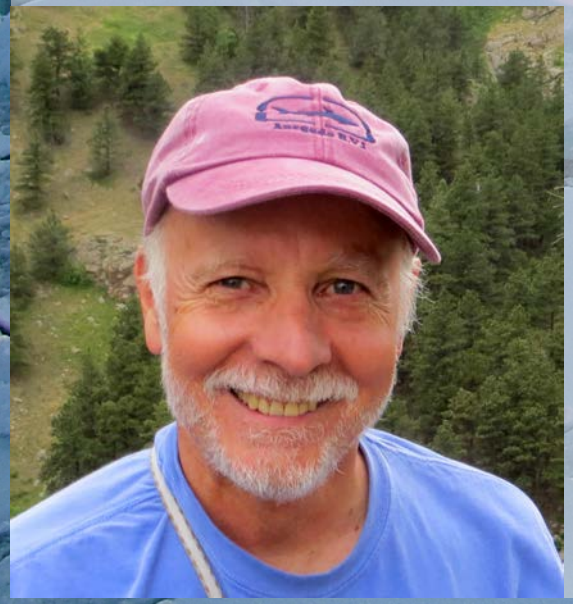
Welcome

ARCUS Arctic Research Seminar Series

What People Know: Asking About the Arctic on U.S. General-Public Surveys

3 May 2019



Presenter:

Lawrence Hamilton

Carsey School of Public Policy,
University of New Hampshire

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Background photo by Ute Kaden

What People Know

Asking about the Arctic on US general-public surveys

Lawrence Hamilton
Carsey School of Public Policy
University of New Hampshire

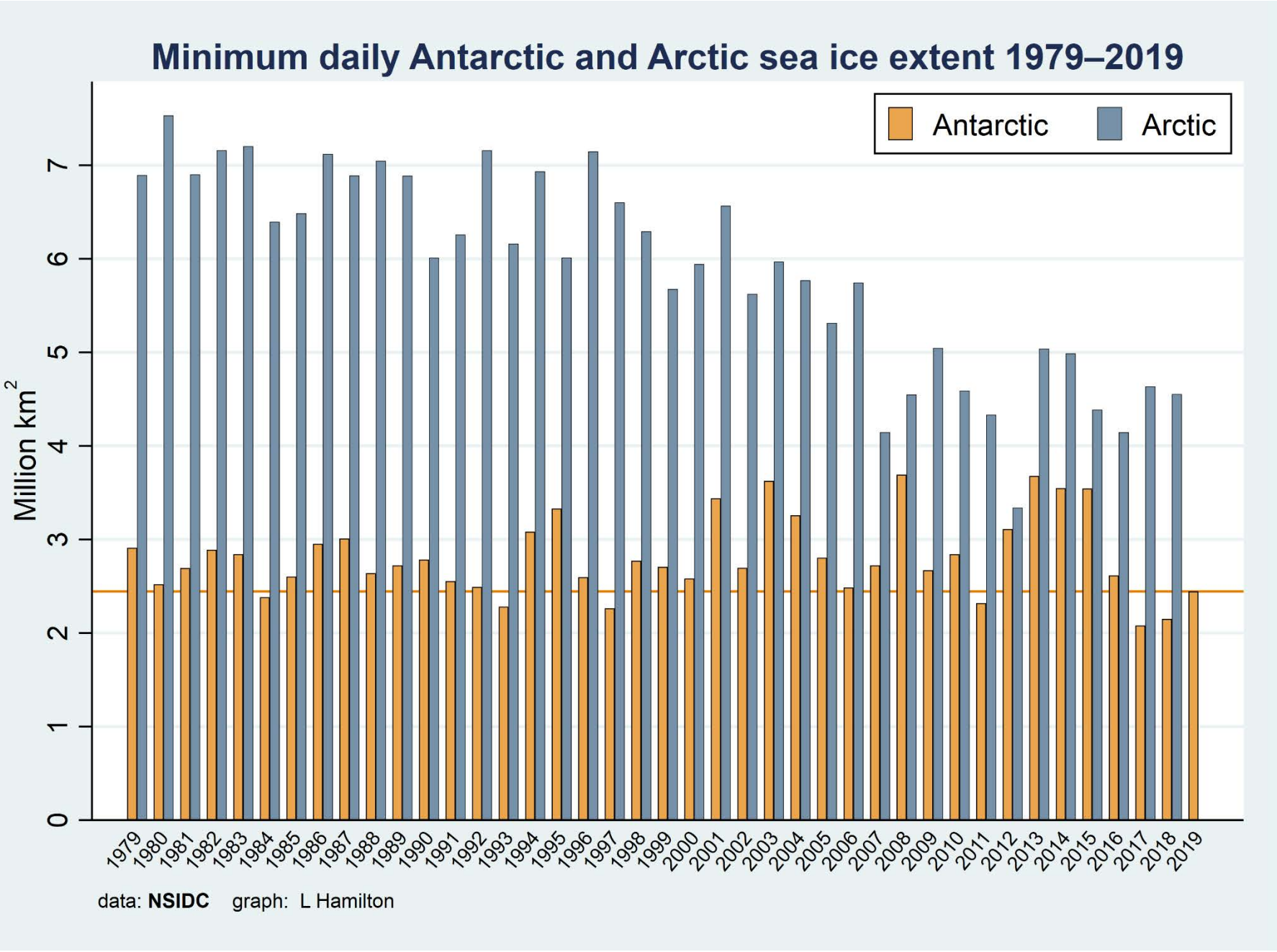
ARCUS Arctic Research Seminar

Washington DC – May 3, 2019

Research supported by the US National Science Foundation (OPP-1748325, PLR-1303938, DUE-1239783, OPP-1136887). Any opinions, findings, and conclusions expressed in this material are those of the author and do not necessarily reflect the views of NSF.

Arctic minimum sea ice extent since 2007 is far below earlier decades

Antarctic minimum sea ice extent went up briefly but in recent years set record lows



A survey question about sea ice

“Which of the following three statements do you think is more accurate? Over the past few years, the ice on the Arctic Ocean in late summer ...

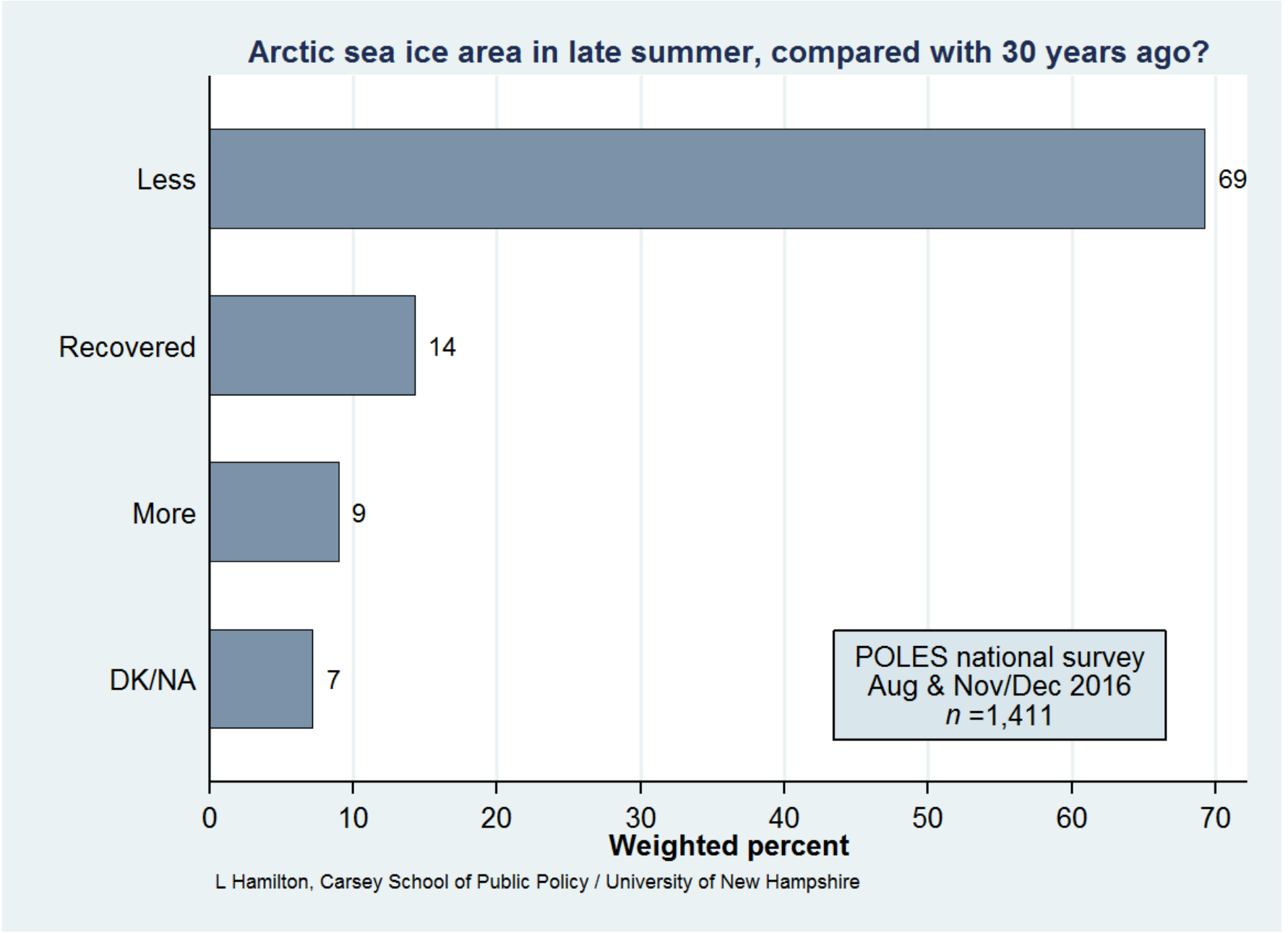
- Covers less area than it did 30 years ago.

- Declined but then recovered to about the same area it had 30 years ago.

- Covers more area than it did 30 years ago.”

Response on 2016 nationwide survey

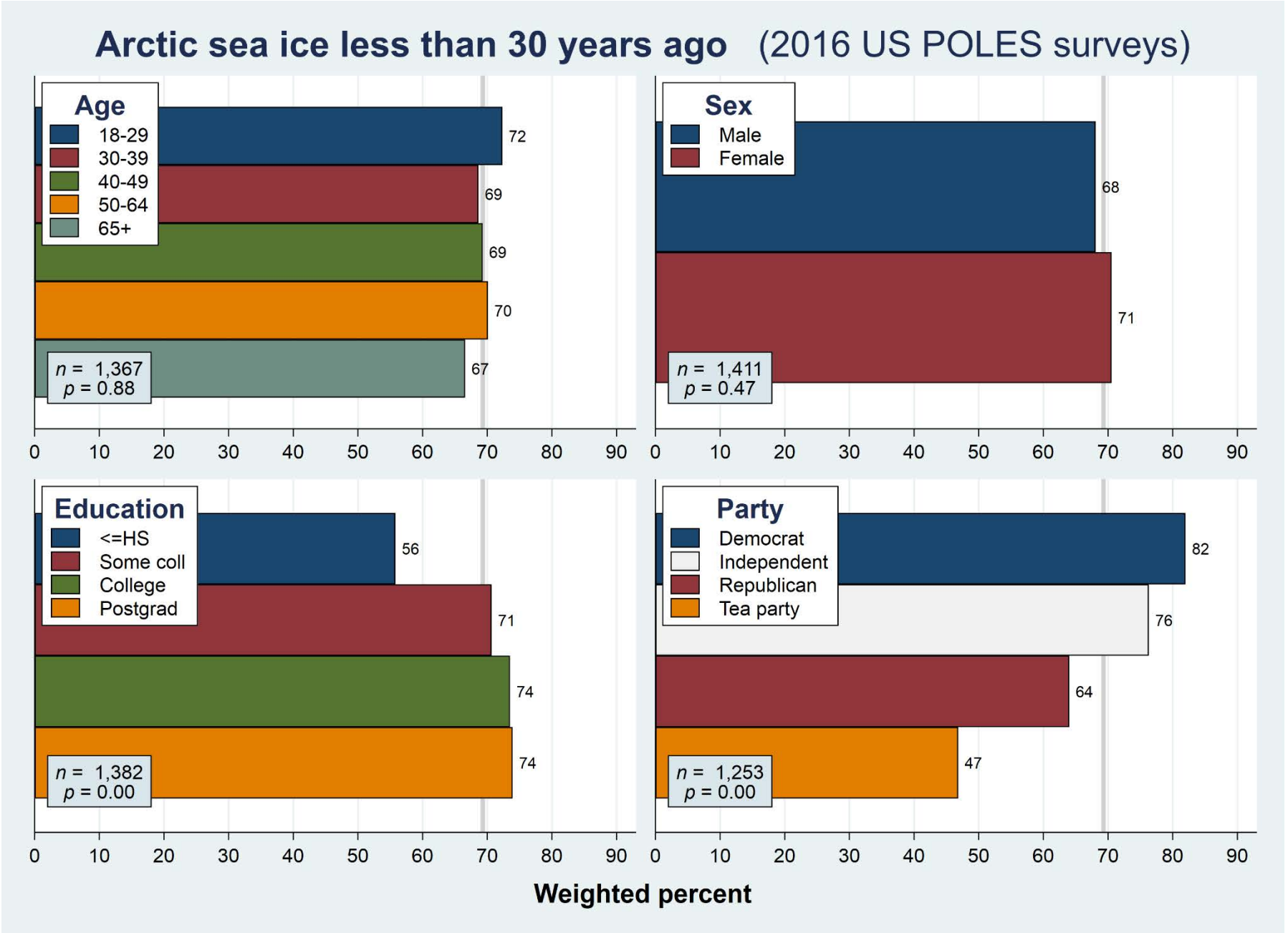
- **69% Less**
- **14% Declined & recovered**
- **9% More**
- **7% don't know**



Who said sea ice area is less?

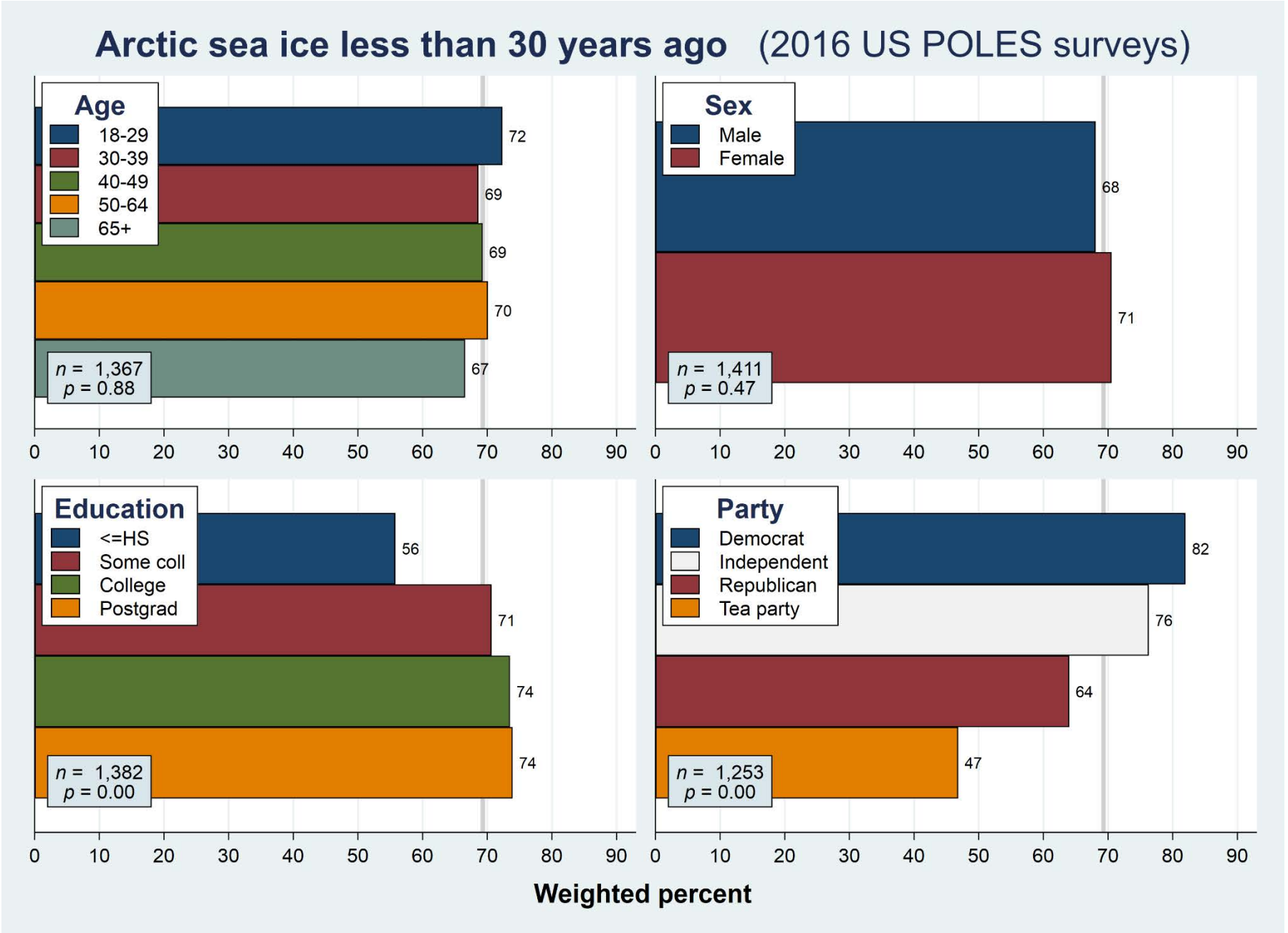
Little difference across age groups,

or by gender



18-point difference by education

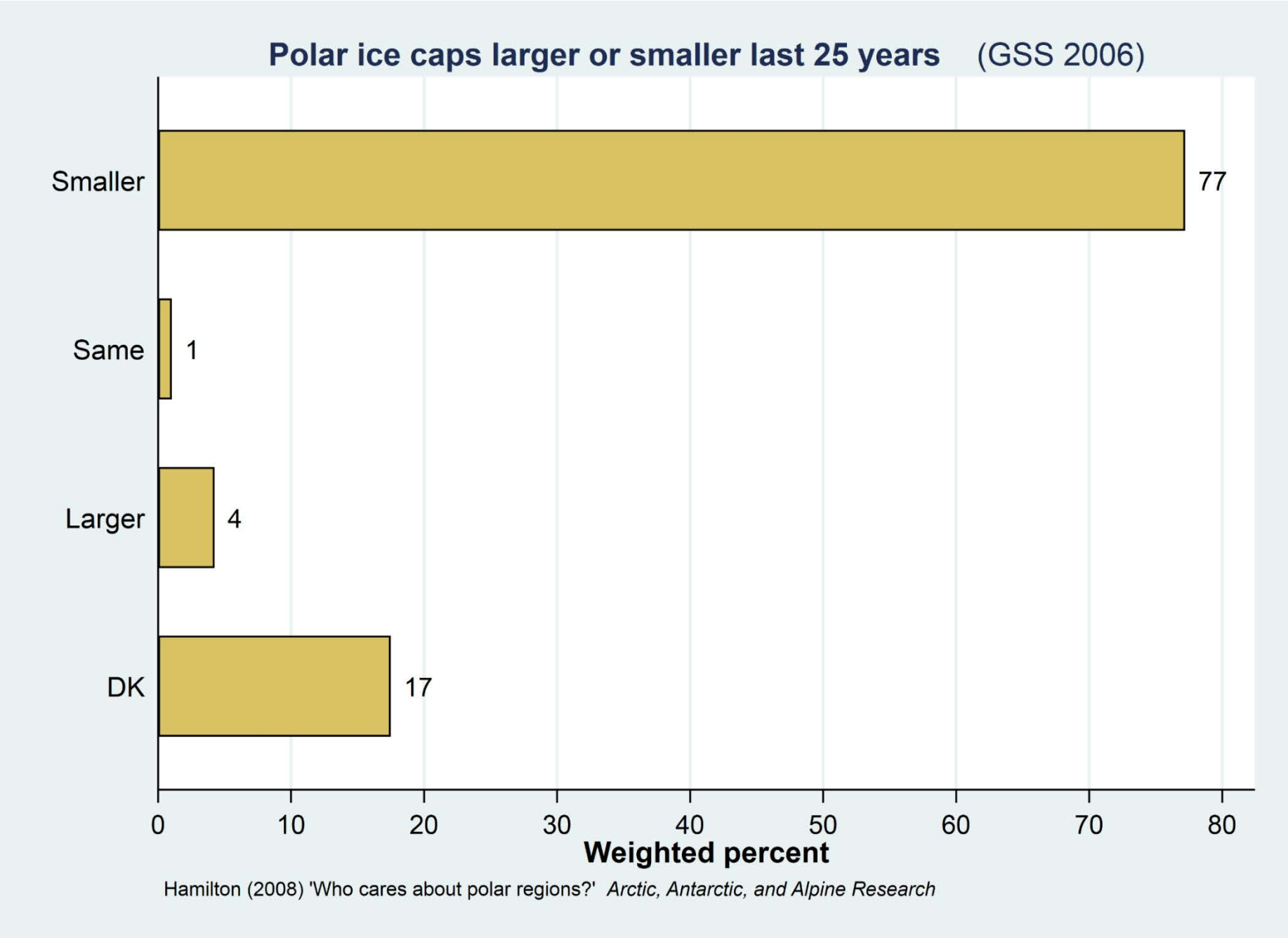
35-point difference by party



What does the US public know?

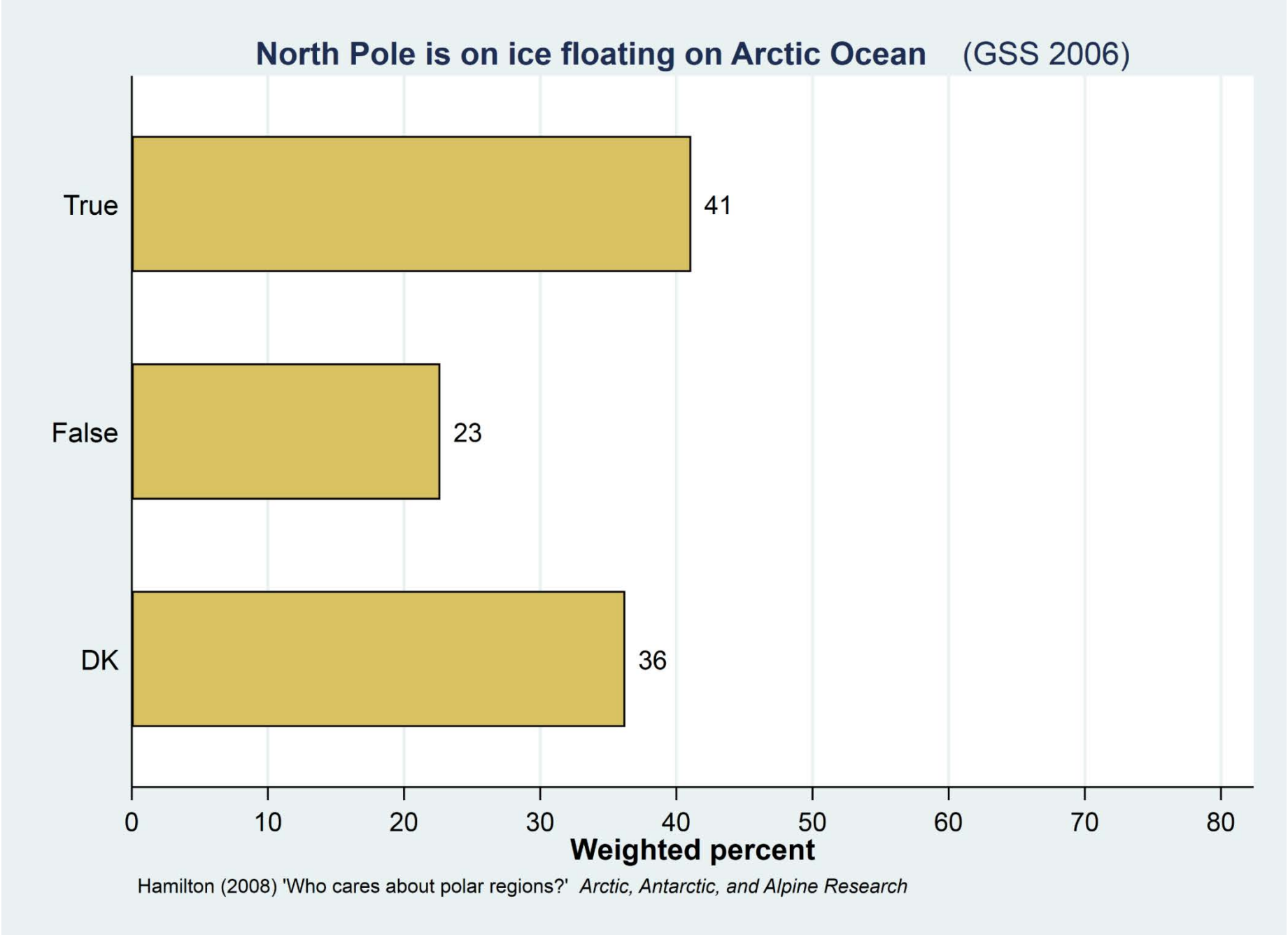
- Most drivers of Arctic environmental change originate in mid-latitude industrial societies
- Public perceptions matter
- First nationwide surveys of polar knowledge & opinions: NSF-supported “Polar Module” on General Social Survey in 2006
- Repeated on GSS in 2010
- Idea behind 2006/2010 design: Test for changes following the International Polar Year (IPY, 2007/2008)

“Would you say the polar ice caps have gotten larger or smaller over the last 25 years?”



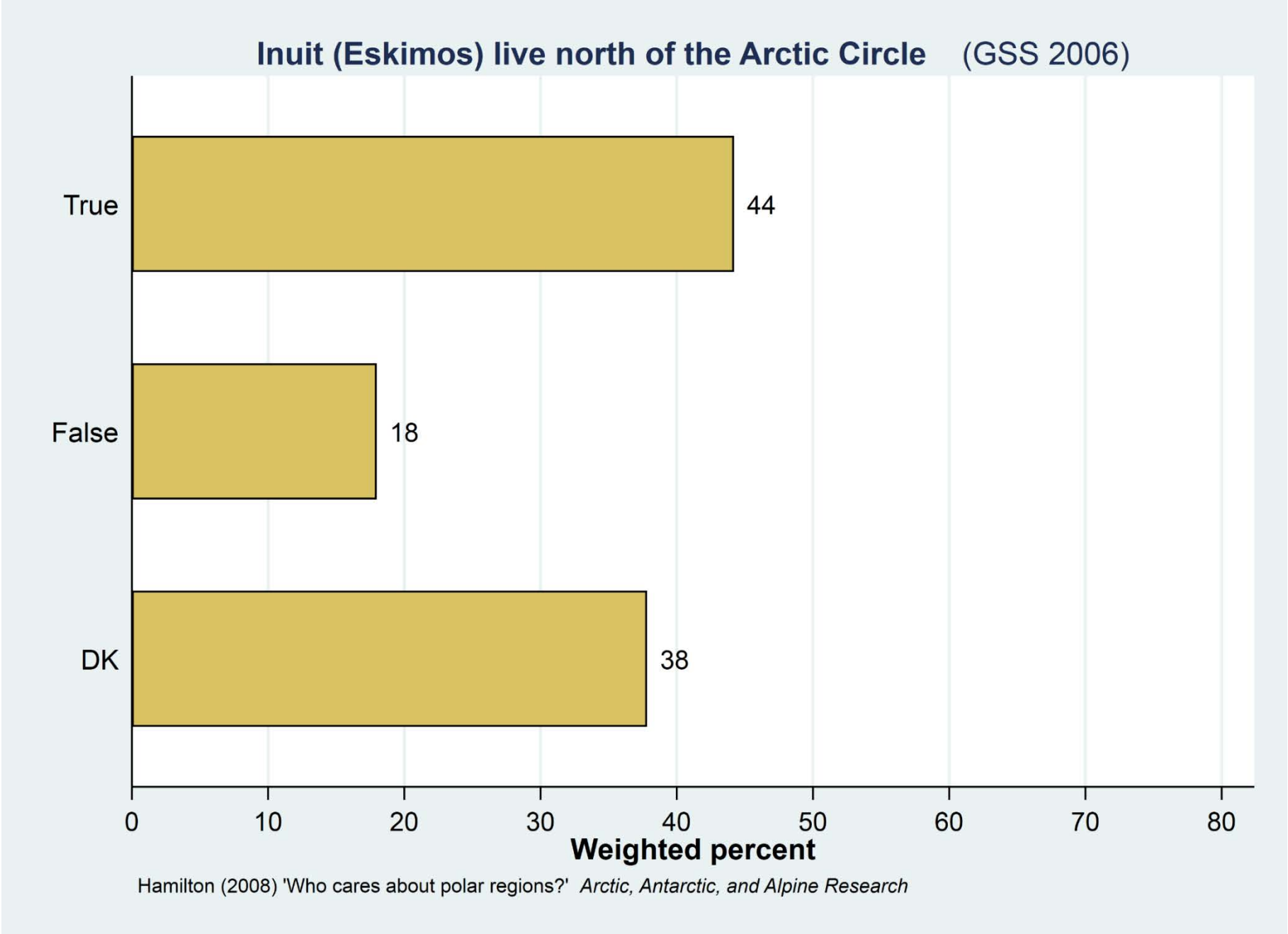
“The North Pole is on a sheet of ice that floats on the Arctic Ocean”

(true/false)



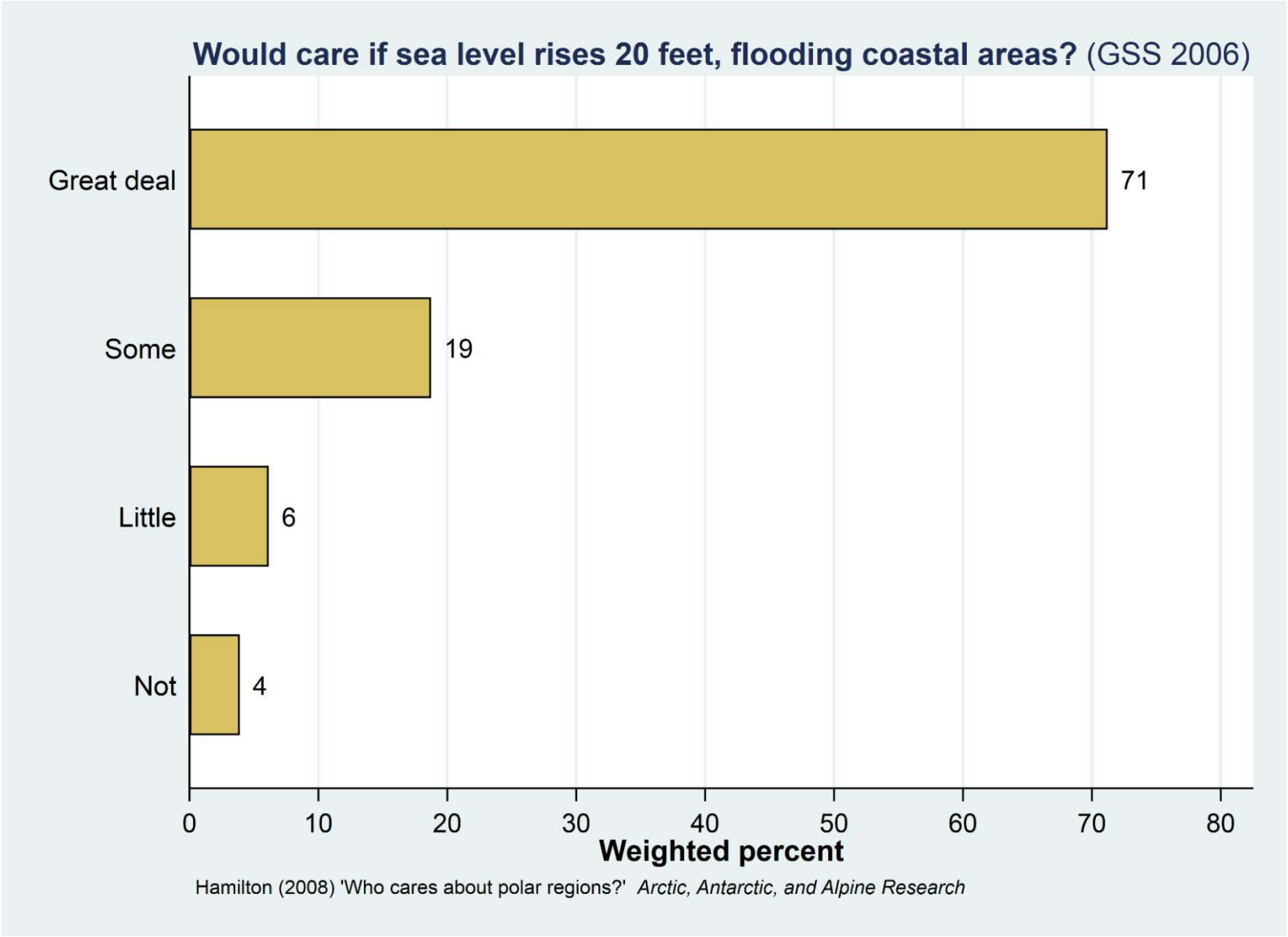
“Inuit (often called Eskimos) live north of the Arctic Circle”

(true/false)



“Some predict that global warming may soon have big effects on the polar regions.

Would it bother you a great deal, some, a little, or not at all if … Sea level may rise by more than 20 feet, flooding coastal areas?”



2008 paper analyzed the 2006 GSS results, finding that "polar knowledge is limited but not absent"

Key takeaway:

Political orientation affects polar perceptions

Arctic, Antarctic, and Alpine Research, Vol. 40, No. 4, 2008, pp. 671–678

Who Cares about Polar Regions? Results from a Survey of U.S. Public Opinion

Lawrence C. Hamilton

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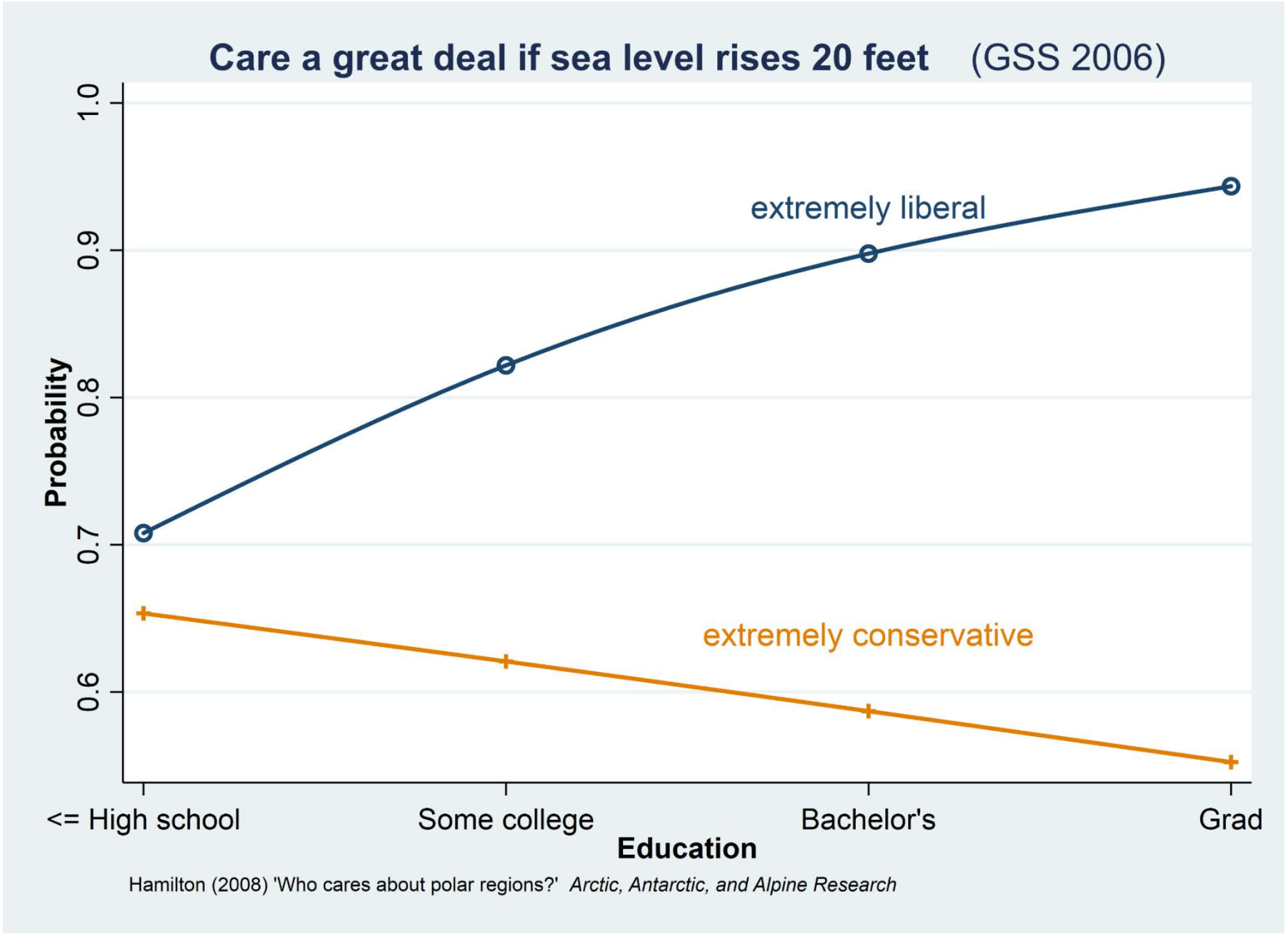
Abstract

What do members of the general public know about polar regions, and how much do they care? *Who* knows or cares? This paper explores data from the General Social Survey (GSS), which in 2006 questioned a representative sample of more than 1800 U.S. adults about their knowledge and opinions concerning polar regions. The polar

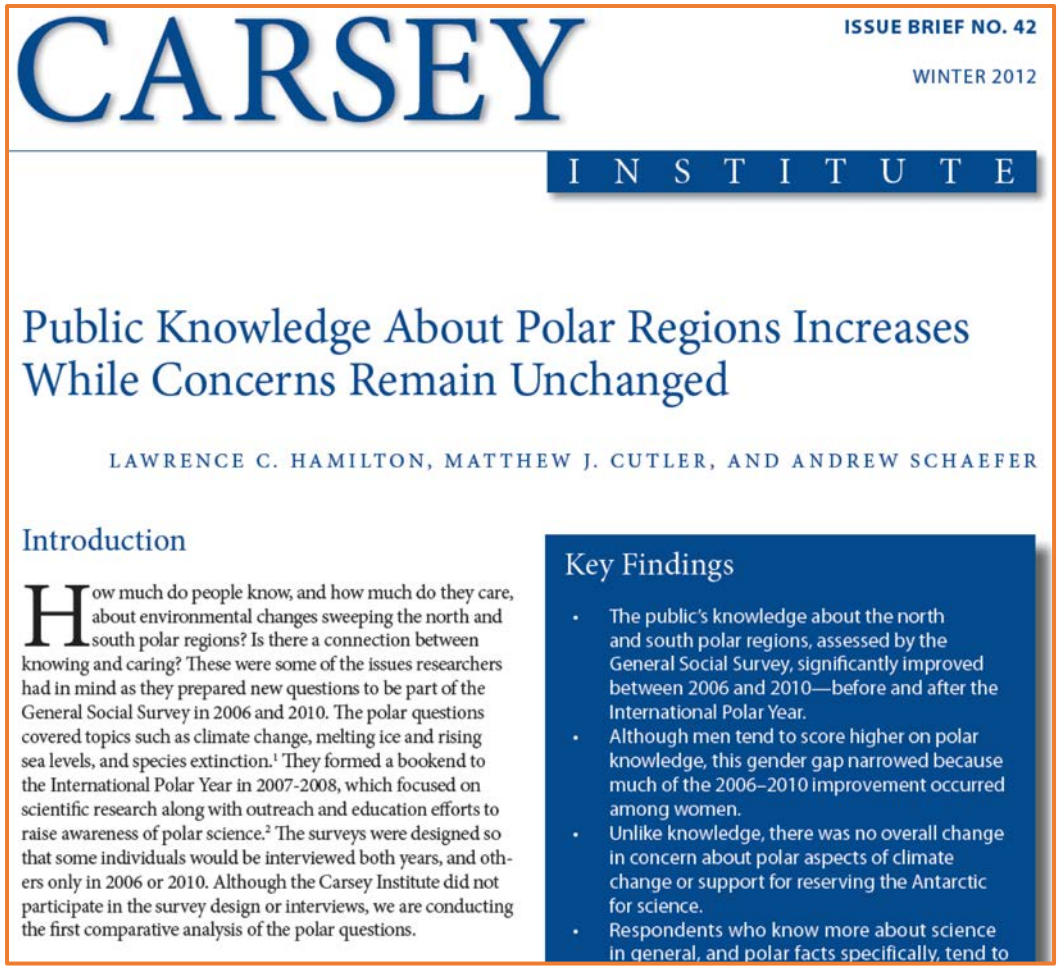
Megaphone pattern

Political identity modifies the effect of education on concern about polar change



Hamilton (2008) 'Who cares about polar regions?' *Arctic, Antarctic, and Alpine Research*

Two 2012 papers compared 2006 with 2010 GSS results.
Polar knowledge slightly higher post-IPY.
Polar concern was unchanged, still linked to politics.



CARSEY INSTITUTE

ISSUE BRIEF NO. 42

WINTER 2012

Public Knowledge About Polar Regions Increases While Concerns Remain Unchanged

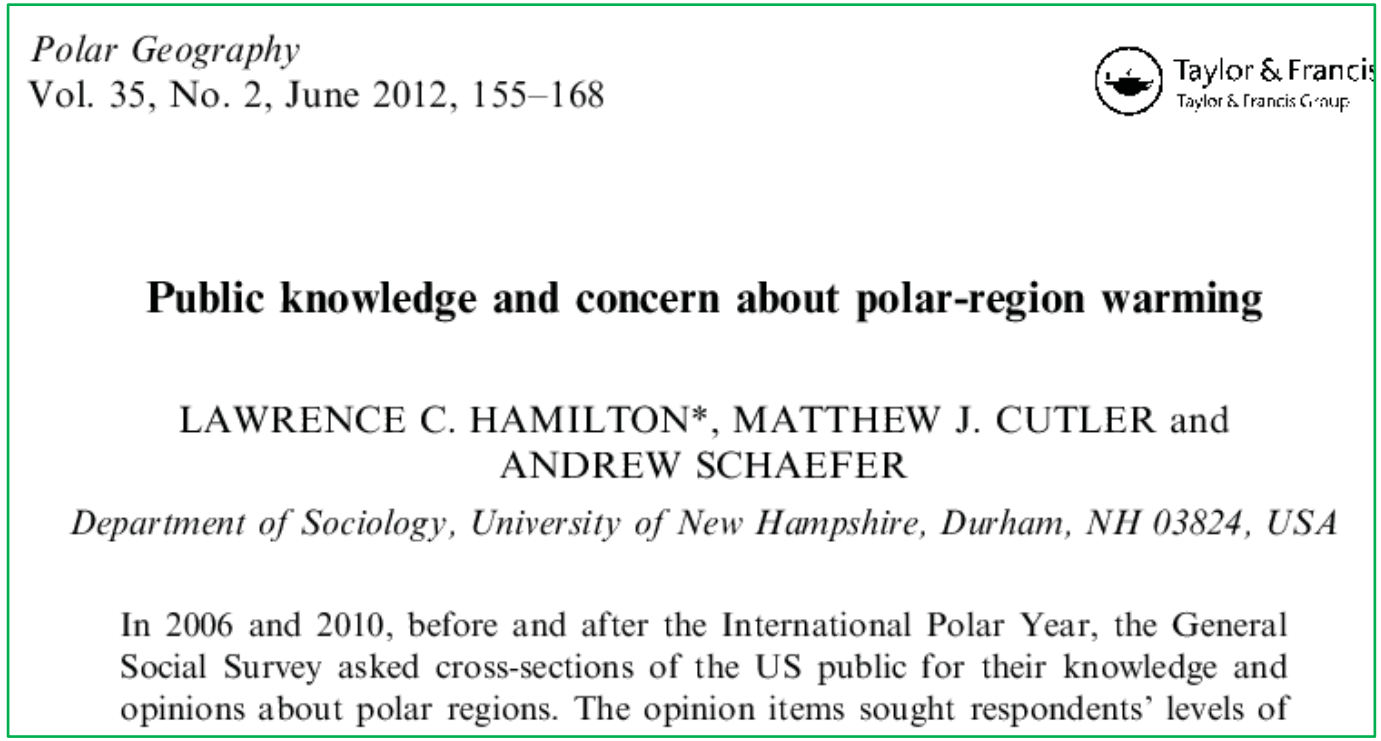
LAWRENCE C. HAMILTON, MATTHEW J. CUTLER, AND ANDREW SCHAEFER

Introduction

How much do people know, and how much do they care, about environmental changes sweeping the north and south polar regions? Is there a connection between knowing and caring? These were some of the issues researchers had in mind as they prepared new questions to be part of the General Social Survey in 2006 and 2010. The polar questions covered topics such as climate change, melting ice and rising sea levels, and species extinction.[1] They formed a bookend to the International Polar Year in 2007-2008, which focused on scientific research along with outreach and education efforts to raise awareness of polar science.[2] The surveys were designed so that some individuals would be interviewed both years, and others only in 2006 or 2010. Although the Carsey Institute did not participate in the survey design or interviews, we are conducting the first comparative analysis of the polar questions.

Key Findings

- The public's knowledge about the north and south polar regions, assessed by the General Social Survey, significantly improved between 2006 and 2010—before and after the International Polar Year.
- Although men tend to score higher on polar knowledge, this gender gap narrowed because much of the 2006–2010 improvement occurred among women.
- Unlike knowledge, there was no overall change in concern about polar aspects of climate change or support for reserving the Antarctic for science.
- Respondents who know more about science in general, and polar facts specifically, tend to



Polar Geography
Vol. 35, No. 2, June 2012, 155–168

Taylor & Francis
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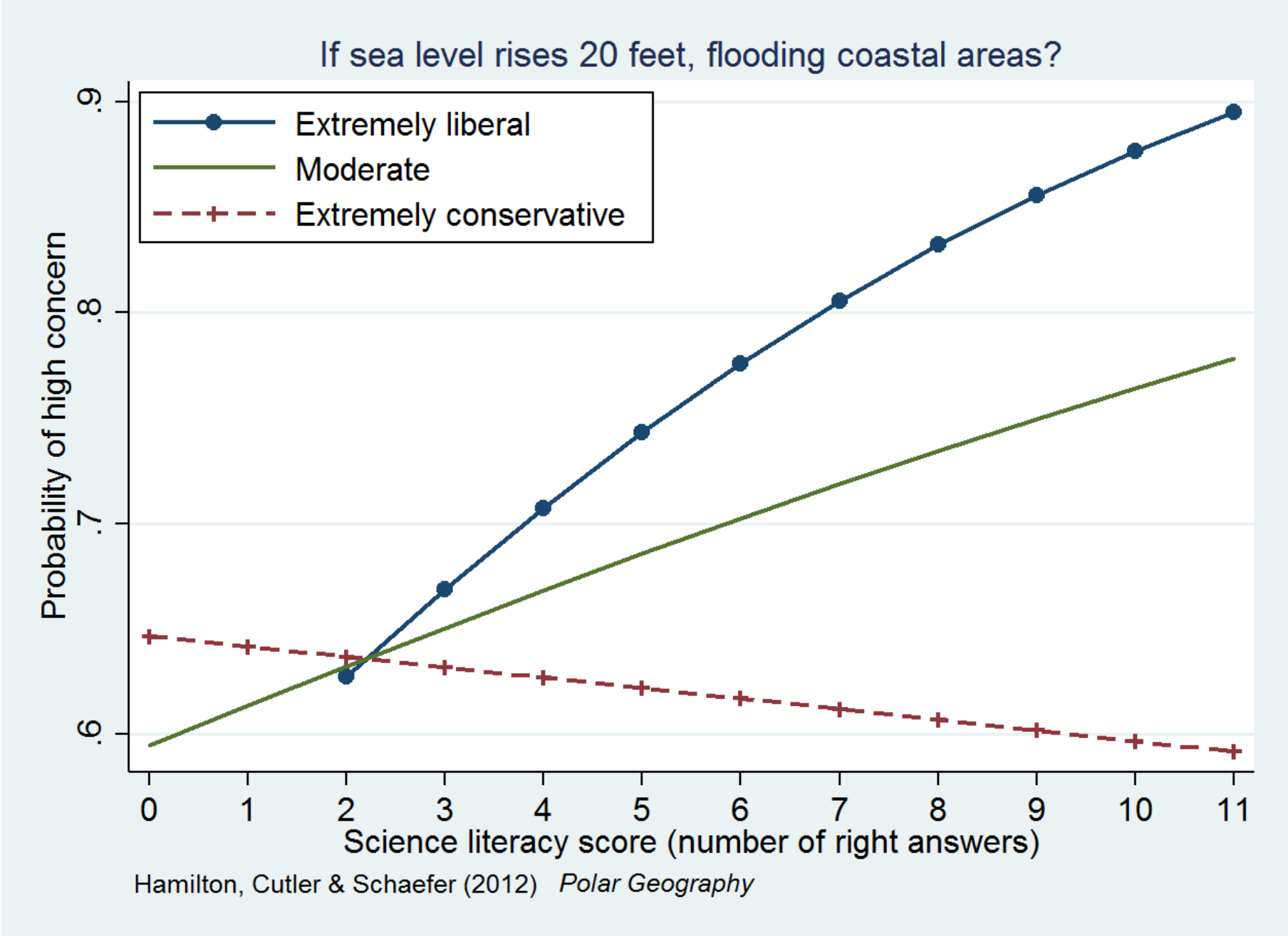
Public knowledge and concern about polar-region warming

LAWRENCE C. HAMILTON*, MATTHEW J. CUTLER and ANDREW SCHAEFER

Department of Sociology, University of New Hampshire, Durham, NH 03824, USA

In 2006 and 2010, before and after the International Polar Year, the General Social Survey asked cross-sections of the US public for their knowledge and opinions about polar regions. The opinion items sought respondents' levels of

2012 analysis found similar pattern with *science literacy* in place of education



Following lessons from the 2006/2010 GSS, later surveys asked more precise questions

GSS 2006/2010

"Would you say the polar ice caps have gotten larger or smaller over the last 25 years?"

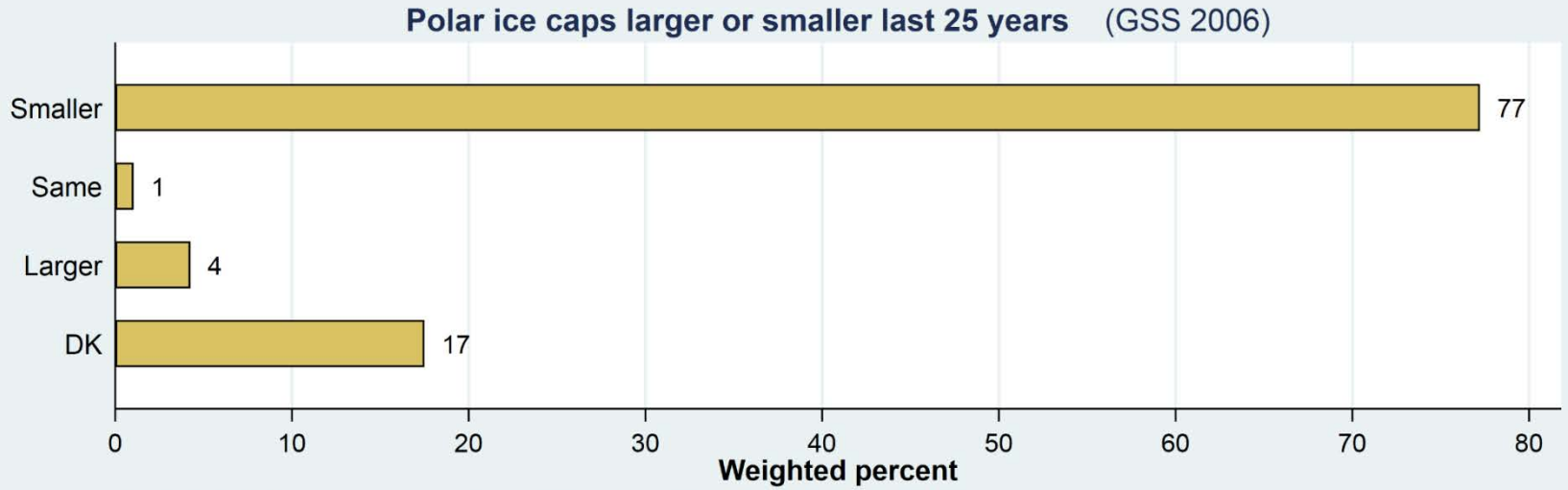
NCERA (2011) & POLES (2016)

"Compared with 30 years ago, area of sea ice on the Arctic Ocean in late summer is …

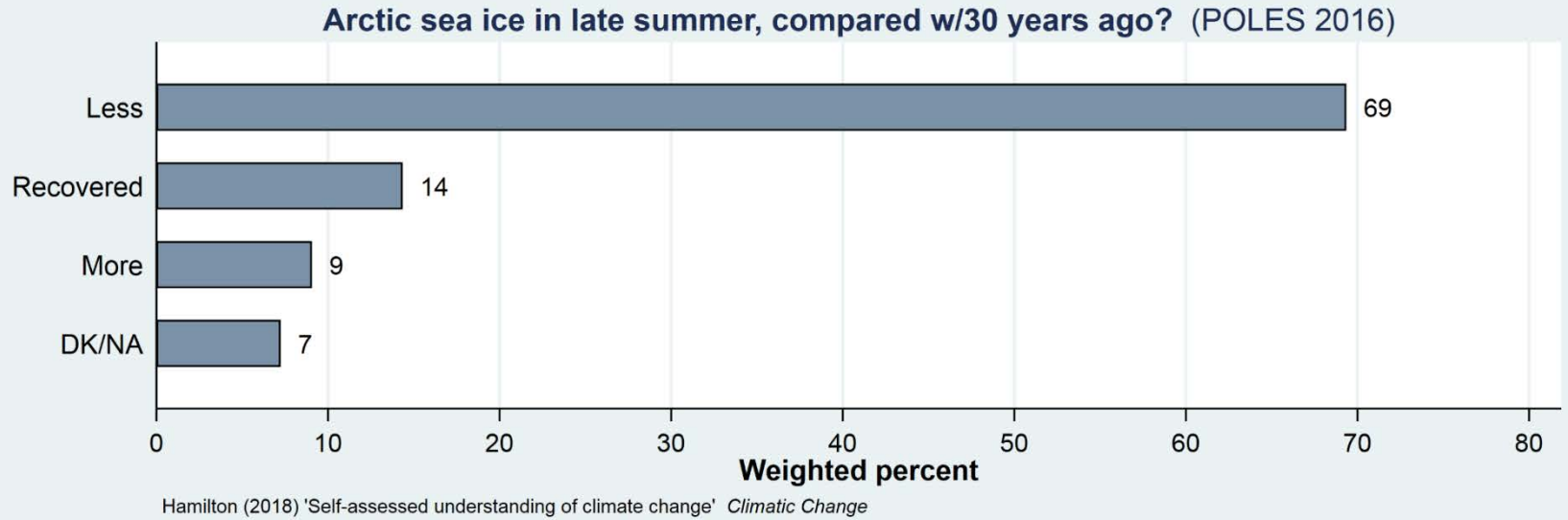
- Less
- Declined & recovered
- More?"

Scientifically-phrased questions might get similar percentages

but permit clear interpretation in terms of "knowledge"



Hamilton (2008) 'Who cares about polar regions?' *Arctic, Antarctic, and Alpine Research*



Hamilton (2018) 'Self-assessed understanding of climate change' *Climatic Change*

GSS 2006/2010

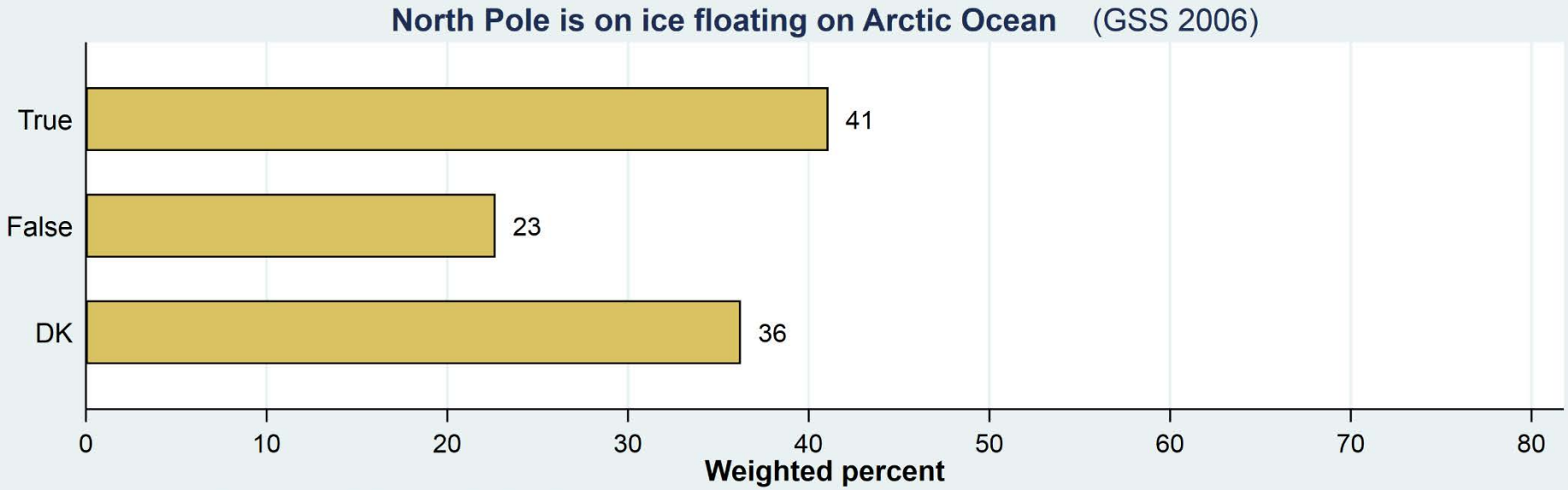
“The North Pole is on a sheet of ice that floats on the Arctic Ocean”

(true/false)

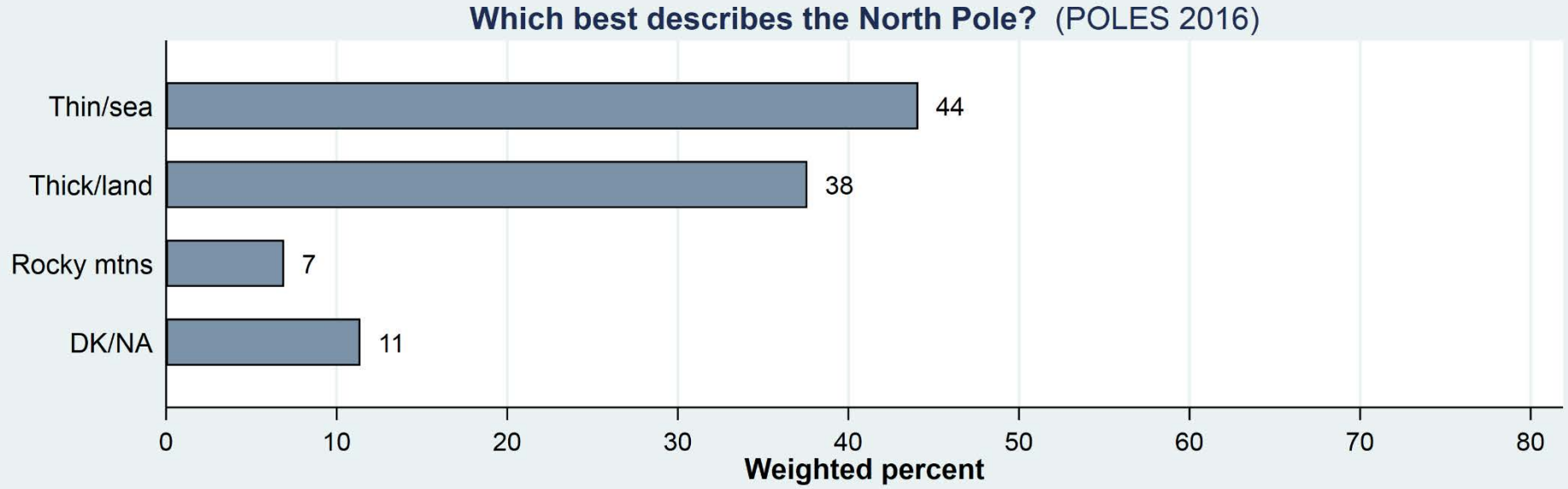
NCERA (2011) & POLES (2016)

“Which best describes the North Pole?

- **Ice a few feet or yards thick, over deep ocean**
- **Ice more than a mile thick, over land**
- **Rocky, mountainous landscape”**



Hamilton (2008) 'Who cares about polar regions?' *Arctic, Antarctic, and Alpine Research*



Hamilton (2018) 'Self-assessed understanding of climate change' *Climatic Change*

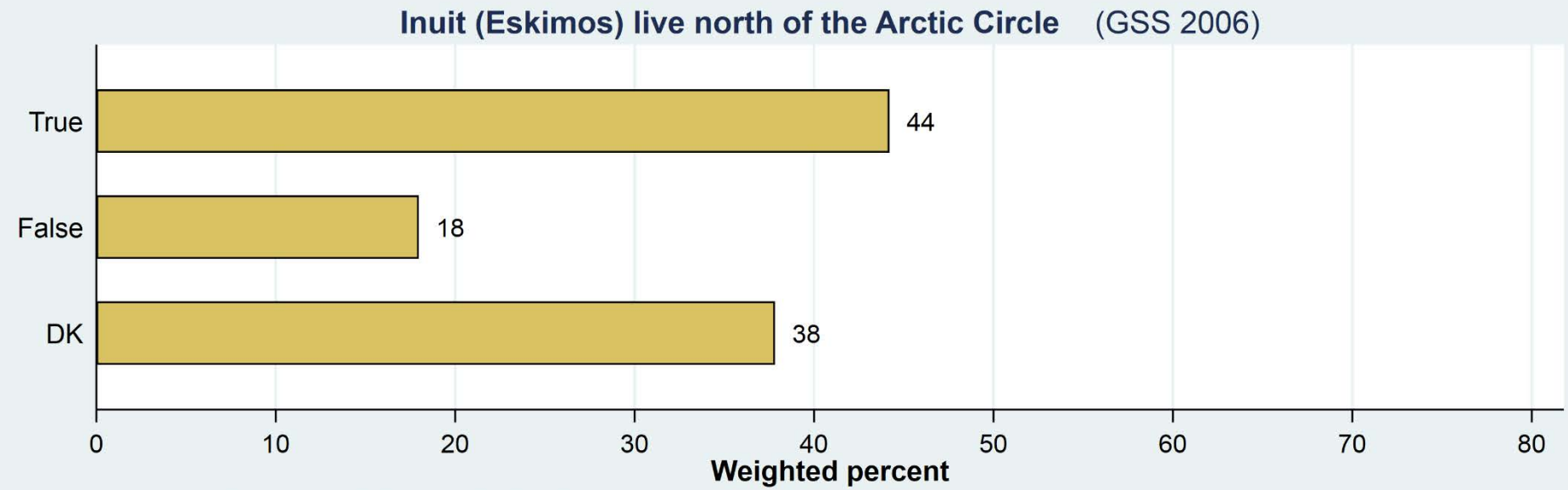
GSS 2006/2010

“Inuit (often called Eskimos) live north of the Arctic Circle”

(true/false)

NCERA (2011) & POLES (2016)

- **“Which country has territory & 1,000s of people north of the Arctic Circle?**
- **United States**
- **China**
- **Estonia**
- **Britain**
- **none of these”**



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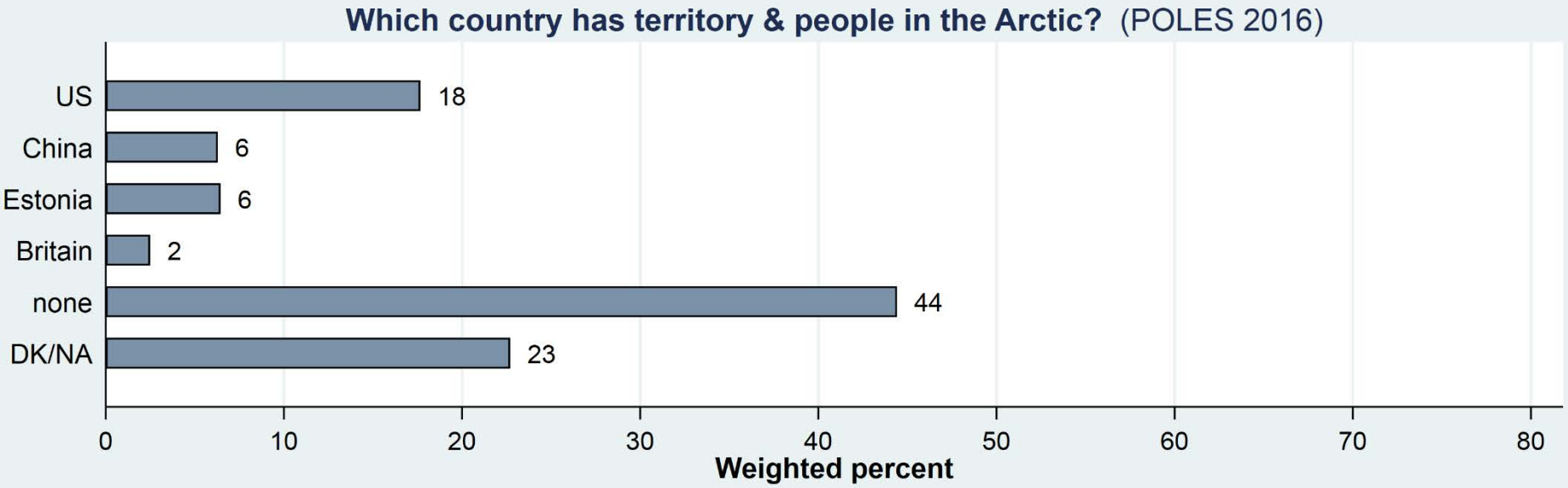
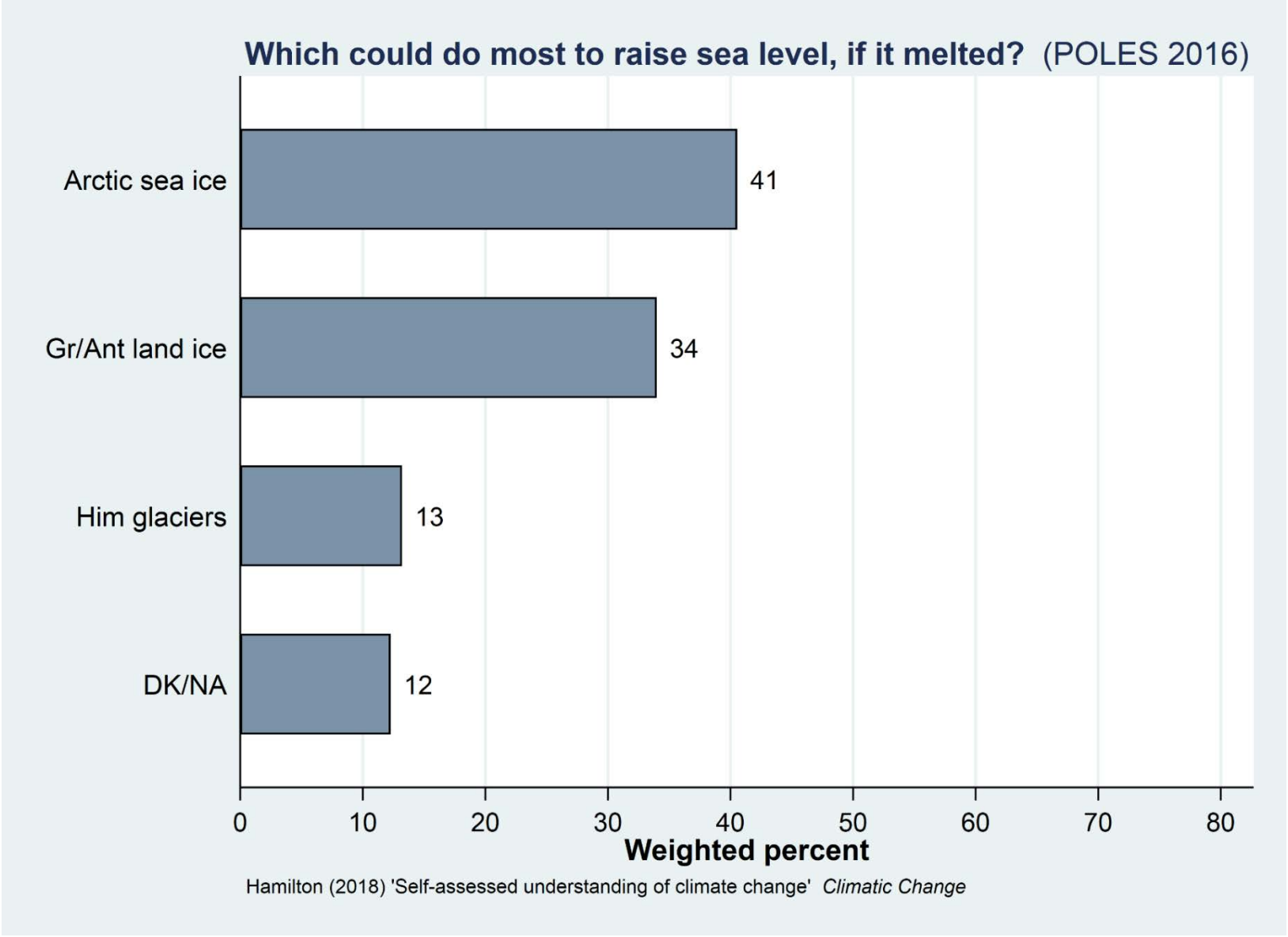


Hamilton (2018) 'Self-assessed understanding of climate change' *Climatic Change*

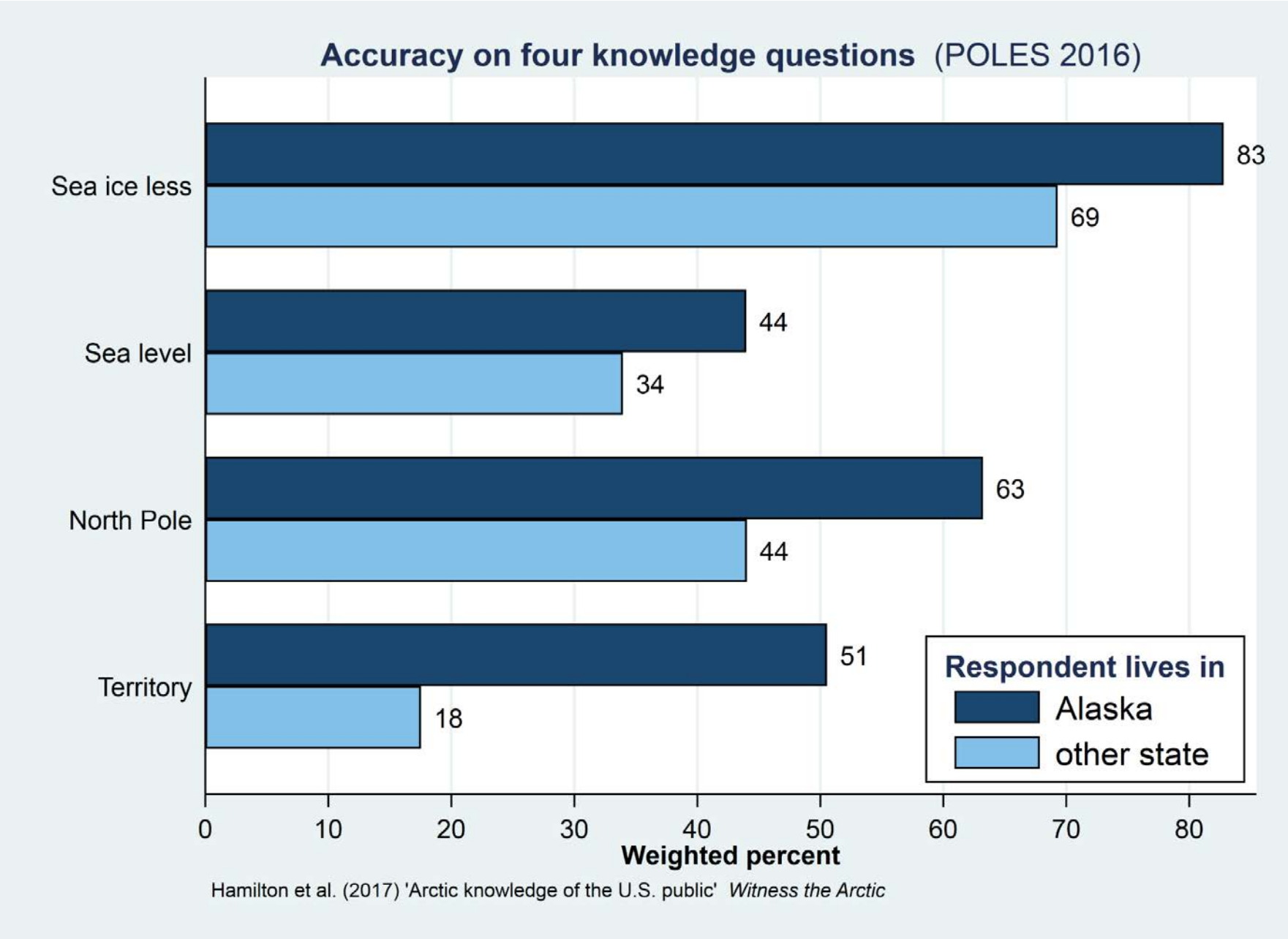
“Which could do most to raise sea level, if it melted?

- **Arctic sea ice**
- **Greenland & Antarctic land ice**
- **Himalayan glaciers”**



Accuracy on Arctic questions is higher among Alaska residents —

But still sometimes not very high

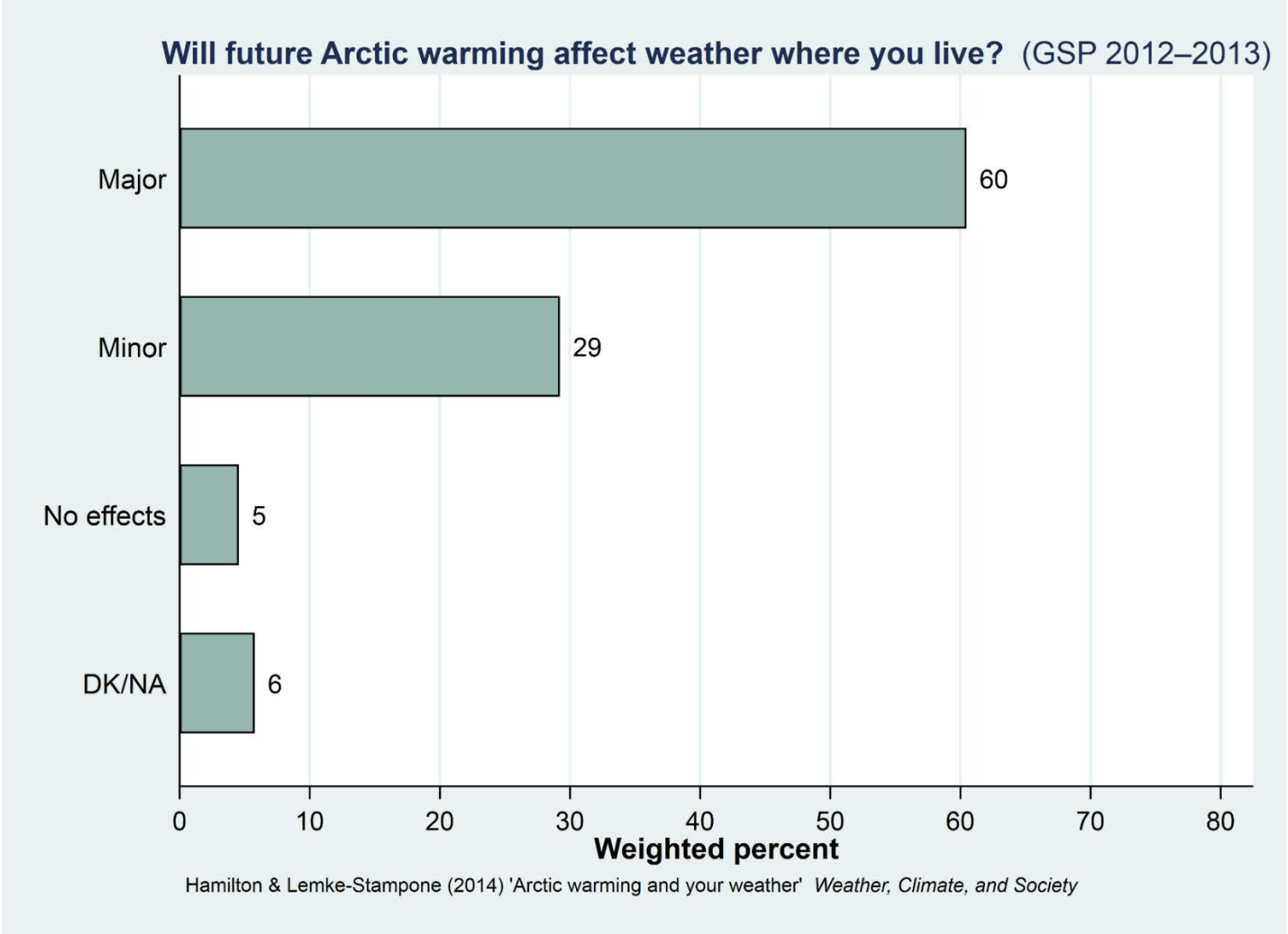


New Hampshire's Granite State Poll provides a cost-effective & representative way to experiment with new questions

"If the Arctic region becomes warmer in the future, do you think that will have

- major effects
- minor effects
- no effects

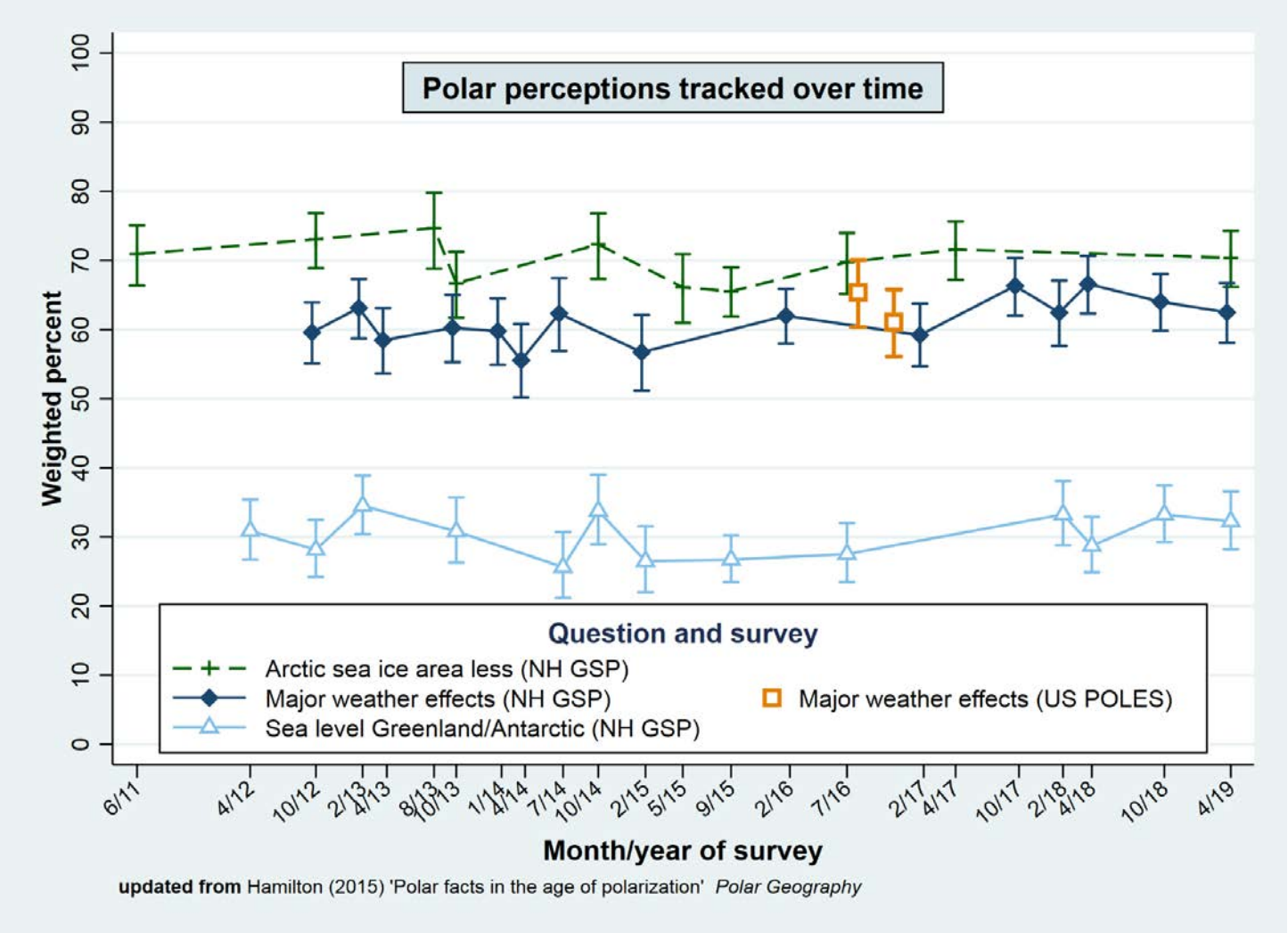
on the weather where you live?"



New Hampshire's Granite State Poll provides a cost-effective & representative way to experiment with new questions

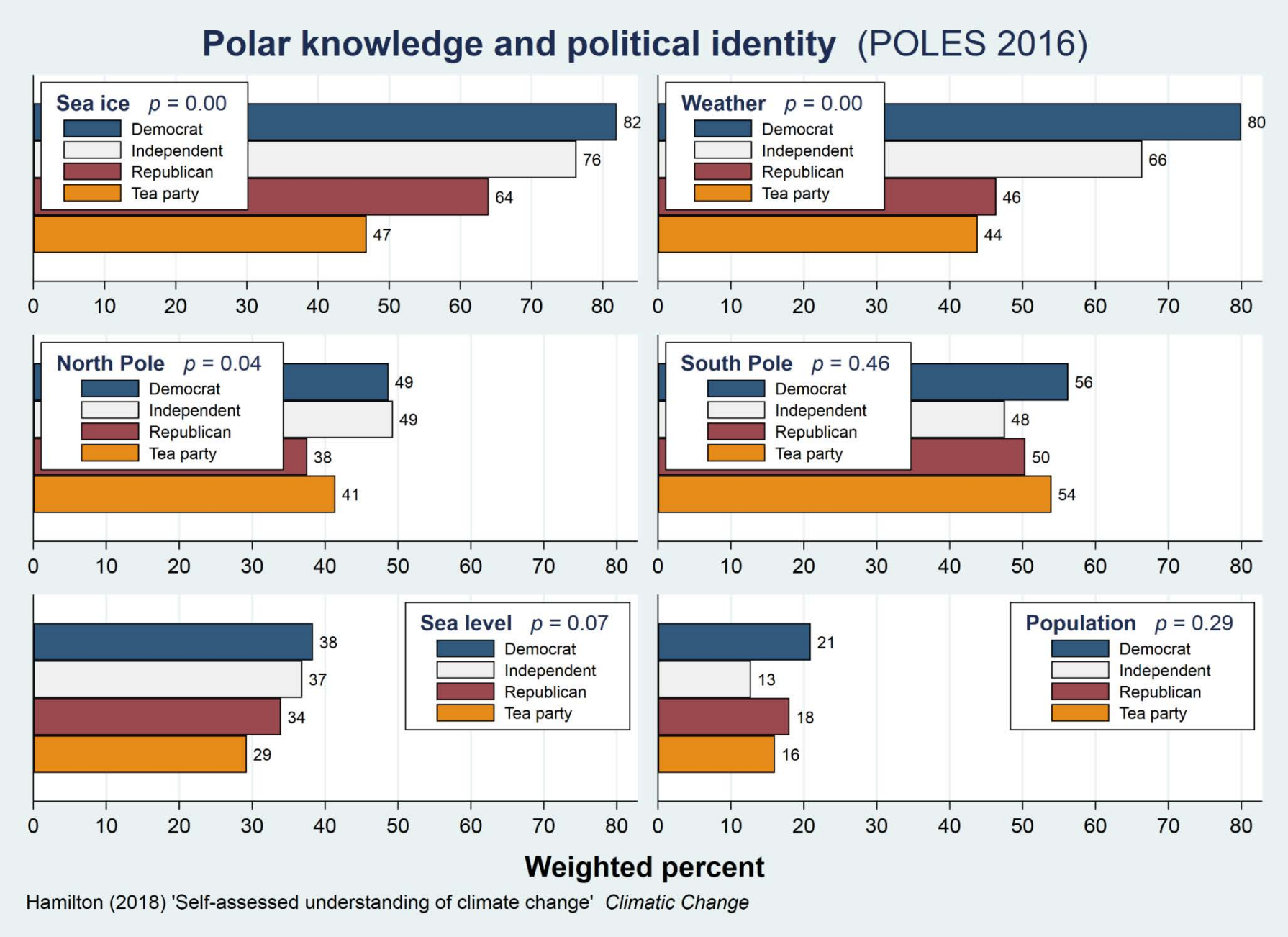
With NH polls we can track knowledge & perceptions over time

Knowledge is not rising



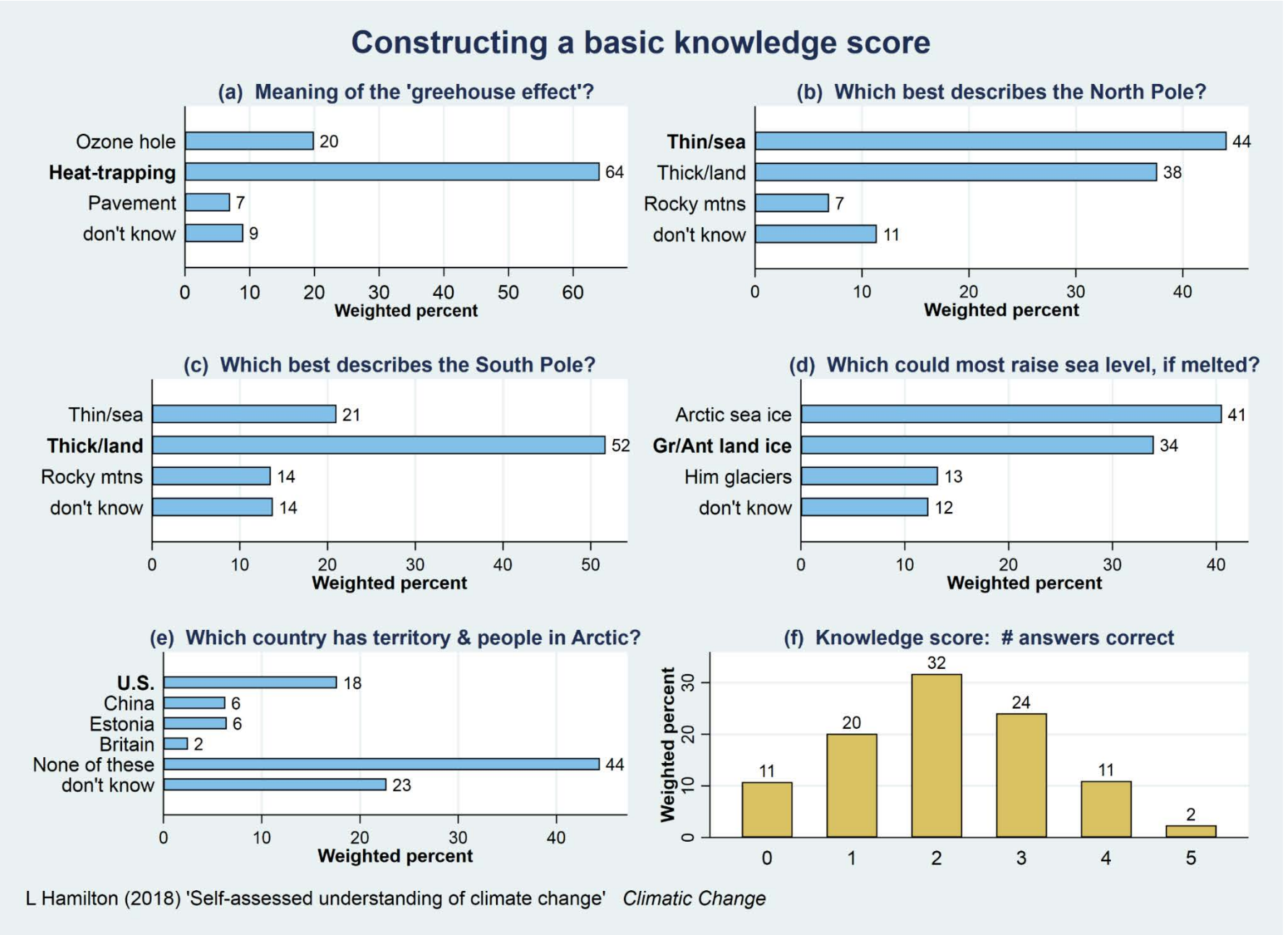
But we learned there are 2 kinds of "facts"

Do your climate/political beliefs suggest an answer, or not?



Hamilton (2018) 'Self-assessed understanding of climate change' *Climatic Change*

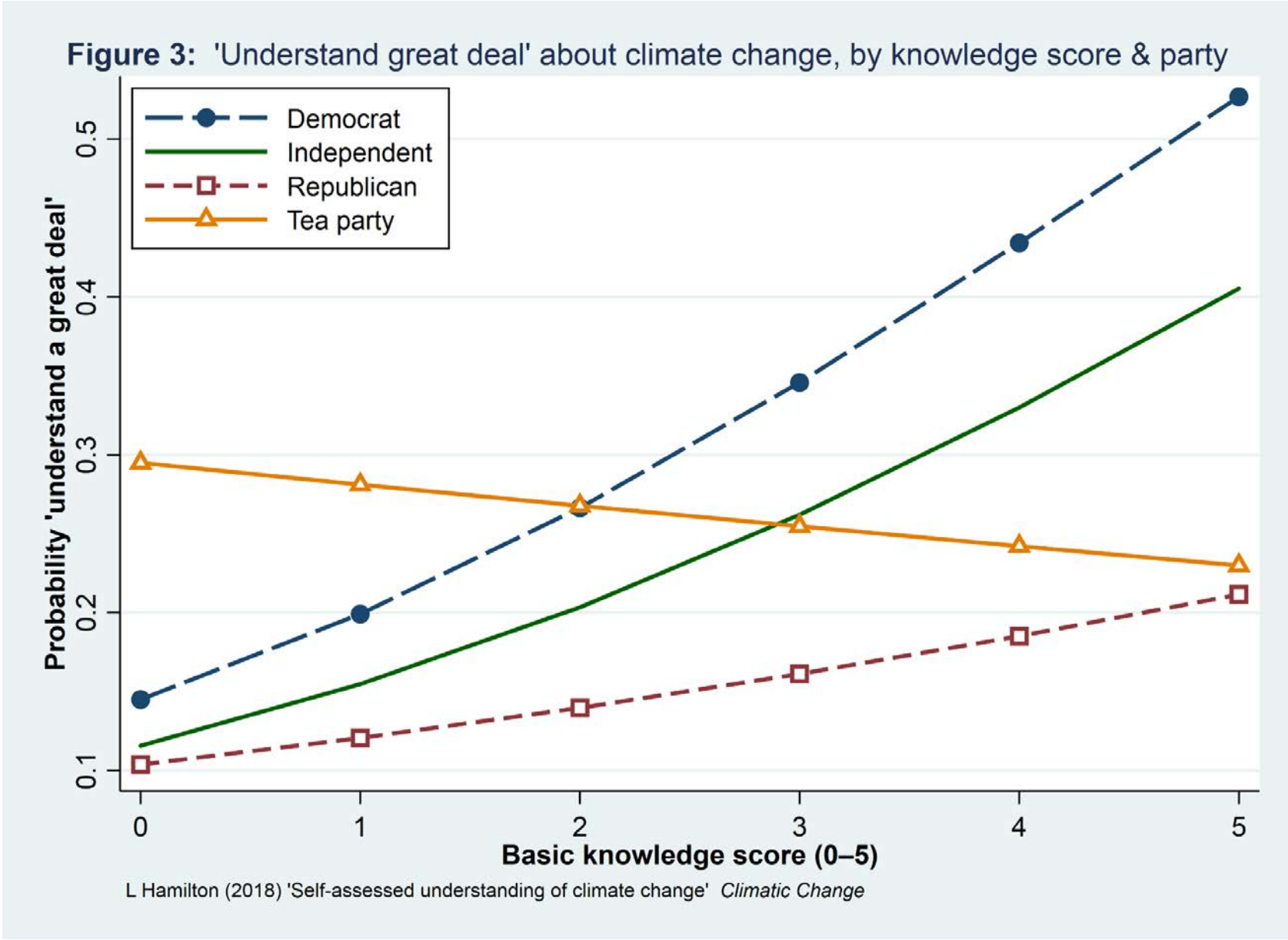
Using 2nd kind of fact, we might construct a belief-neutral polar knowledge score



L Hamilton (2018) 'Self-assessed understanding of climate change' *Climatic Change*

Belief-neutral polar knowledge correlates with self-assessed "understanding" of climate change

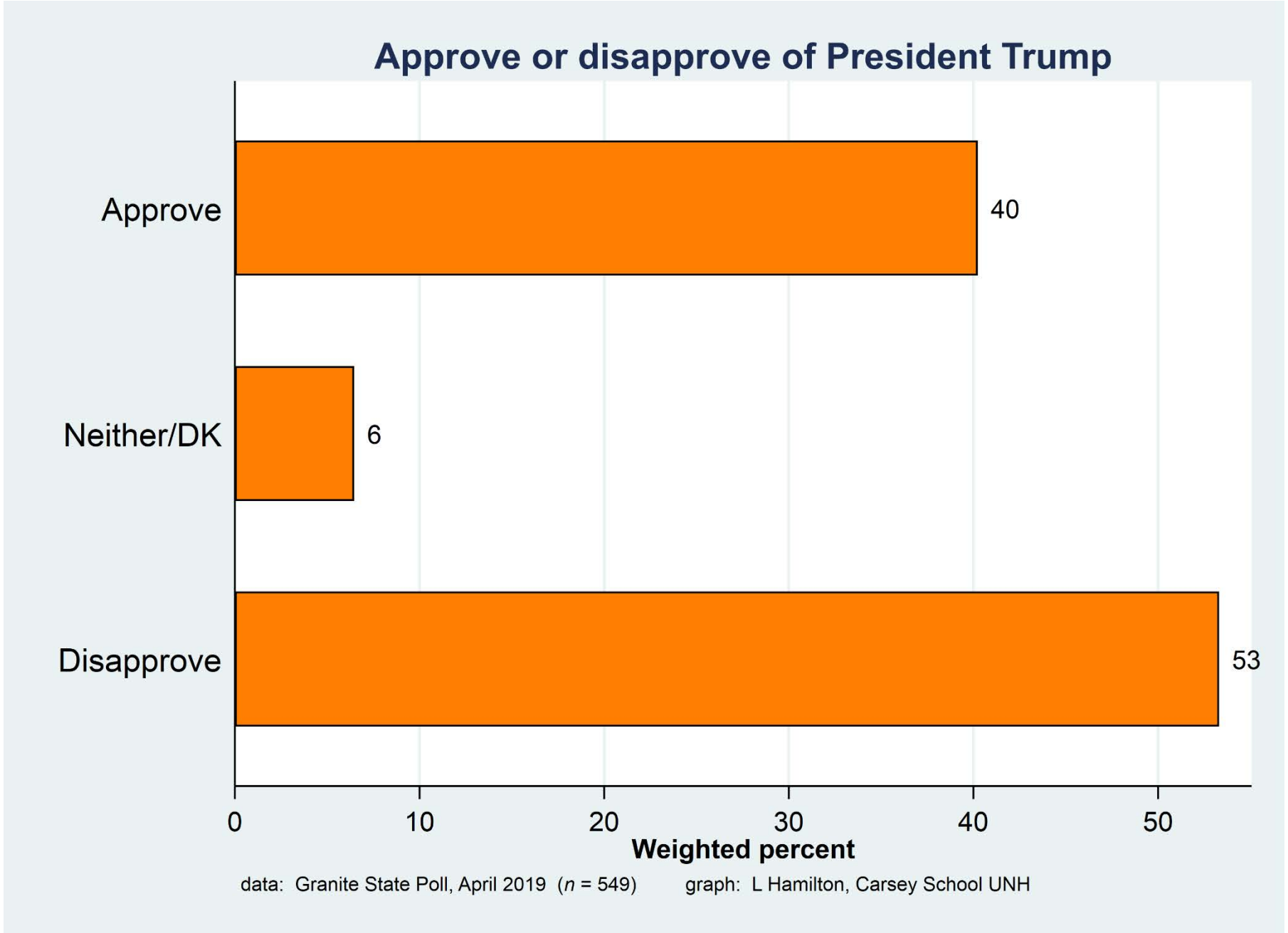
For some people, but not for all



April 2019

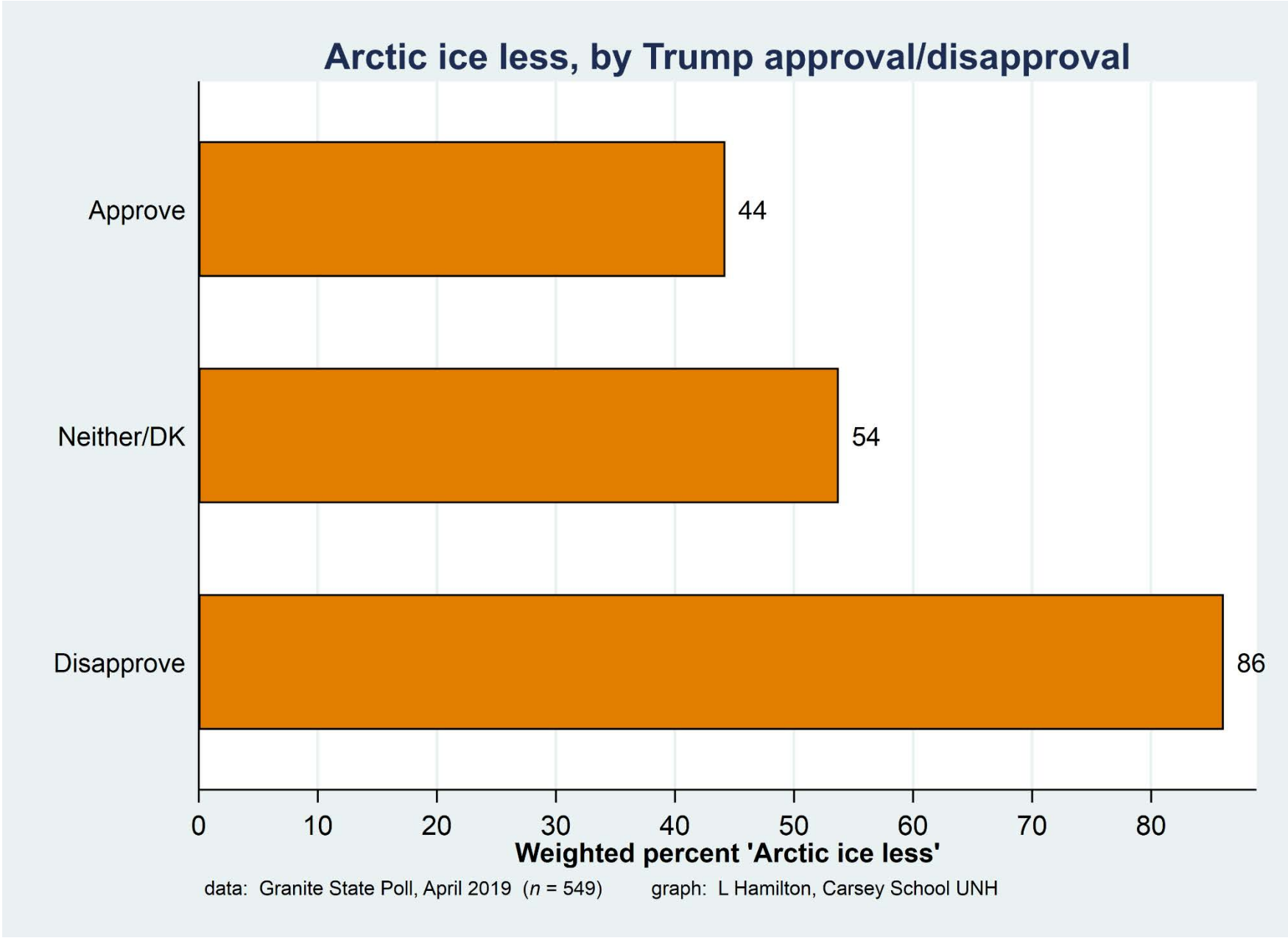
As we approach NH primary season, surveys routinely ask about politics

Do you approve or disapprove of President Trump?



Steep gradient in beliefs about Arctic sea ice:

42-point gap between those who approve & disapprove of Trump



These results (except the most recent) come from many different papers, write for copies

WEATHER, CLIMATE, AND SOCIETY VOLUME 4

Did the Arctic Ice Recover? Demographics of True and False Climate Facts

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Arctic Knowledge of the U.S. Public

By: Lawrence Hamilton, Carsey School of Public Policy, University of New Hampshire
Jochen Wirsing, Department of Sociology, University of New Hampshire
Jessica Brunacini, Columbia Climate Center, Columbia University
Stephanie Pfirman, Environmental Science, Barnard University; and Lamont-Doherty Earth Observatory, Columbia University

Witness Community Highlights

1 May 2017 Issue

University of New Hampshire
Carsey School of Public Policy

CARSEY RESEARCH

National Issue Brief #107 Fall 2016

Where Is the North Pole?

An Election-Year Survey on Global Change

Lawrence C. Hamilton

Summary

The north and south polar regions have been rapidly changing, affecting global weather and sea levels and sparking international concern about shipping and resources. While these global impacts occur, physical changes such as warming and less ice directly affect ecosystems and people living in polar regions. President Obama, visiting the northern Alaska town of Kotzebue in summer 2015, noted the impact of climate change on the American Arctic, where several towns may be abandoned due to rising flood risks in the next few decades, if not sooner.

Results from the survey highlight areas of knowledge, uncertainty, and division. Public views on almost everything related to climate change exhibit wide differences depending on political orientation.

To explore public knowledge and perceptions about climate change, University of New Hampshire researchers conducted the first Polar, Environment, and Science

KEY FINDINGS

- Fewer than one in five Americans knows that their country includes territory with thousands of people living in the Arctic.
- Fewer than half understand the locations of the North or South Poles.
- A majority recognizes that Arctic sea ice is declining and CO2 levels are rising, but knowledge of these scientific facts varies depending on political preference.
- More than 60 percent agree that human activities are changing Earth's climate.
- Public acceptance of the scientific consensus on climate change has been gradually rising in recent years.
- Supporters of Donald Trump are less likely to trust scientists for information about climate change, to think that climate change is causing important problems, or to support


Questions?