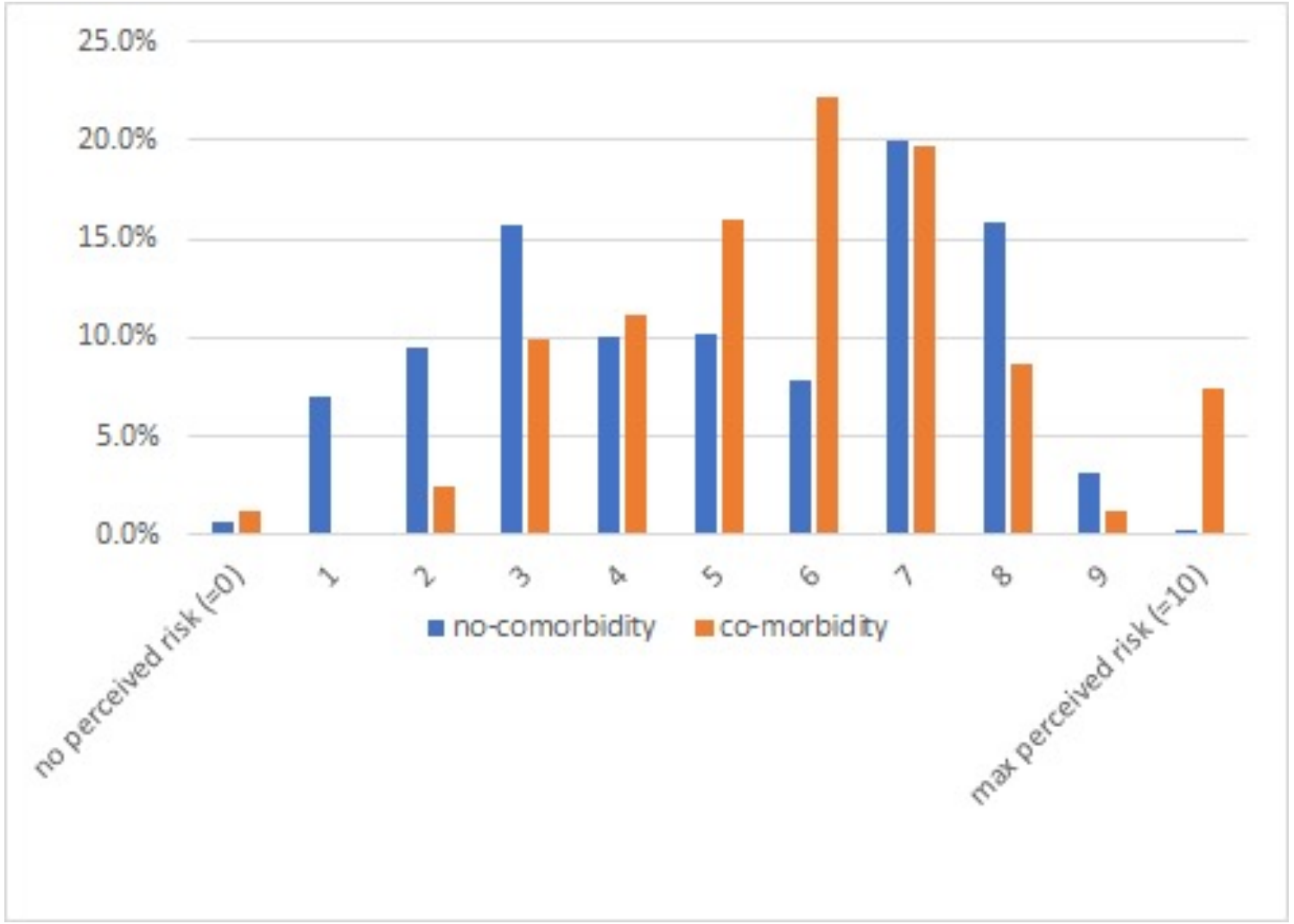
On a scale of 0-10, if you contract COVID-19 how likely do you think it is that you will experience serious health complications?



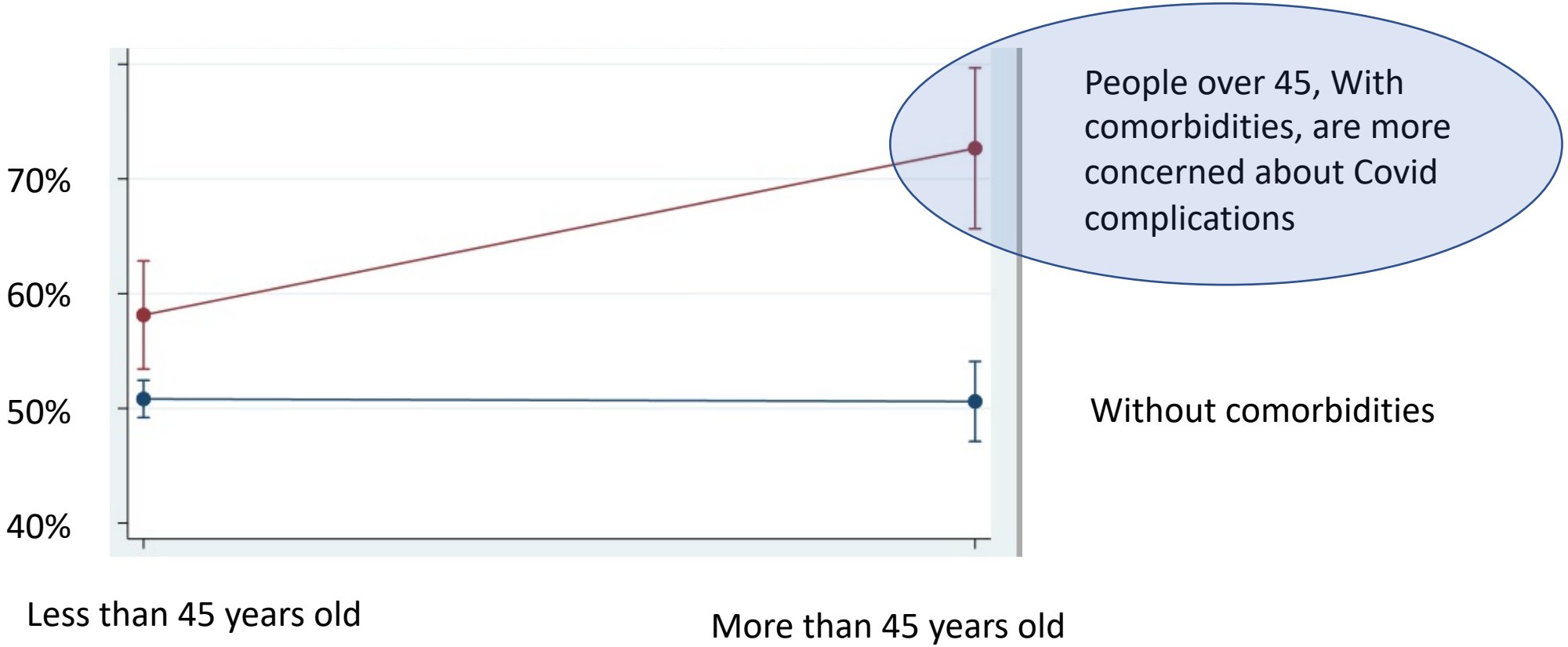
Perceived risk of COVID-19 serious illness varies by comorbidity status

Mean with co-morbidity = 5.9

Mean without comorbidity = 5.1



Perceived risk of COVID-19 serious illness also varies by age and comorbidity status



A simple lottery question…

Please select one choice below, you will be paid as follows:

- ○ If TAILS you earn $0 and if HEADS you earn $25
- ○ If TAILS you earn $1 and if HEADS you earn $23.50
- ○ If TAILS you earn $2 and if HEADS you earn $22
- ○ If TAILS you earn $3 and if HEADS you earn $20.50
- ○ If TAILS you earn $4 and if HEADS you earn $19
- ○ If TAILS you earn $5 and if HEADS you earn $17.50
- ○ If TAILS you earn $6 and if HEADS you earn $16
- ○ If TAILS you earn $7 and if HEADS you earn $14.50
- ○ If TAILS you earn $8 and if HEADS you earn $13
- ○ If TAILS you earn $9 and if HEADS you earn $11.50
- ○ If TAILS you earn $10 and if HEADS you earn $10



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A simple lottery question…

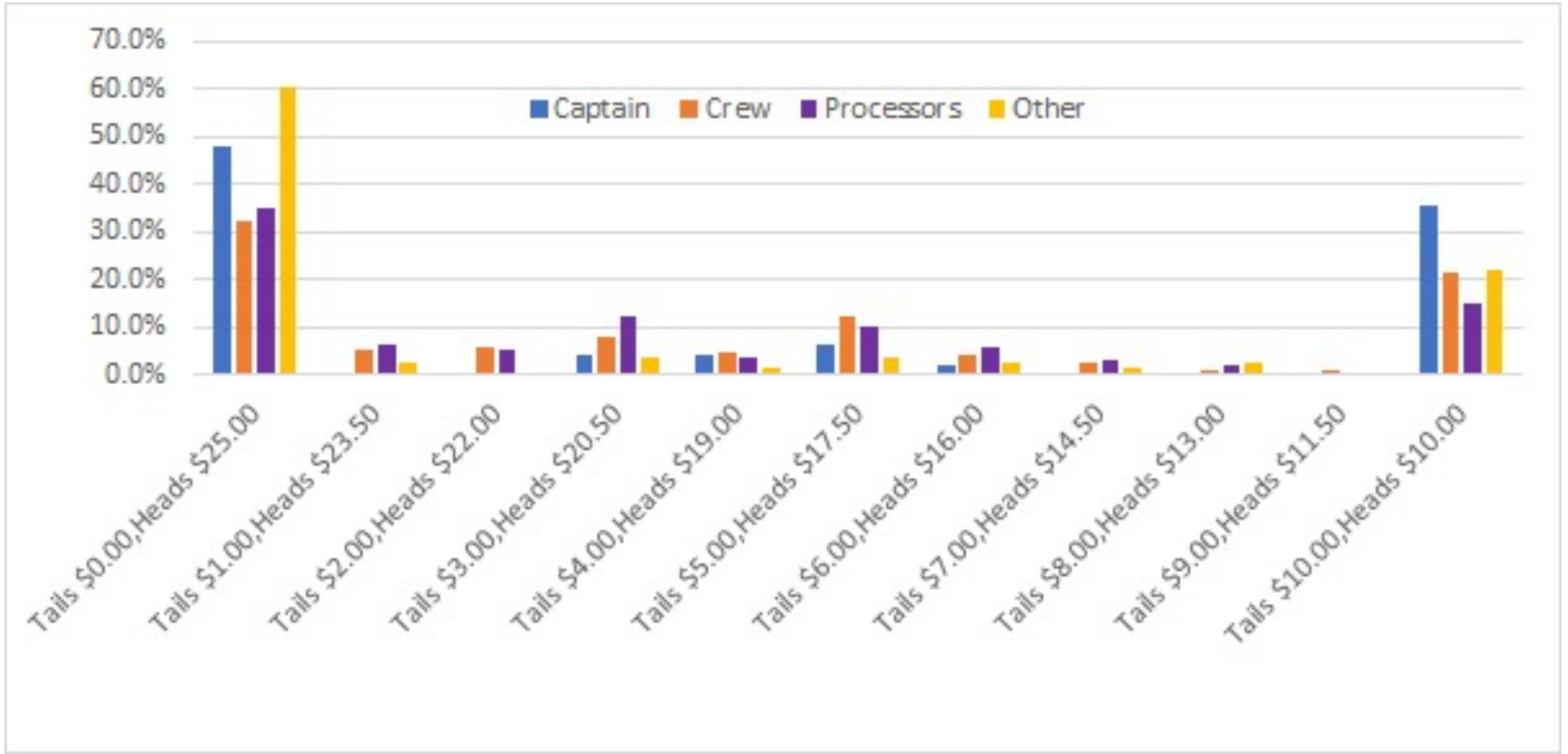
Please select one choice below, you will be paid as follows:

- If TAILS you earn $0 and if HEADS you earn $25 → Risk Loving
- If TAILS you earn $1 and if HEADS you earn $23.50
- If TAILS you earn $2 and if HEADS you earn $22
- If TAILS you earn $3 and if HEADS you earn $20.50
- If TAILS you earn $4 and if HEADS you earn $19
- If TAILS you earn $5 and if HEADS you earn $17.50
- If TAILS you earn $6 and if HEADS you earn $16
- If TAILS you earn $7 and if HEADS you earn $14.50
- If TAILS you earn $8 and if HEADS you earn $13
- If TAILS you earn $9 and if HEADS you earn $11.50
- If TAILS you earn $10 and if HEADS you earn $10 → Risk Averse





Average response by occupation…



How does the lottery question relate to a respondent's COVID-related risk perceptions?

- Based on preliminary regression analysis, we find that someone more risk averse (i.e. more likely to choose the 50-50 split):
  - Has a greater concern about getting COVID-19
  - Has a greater concern about serious complications from COVID-19
  - This result is robust across a range of specifications

An example regression table…

In this final example, we test how a change in …

1. an individual's perceived risk of catching COVID-19 if someone in the same boat/ processer has COVID (0-10)
2. an individual's perceived risk of serious complications if infected with COVID-19 (0-10)

is affected by a change in comorbidities, a change in age, or a change in a response to the lottery question, controlling for various factors.

Those with Comorbidities are less concerned about acquiring COVID-19 than those without comorbidities. But those with Comorbidities are more concerned about serious complications if they were to get COVID-19.

Those who chose the 50-50 split are more concerned about getting COVID and serious complications from COVID than those less risk averse.

Those over 50 with comorbidities are more concerned about serious complications from COVID-19 than those 50 and older without comorbities.

Younger people ages 35 and under, are less concerned about getting COVID and less concerned about serious health complications from COVID-19 than those over 35 (and less than 50).

Alaska residents are less concerned about both things relative to those temporarily working in Alaska.

	(1)	(2)
	Y=Get_COVID	Y=COVID_Morbidity
comorbidity	-0.507**	0.685**
	(-2.25)	(2.31)
risk_averse	0.610***	1.281***
	(4.52)	(7.03)
male	-0.367*	0.163
	(-1.81)	(0.80)
over50	-0.811*	-0.249
	(-1.70)	(-0.64)
over50_comorbidity	-0.561	1.180*
	(-0.48)	(1.77)
under35	-0.395***	-0.972***
	(-3.35)	(-5.54)
under35_comorbidity	0.807*	0.477
	(1.75)	(0.94)
anai	0.681***	0.536**
	(3.87)	(2.33)
AK_resident	-0.765***	-1.434***
	(-6.23)	(-8.57)
crew_member	-0.629**	-0.320
	(-2.04)	(-1.20)
processor	-1.000***	-0.148
	(-3.49)	(-0.60)
captain	-0.432	-0.095
	(-1.22)	(-0.25)
Constant	7.692***	5.966***
	(25.18)	(19.45)
R2	0.1896	0.2242
N	838	897

Questions next steps …

- Do you have any questions or other feedback for us?
- Second survey
  - Planned for Spring
  - Survey invitations will be sent to those who completed the first survey
  - Are there policy related questions we can include that would be helpful for you?