

WHAT THE FUTURE: CONFLICT

Why polarization is our biggest security threat PAGE 13

How safety and security are evolving in the digital age PAGE 18

How veteran healthcare will shape private healthcare and vice versa PAGE 23

Five tensions that will drive change PAGE 28

+ Experts from Congress, Veterans Affairs, military and intelligence, a defense contractor and a global affairs think tank discuss how we'll protect ourselves in a changing world

GAME CHANGERS



How the future of conflict will transform business in a fragmented world

While in the final stages of producing this issue, the world shifted around us again with the war between Israel and Hamas. We considered many ways to present this content, which is as relevant as ever. It's an issue about conflict and preparedness in many forms, including armed conflict both abroad and at home. Our focus is always how people and businesses react to the world around them and how that shapes our path forward.

According to Bloomberg, the term “geopolitics” has come up in earnings calls in 2023 three times as often as it did two years ago. Goldman Sachs launched a new division to advise clients on these risks. Why? Because we live in uncertain times, when the world order and narrative we have lived under for generations feels tenuous. That's apparent in the news and in the C-suite.

We live in a landscape of a global economy reeling from the shockwaves of a pandemic, wars in Ukraine and Israel, ongoing conflicts in Africa, and tensions among all the major global superpowers. Those massive events have brought numerous business issues to the forefront, including the resiliency of supply chains and the complex web of economic dependencies that nations have on their allies and adversaries alike. We see changing relationships with systems and governments, a growing component of mental health in discussions of healthcare, and challenges in

recruiting and training a properly skilled workforce, as well as with cybersecurity, disinformation and the impending reinvention of nearly everything by advances in artificial intelligence. Oh, and climate change.

That prompts even staunch globalists into talking about nationalistic tendencies such as reshoring of manufacturing, at least for critical goods and components.

But as many of the experts in this issue say, solving these problems requires coordination and agreement across a wide range of policy objectives. With polarization and dysfunction being the dominant governing states these days, getting to solutions seems less and less plausible.

As a result, we're left with a near-term future based on fragmentation, polarization and perhaps rising and spreading conflicts. How do we navigate it?



92%

of U.S. adults say they have not served on active duty in the U.S. Armed Forces.

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

When there is conflict, it doesn't affect everyone equally, but it does affect everyone. Perhaps it's in a region where you have employees or offices that need support. Or you need to provide aid. Or it affects the mental health of those who might not be directly affected but are dealing with resulting stress and uncertainty. How do you plan for an uncertain future?

Foresight is being employed more and more by governments and businesses alike to plan for increasingly complex, high-stakes scenarios.

Formally thinking about the future is required in a world like the one we're seeing today. The traditional definitions of conflict and war have moved beyond one country declaring another the enemy and sending troops into the battlefield. We're seeing that in many regions, sure. Some conflicts employ more "traditional" ways of fighting, with tanks and landmines and missiles. But we are also seeing more futuristic conflicts waged with everything from off-the-shelf drones and cell phones to cutting-edge satellite communications disrupting ideas about how war is waged or even defined.

Conflict is taking on new forms: tactical strikes on foreign soil, intentional disruption of trade routes, blocking access

to resources, like hunting grounds or minerals used for raw materials or even fresh water.

Conflict can be a cyberattack or a disinformation campaign attempting to disrupt an election. How do you even determine who is behind attacks like that? And how much harder (or easier) is the rise of AI going to make it to answer all these questions?

Answering questions of conflict seems easier in the world where the conflict is with external forces. Yet in the U.S., we're also experiencing so much internal conflict in creating policy that it's easy to imagine a world where military solutions become easier to agree on than political ones.

That internal conflict is proving every bit as disruptive as the external conflict all around us, including how to respond to conflict in the broader world.

Businesses can't afford to wait for governments to solve all these problems. They need to be thinking about not only plausible solutions, but a very plausible world with no solutions. Here is some intelligence to get you started.

Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.



9%

of U.S. adults have an immediate family member currently serving on active duty in the U.S. Armed Forces, Military Reserves, or National Guard.

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Contents



1. Territory map

The future of conflict will be driven by forces coming from six directions. We map them out.

2. By the numbers

We start with the state of conflict today through Ipsos data about what citizens see as threats, what they'll defend and how prepared they are for disaster.

3. The lay of the land

We talk with a sitting member of Congress and experts from the Veterans Health Administration, military and intelligence, a defense contractor and a global affairs think tank about potential future risks to the nation's security and how policymakers, citizens and businesses can galvanize our protections for now and tomorrow.

4. Tensions

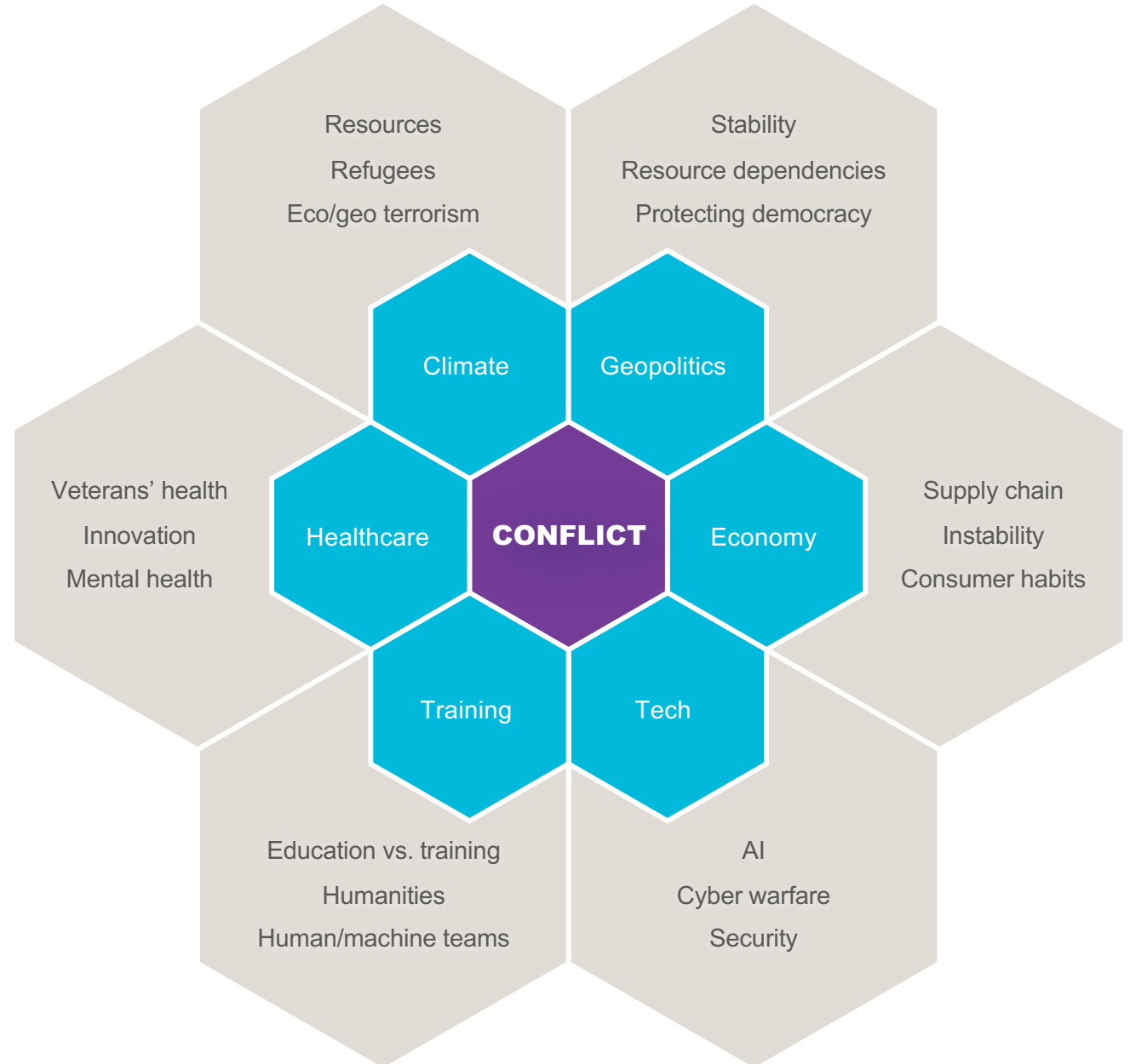
Will there be peace or conflict in our future? Are businesses prepared to continue in a long-term conflict or disaster or not? Will climate change drive future conflicts or will global cooperation provide solutions? How people's opinions lean today could influence how we prepare to protect ourselves.

5. Appendix

Want more? We show our work, including the full text of our expert interviews, plus our contributors and links to what we're reading today that has us thinking about tomorrow.

Territory: What will drive the future of conflict?

No reasonable person wants conflict. But increased global uncertainty among G20 nations and scarcity of resources will shape economic stability, how human rights catalyze domestic unrest, and how conflict, defense and security will look in the future.

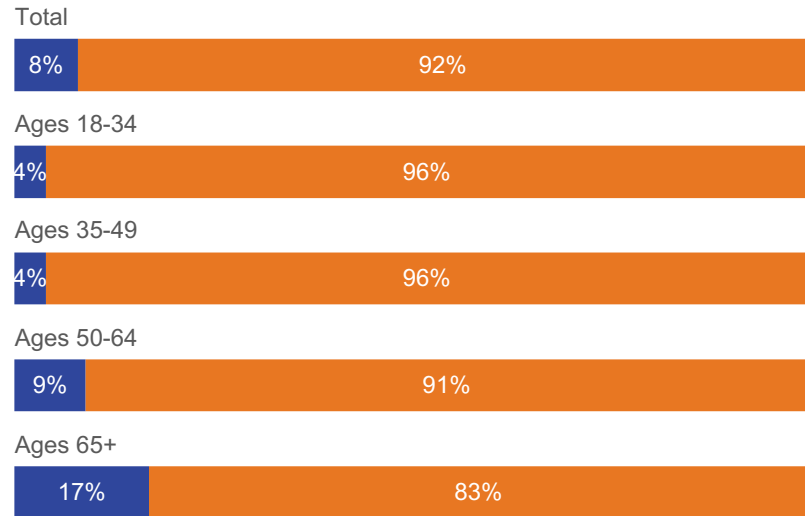


Conflict by the numbers

Who our defenders are

Few Americans under age 50 have been U.S. service members

Q. Did you ever serve on active duty in the U.S. Armed Forces?



■ Yes ■ No

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Far more men than women have served

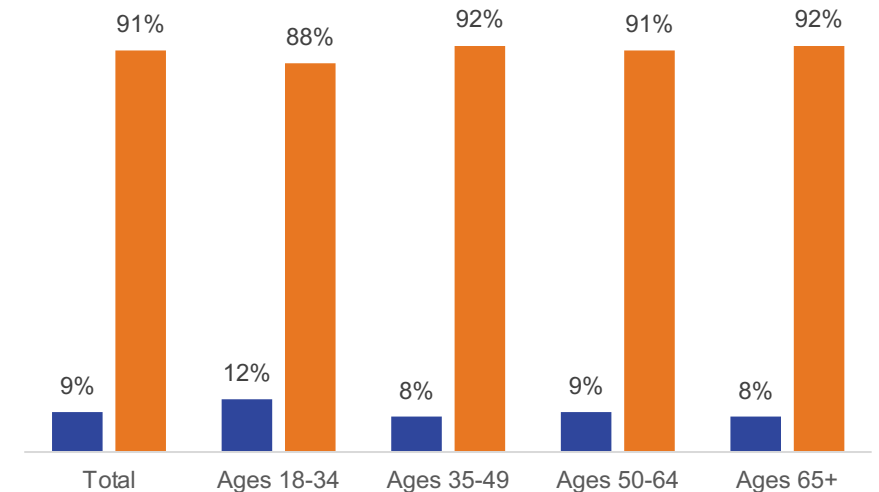
Q. Did you ever serve on active duty in the U.S. Armed Forces?

15% Male

2% Female

The likelihood of having a family member in the military is consistent across age groups

Q. Do you have an immediate family member currently serving on active duty in the U.S. Armed Forces, Military Reserves, or National Guard?



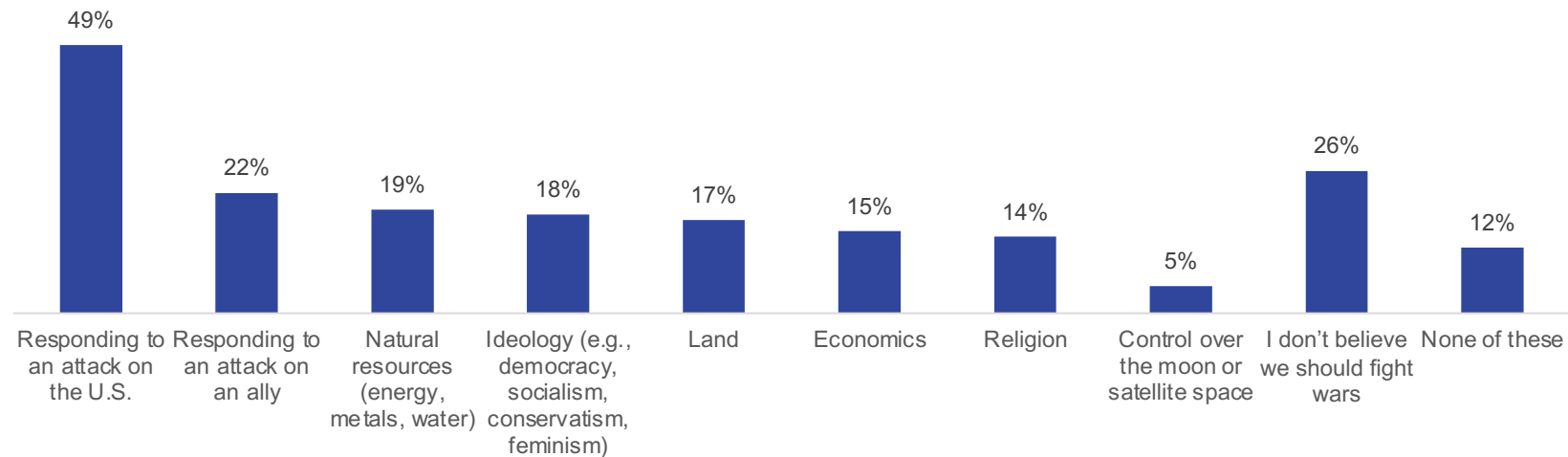
■ Yes ■ No

Conflict by the numbers

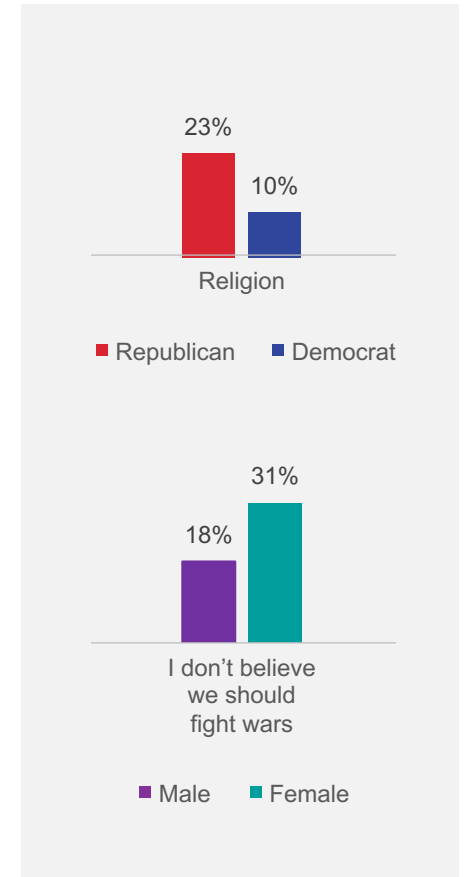
What we're willing to fight for

More people are willing to defend if attacked than for other reasons with notable differences within groups

Q. What reasons, if any, would you be willing to fight for or support the U.S. in if it joined conflict over them? (% Total)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

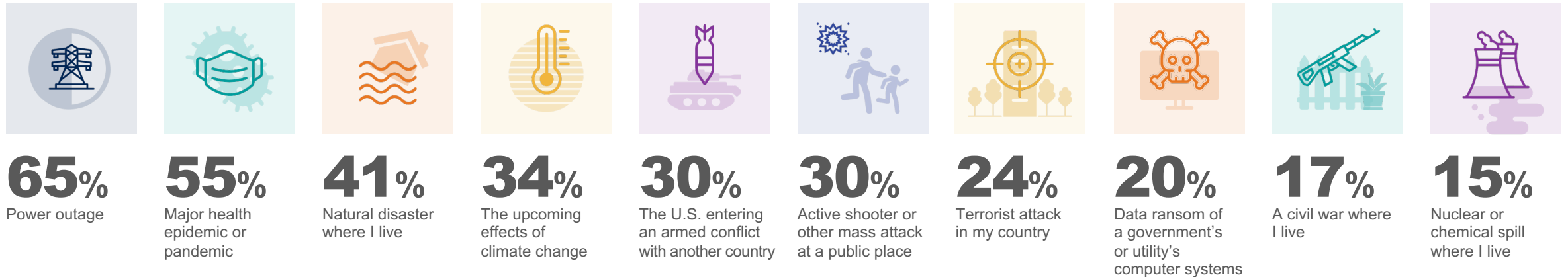


Conflict by the numbers

How prepared we are for catastrophe

Americans largely don't feel very prepared for havoc

Q. How prepared, if at all, do you feel for the following catastrophes or other devastating events? (% Prepared)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Emerging Global trends

What people in global countries see as their biggest threats

The perceived threat of cyber hacks is on par with that of a nuclear attack, according to the most recent Ipsos Global Advisor poll on threats.

This concern varies across countries and regions, and those in the Middle East and Africa expressed the highest concern for these two threats at 83% and 82%, respectively. People in North America expressed the highest fears toward hacking and major natural disasters at 78% each.

These findings underscore the critical nature of protecting digital privacy in our interconnected world. The implications for policymakers to corporate leaders is that they must recognize the importance of strong security measures, fostering international cooperation, and investing in cybersecurity.

Interestingly, the lower levels of fear surrounding armed conflicts with other nations may also reflect a shift towards technologically driven warfare.

People across 33 countries most fear nuclear attacks and cyber hacks

Q. How real do you feel the threat is of any of the following happening in the next 12 months? (% Global country average very real threat/somewhat of a threat)

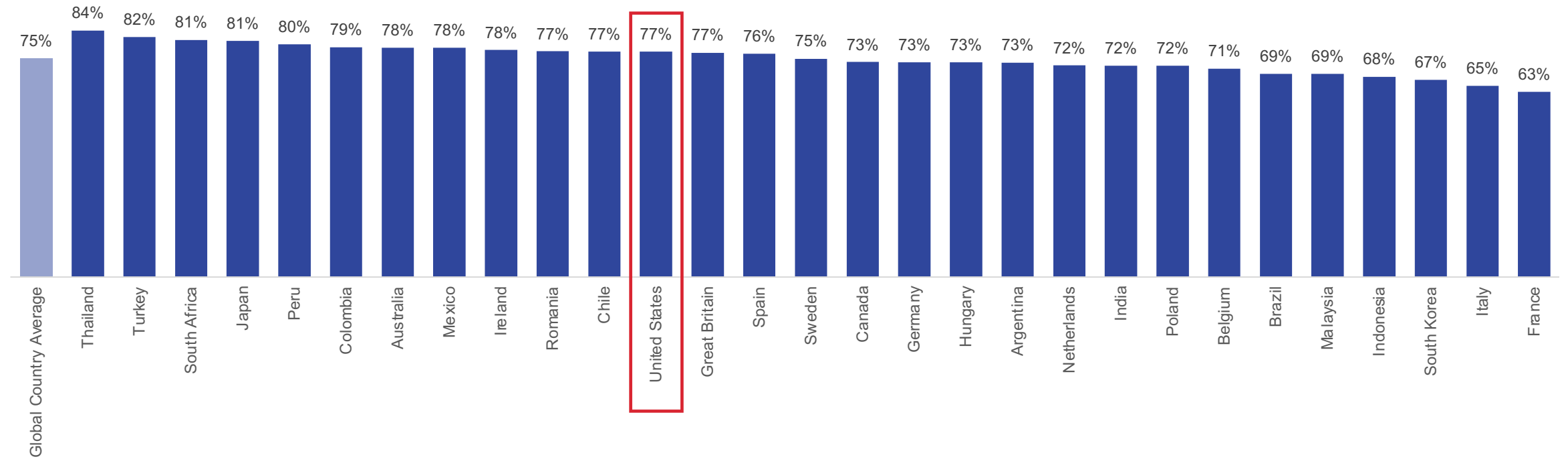
- 75%** A nuclear, biological or chemical attack taking place somewhere in the world
- 74%** Some person, organization or country hacking into either your public, private or personal information system for fraudulent or espionage purposes
- 66%** A major natural disaster occurring in [COUNTRY]
- 61%** The personal safety and security for you or your family members being violated
- 61%** A terrorist attack taking place in [COUNTRY]
- 60%** A major health epidemic breaking out in [COUNTRY]
- 59%** A violent conflict breaking out between ethnic or minority groups in [COUNTRY]
- 50%** [COUNTRY] being involved in an armed conflict with another nation

(Ipsos Global Advisor survey conducted Sept. 23-Oct. 7, 2022, among 30,506 adults in 33 countries.)

Most people worry about a future attack

Three in four people among the global average feel a high level of concern over a nuclear attack

Q. How real do you feel the threat is of any of the following happening in the next 12 months – A nuclear, biological or chemical attack taking place somewhere in the world (% Very real threat/somewhat real threat)



(Ipsos Global Advisor survey conducted Sept. 23-Oct. 7, 2022, among 28,506 adults in 30 countries.)

Why considering the worst case needs to be part of your planning



Maria Langan-Riekhof

Vice chair for analysis, acting principal vice chair of the National Intelligence Council

The National Intelligence Council's role is to coordinate perspectives across the nation's 18 intelligence entities from the CIA to the Department of Energy and connect them with U.S. policymakers. In her previous role as director of the Strategic Futures Group in the Office of the Director of National Intelligence, Maria Langan-Riekhof led the development of the latest quadrennial Global Trends report subtitled, "A More Contested World." So, what does that conflict mean for the future?

83%

of U.S. adults believe that every person should be prepared for emergencies.

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)



At the individual level, most Americans feel unprepared for Conflict or disasters. But the government is always preparing. Foresight plays a big role. Langan-Riekhof is presenting a host of trends to leadership to inform security and economic policies alike. The process requires questioning assumptions. When someone says, “That will never happen in my country,” that’s exactly when you should ask, “So what if it did?” she says.

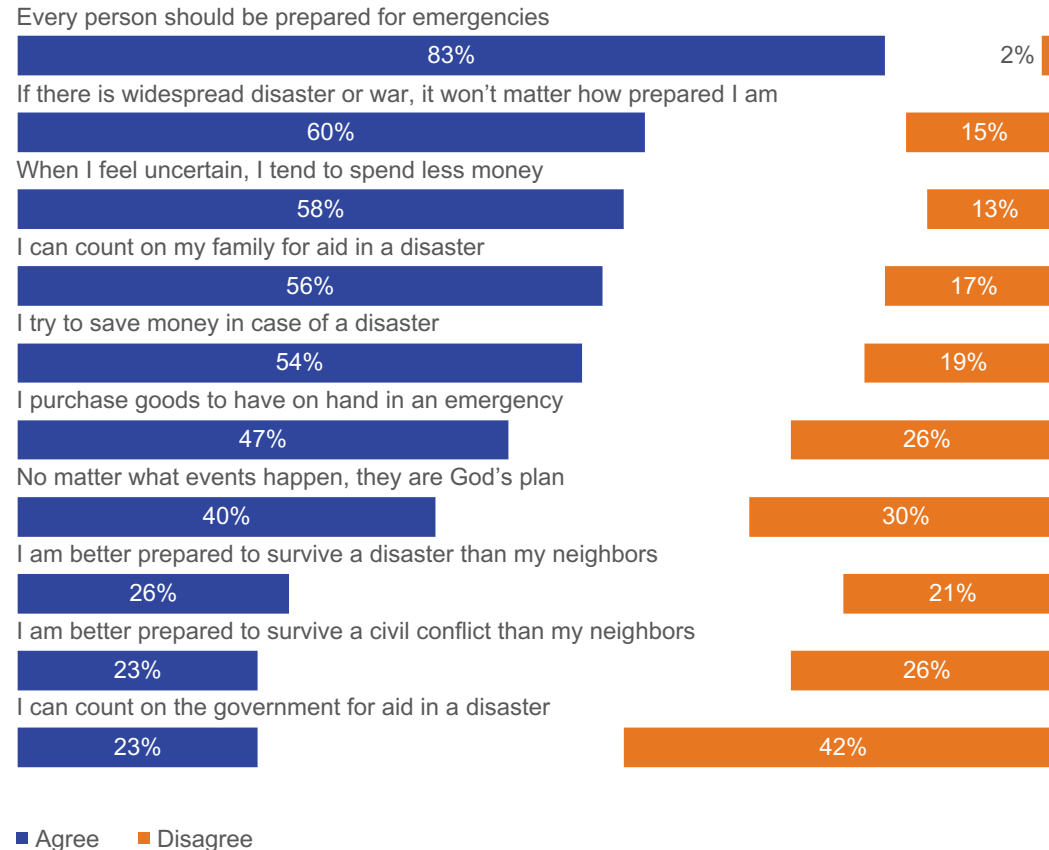
“We need to think about these challenges and how they overlay each other and could compound to make any of these strains, whether it’s on trade or supply routes, exponentially worse.”

Thinking that broadly requires a systematic approach and Langan-Riekhof keeps humans at the center of it. “Foresight helps us identify the indicators, the key factors and variables, and the choices that humans can make,” she adds.

[Read the full Q&A on page 35.](#)

People tend to depend on themselves for surviving emergencies

Q. How much do you agree or disagree with the following? (% Total)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)



Why polarization is our biggest security threat



Elissa Slotkin

U.S. Rep. (MI-7th District)

U.S. Rep. Elissa Slotkin has seen war, conflict and the surrounding polices firsthand. Her background includes deployments in Iraq with the CIA, as well as work at the Pentagon, the White House and her own stint at the Office of the Director of National Intelligence. Today, she represents one of the swingiest swing districts in the nation. In a global economy, conflicts in one region can affect others quickly. There are many threats out there, but she thinks the biggest is close to home.

57%

of U.S. adults believe a large-scale cyberattack on U.S. infrastructure or businesses is likely to happen in the next 12 months.



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)





One could argue that all wars are economic. But so many of the tensions in the world today are coming down to competition for resources, control of shipping lanes and tensions between globalization and nationalism that are both economic and ideological. Resolving these challenges through policy is going to be difficult, Slotkin says.

“Polarization in the U.S. is the No. 1 threat to our national security because it completely freezes decision-making.”

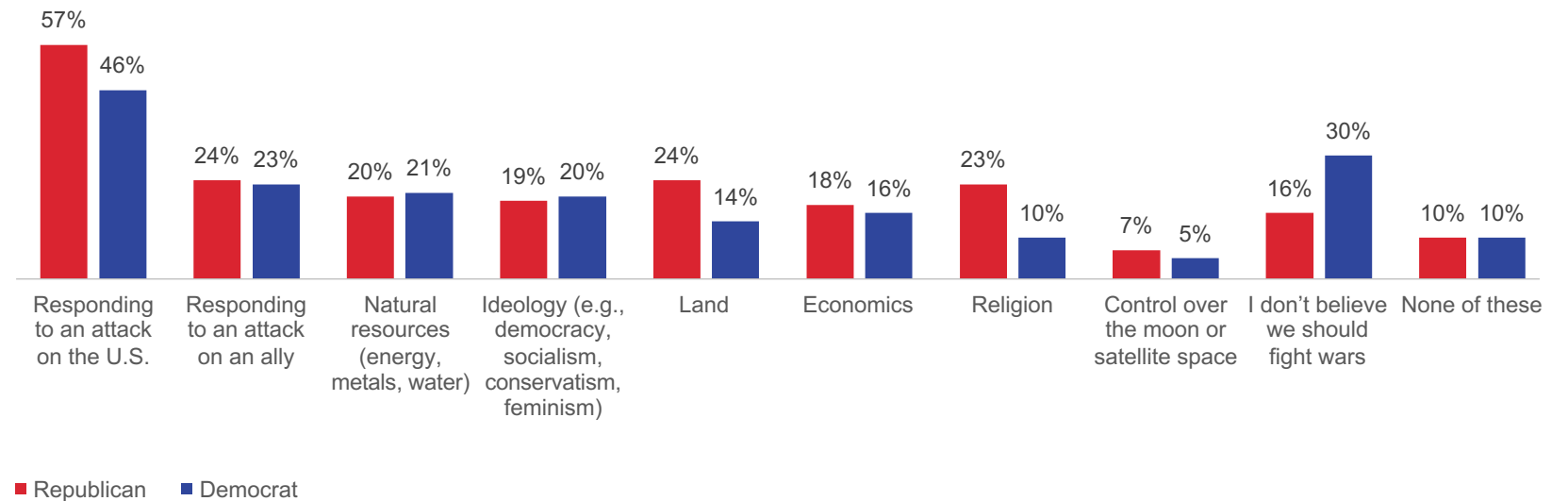
Breakdowns take many forms, from debates over supporting our allies to aligning on trade policies to inability to pass legislation to fund our military or our government. Our nation’s enemies are watching.

The nation’s dysfunction also makes it harder for businesses to plan and act to stay competitive in a global marketplace and for consumers to feel confident in the stability and safety of the world around them.

[Read the full Q&A on page 37.](#)

How partisan divides shape Americans’ motivations for joining conflict

Q. What reasons, if any, would you be willing to fight for or support the U.S. in if it joined conflict over them?



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)



What businesses need to balance for future U.S.–China relations

U.S.–China relations have reached a low point in recent years and American companies are increasingly wary of doing business with China. As American consumers feel under financial pressure, most see China as an unfair rival.

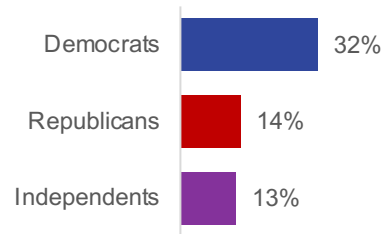
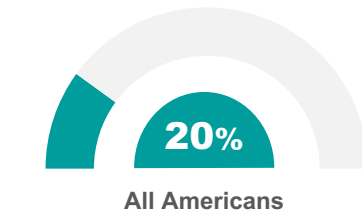
The majority of people are pessimistic that relations will improve, and few say relations with China will become more friendly over the next five years. How this will translate into policy is unclear. While 67% of Americans say that China has had a negative impact on the health of America’s economy, 43% say doing business with China has improved their life by offering lower prices on consumer goods. These competing views create a tricky balancing act for the foreseeable future, says Ryan Tully, a director in Ipsos’ Public Affairs team.

“American businesses are confronted with the reality that doing business in China brings considerable risk, but they also understand that American consumers rely on the lower prices that Chinese manufacturing affords them.”

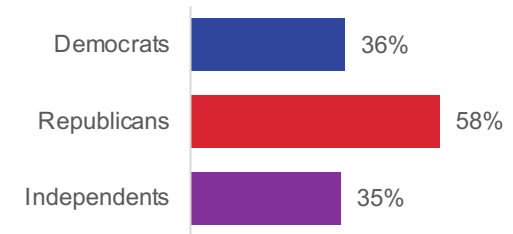
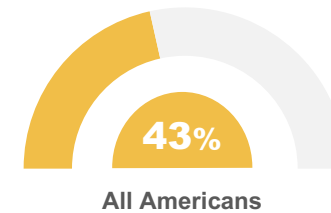
Perceptions of U.S.–China relations over the next 5 years vary by party

Q. Please indicate whether you agree or disagree with the following statements:

The U.S. – China relationship will become more friendly in the next 5 years



Direct military conflict between the U.S. and China in the next 5 years is likely



(Source: Reuters/Ipsos survey conducted by Ipsos Aug. 14-15, 2023, among 1,005 U.S. adults.)



How improving tech literacy among policymakers would strengthen security



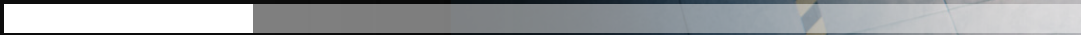
Jake Sotiriadis

Director, The Center for Futures Intelligence,
National Intelligence University

When the pandemic began, the Air Force released a series of scenarios from its foresight team that included discussion of how if there was prolonged reduction of commercial air travel, that would free up more sky space for military training flights. Jake Sotiriadis was then serving as the first futurist for the Air Force. Now at National Intelligence University, he is thinking even more broadly about the future of conflict. Here's what's on his mind.

23%

of Americans think they can count on the government for aid in a disaster.



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)





One could look at advances in cyber warfare, fighter jets, drones and artificial intelligence (AI)-assisted weapons and think that technology drives the future of conflict. But the flip-side is true, too. Efforts around conflict and defense have led to many of the most transformative technologies, not the least of which is the internet itself. For that level of innovation to continue, policy leaders also need some degree of savvy and that’s not always there, says Sotiriadis.

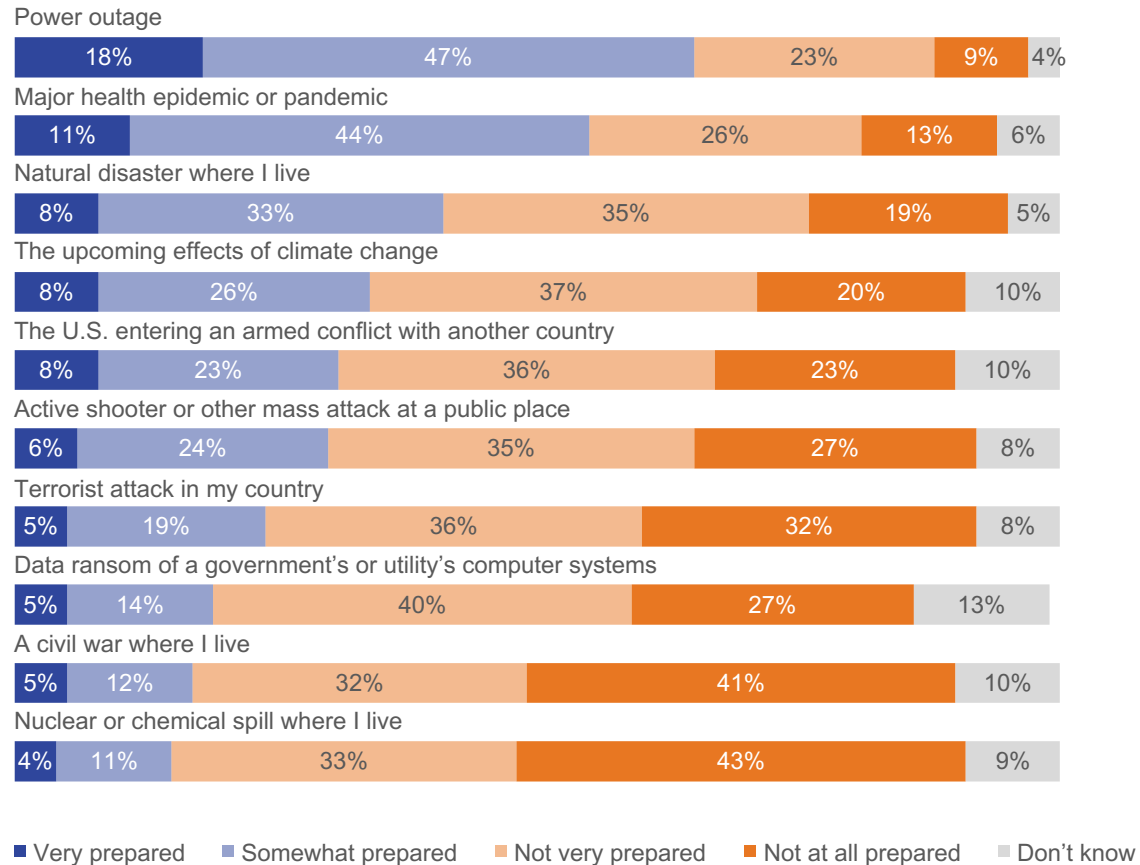
“We’ve got to educate our decision-makers and senior leaders to take some bold steps to take advantage of the technology.”

As even off-the-shelf technologies start to play a bigger role in how we fight wars and the pace-of-change accelerates, having leaders who can smartly invest and regulate will be critical for both the defense and civilian sectors.

[Read the full Q&A on page 39.](#)

Few Americans feel prepared for major disasters

Q. How prepared, if at all, do you feel for the following catastrophes or other devastating events? (% Total)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

How safety and security are evolving in the digital age

CONFLICT

Technology



Dominic Perez

Chief technology officer, Curtiss-Wright

It's been said that the best offense is a good defense, but a good defense is a good defense, too. Dominic Perez, chief technology officer for aerospace manufacturer Curtiss-Wright, thinks new improvements in telecommunications, health monitoring and data collection can keep soldiers safer in unpredictable times. These advancements hold promise on the domestic front, too, from powering humanitarian work to keeping businesses and critical infrastructure secure from cyberattacks.

20%

of Americans say they feel prepared for a large-scale cyberattack on U.S. infrastructure or businesses.

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)



Recent months have brought brinksmanship and land-grab blitzes to the world stage. With the geopolitical picture changing from day to day, big data is playing a big role in helping Army strategists make informed decisions and keep the peace.

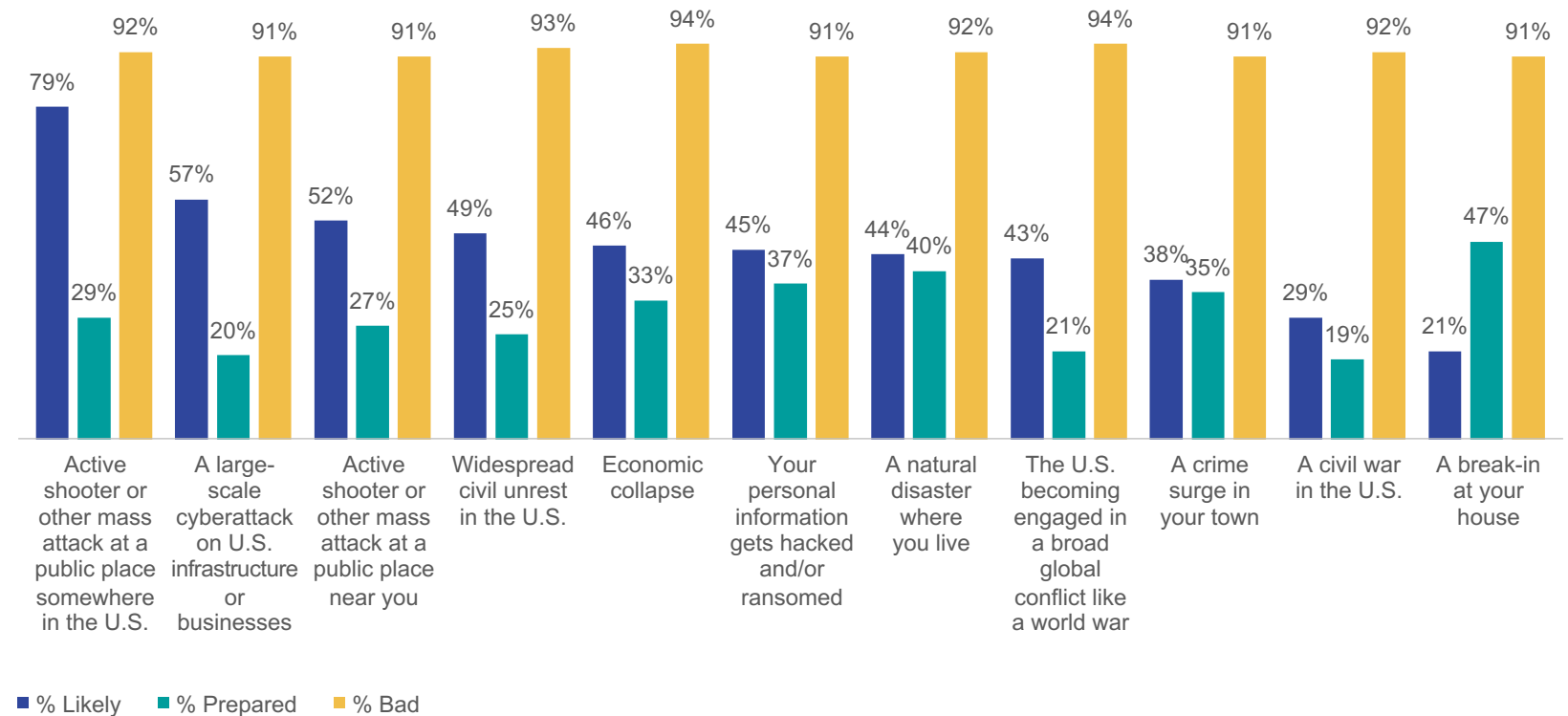
“Everyone’s already collecting just about everything that can be collected, from biometric markers on a soldier, to the frequency and amplitude of vibrations on a helicopter engine, all the way down to the post that you’re liking on social media.”

These advancements come with challenges. Powering the military Internet of Things is easier said than done. As in the private sector, if the tools are too complex, they’ll go unused. But when implemented correctly, these innovations have the potential not only to save time and money for businesses, but to save lives on the frontlines, Perez says.

[Read the full Q&A on page 41.](#)

Americans feel least prepared for events they believe are most likely to happen

Q. How likely, if at all, is it that the following will happen in the next 12 months? / Q. How bad would it be if each of these events were to happen in the next 12 months? / Q. If the following were to happen in the next twelve months, how prepared would you be?



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)



How leadership shapes world influence

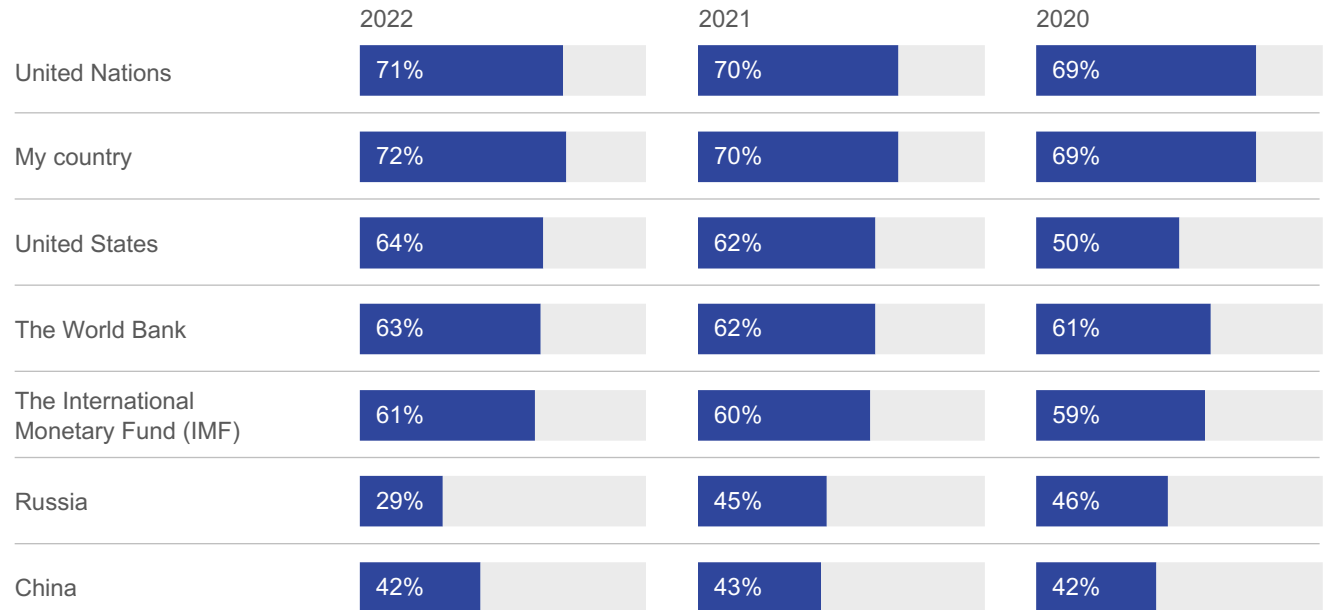
In the future, what countries and entities will positively influence global security and world affairs? If history tells us anything, there is great stability in the influence of institutions. The United Nations, the World Bank and the International Monetary Fund are all presumed by most to wield considerable influence, according to an ongoing study Ipsos conducts on behalf of the Halifax International Security Forum.

Which nations will play on the world’s stage is more subject to current policy and leadership. China’s perceived positive influence took a big hit in 2020 based on its response to the pandemic and hasn’t recovered. Russia’s sway plummeted after its attack and lingering war in Ukraine. The U.S. lost status during the Trump administration but rebounded. Reputation of nations, therefore, is as much about who is leading them today as their historical significance, says Darrell Bricker, Ph.D, who leads this research as the global CEO of Ipsos Public Affairs.

“With an election looming in the U.S., geopolitical realignments happening in the South China Sea, and Russia’s ongoing attrition in Ukraine, the world’s centers of power could easily continue shifting.”

Among institutions, most people see the U.N. and their own country as most influential on world affairs

Q. Thinking about the next decade, would you say the following countries or organizations will have an overall positive or a negative influence on world affairs? (% Strongly/somewhat positive)



(Source: Ipsos’s Global Advisor for the Halifax International Security Forum. 32,507 people surveyed online across 33 countries from Sept. 23–Oct. 7, 2022.)



Why foresight, tech and ethics education can better prepare us for uncertainty



Col. Chris Mayer, Ph.D

Department head of English and Philosophy,
U.S. Military Academy at West Point

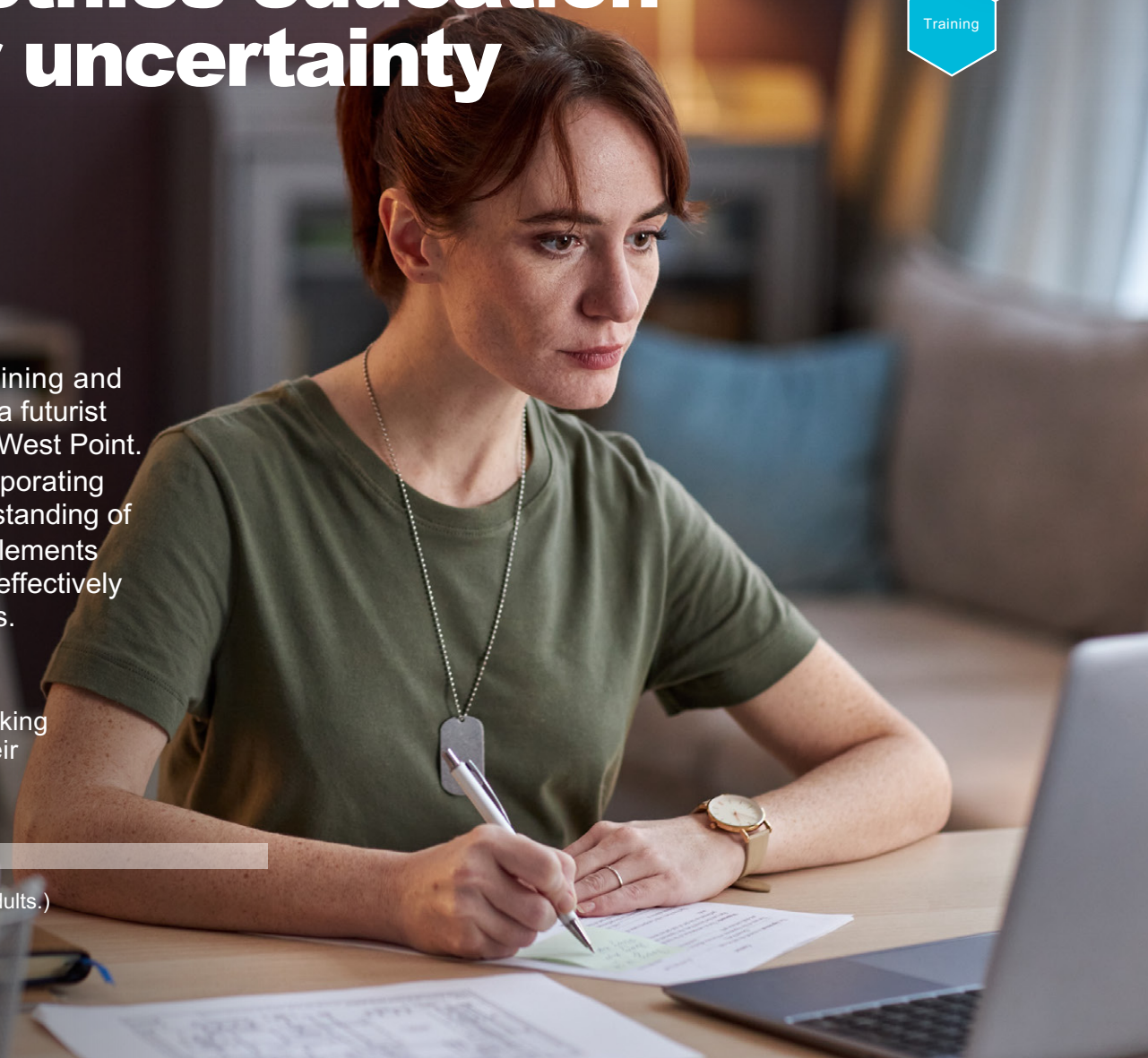
Technology is dramatically reshaping the future of training and education, including for the military. Col. Chris Mayer is a futurist and a department head at the U.S. Military Academy at West Point. Looking ahead, he emphasizes the importance of incorporating foresight skills, technological literacy, and a deep understanding of ethics and humanities in education. He believes these elements are essential for both military personnel and civilians to effectively navigate uncertainty and adapt to evolving environments.

47%

of U.S. adults see their critical thinking skills having a major impact on their future employability.



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)





To imagine possible futures requires the ability to synthesize a variety of aspects of the world, from economic to social to ethical, and looking back at history to see potential changes coming and to adapt, says Mayer. But in a future that is increasingly tech-focused, fast-moving and automated, Mayer also believes that education is as, if not more, valuable than training as education builds higher-level human skills like critical thinking, communication and creativity, he says.

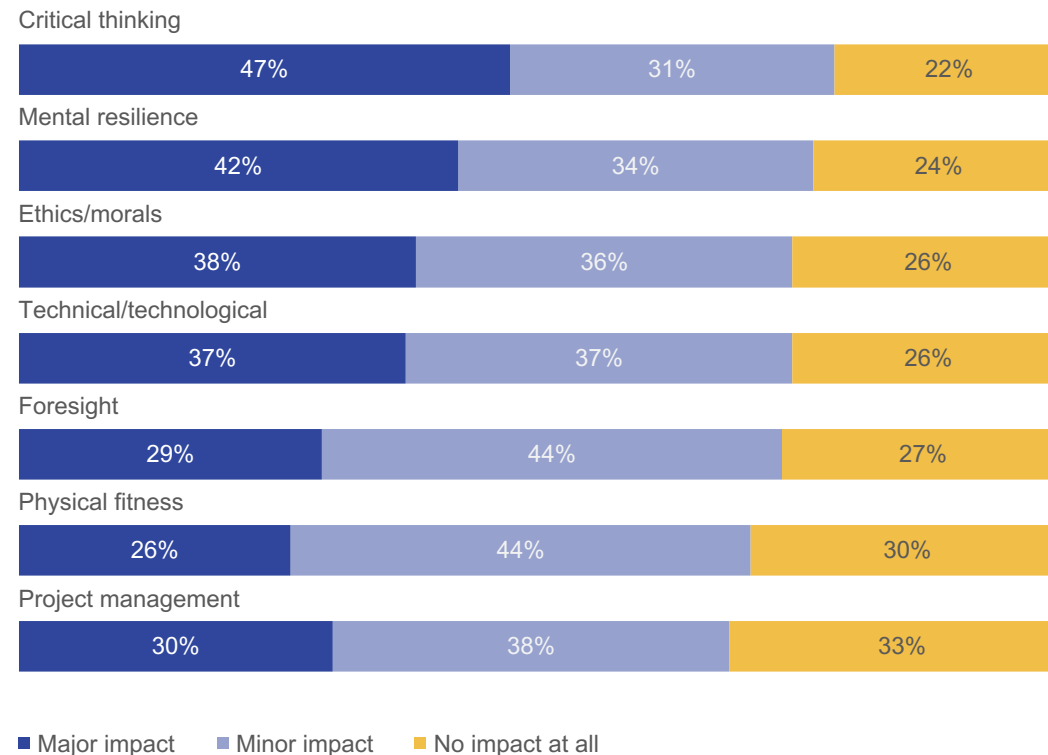
“These are much more applicable to dealing with uncertain environments where you have to read the situation and understand what’s appropriate.”

If these are the skills that everyone from the military to broader society will need in the future, education and workforce development will need to start adjusting now.

[Read the full Q&A on page 43.](#)

People expect higher-order thinking skills to outweigh technical skills for future jobs

Q. How much of an impact, if any, do you expect your skills/proficiency in the following to shape your employability in the future? (% Total)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)



How veteran healthcare will shape private healthcare and vice versa



Amanda Lienau, Ph.D

Director of Open Innovation, Veterans Health Administration

Some of the most impactful healthcare innovations come from the military, from advancements in antibiotics to surgical techniques to electronic health records. The Veterans Health Administration (VHA), part of the U.S. Department of Veterans Affairs (VA), is one of America's largest integrated healthcare systems. As advances in technology and the nature of defense change, so will the models of Veteran *and* private healthcare, says Amanda Lienau, the VHA's director of Open Innovation.

80%

of Veterans who receive all or some VA benefits rate their healthcare as good or very good compared to 70% of the general public about their own care.

(Source: Ipsos survey conducted October 13-17, 2022, among 1,021 U.S. adults, of which 518 were veterans or their caretakers.)



A major focus for Lienau is on building how the VHA uses information to increase access to care, improve equitable outcomes and improve quality of life for veterans. The VHA is leading the way on a variety of future advances that could be more mainstream soon. These include using wearables, artificial intelligence (AI) and telehealth technologies that allow people to get care remotely, at off hours and to cut providers' administrative work, says Lienau.

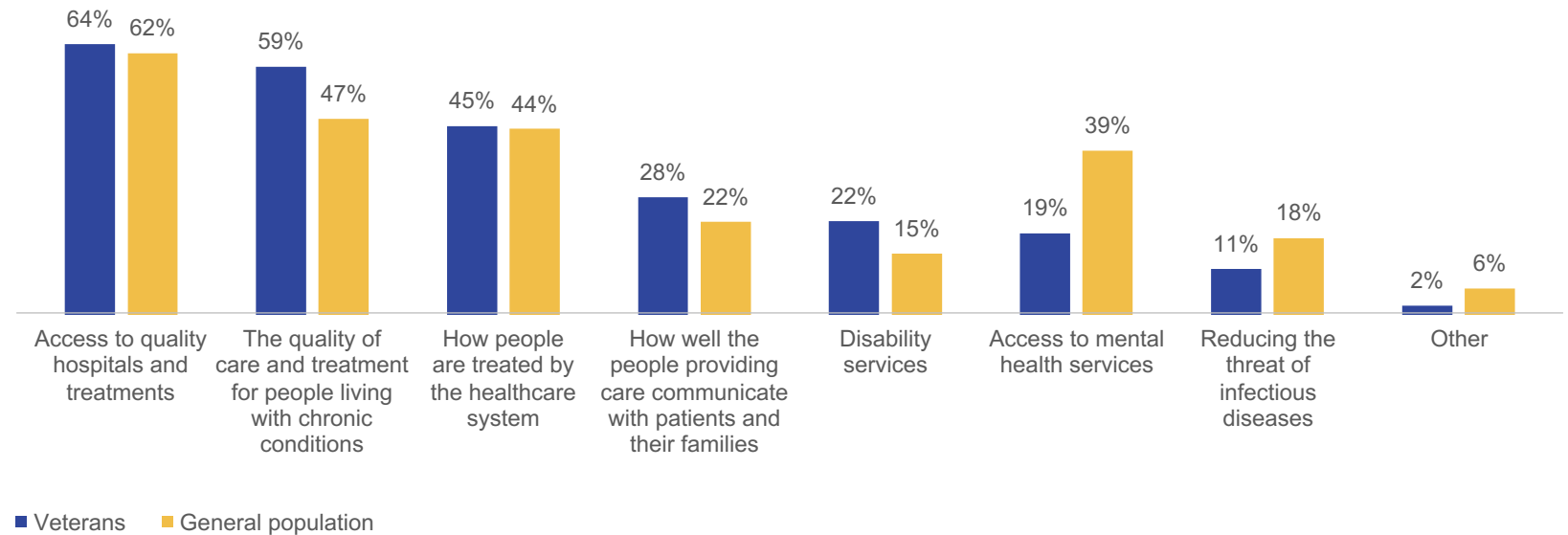
“This includes video visits, the ability to have secure messaging, secure image transfer, the ability for a patient — and in the case of VA, a veteran patient — to receive their care, at times outside of the business day.”

These changes prioritize the patient's needs over the practice's convenience or preferences, allowing for a more patient-centered experience inside of and outside of VA.

[Read the full Q&A on page 45.](#)

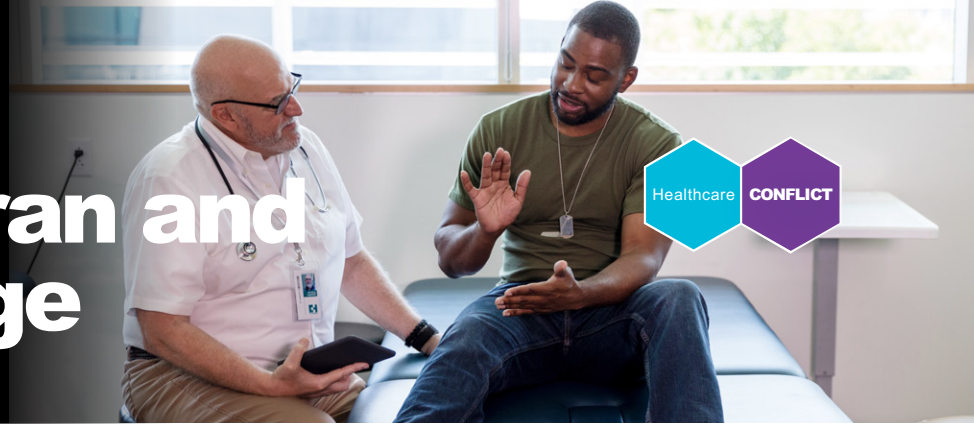
Veterans and the public have largely the same healthcare priorities, except on mental health and reducing infectious diseases

Q. From the following list, which healthcare issues are most important to you? Please select up to three responses. (% Total)



(Source: Ipsos survey conducted October 13-17, 2022, among 1,021 U.S. adults, of which 518 were veterans or their caretakers.)

Why the satisfaction gap in Veteran and private healthcare calls for change



Veterans and civilians are on the same page about healthcare issues — but not the care they receive.

By and large, both groups rank healthcare priorities similarly, whether the issue is access to quality hospitals and treatments (64% of Veterans vs. 62% of the general population) or how people are treated by the healthcare system (45% to 44%, respectively).

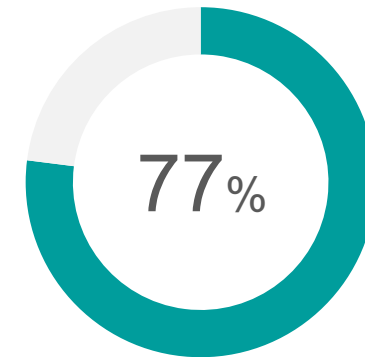
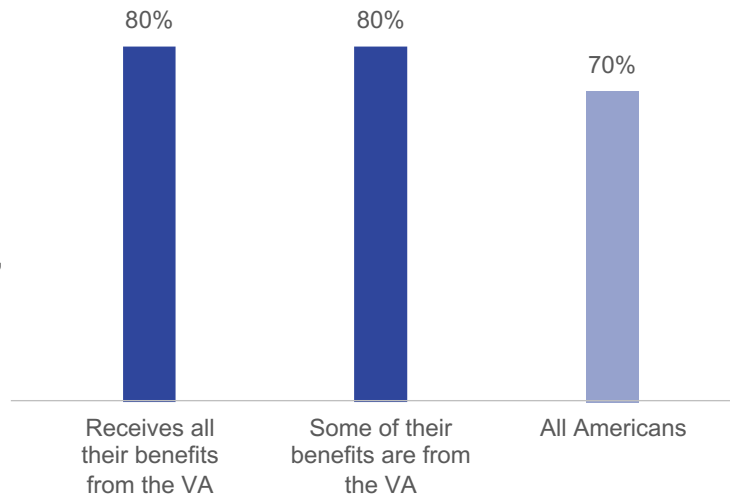
What’s different, however, is their satisfaction with how those needs are met. An Ipsos study found that 80% of Veterans who receive all or some VA benefits rate their healthcare as good or very good. That’s quite the endorsement, given only 70% of Americans in general feel the same, says Sarah Saxton, a senior vice president in Ipsos’ Public Affairs practice.

“Healthcare providers will need to understand the satisfaction gap between veterans and civilians in order to bridge it.”

Veterans with VA benefits are more likely to be satisfied with their healthcare compared to the general public

Veterans with VA benefits are more likely to be satisfied with their healthcare compared to the general public

Percent of Veterans receiving VA benefits who rate VA healthcare benefits and services as excellent, very good or good based on their personal experience or what they’ve seen, read or heard



(Source: Ipsos survey conducted October 13-17, 2022, among 1,021 U.S. adults, of which 518 were Veterans or their caretakers.)

How the ways we respond to climate change could lead to conflict



Joshua Busby

Author; professor; non-resident fellow at The Chicago Council on Global Affairs

The rhetoric about climate change often is stated as a type of war. But could our changing environment spark actual conflict? It's already contributed to some, including the Syrian civil war, among others, says Josh Busby, a non-resident fellow at the Chicago Council on Global Affairs. A professor of public affairs at the University of Texas at Austin, he also just finished two years as a senior climate advisor at the U.S. Department of Defense. His 2022 book, "States and Nature, the Effects of Climate Change on Security," explains why climate shocks can lead to negative security consequences.

39%

of Americans have purchased a generator, batteries, chargers or alternate energy to prepare for possible disasters.

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)





Busby is one of the nation’s foremost experts on climate change and security. While much of his work has focused on internal conflicts within countries, he says problems can spill over to other countries, much like the Syrian civil war did.

Closer to home, the U.S. could see expanding political conflicts like the fight over water from the Colorado River if people don’t reduce their water use and if water levels don’t get help from a wet winter, he says.

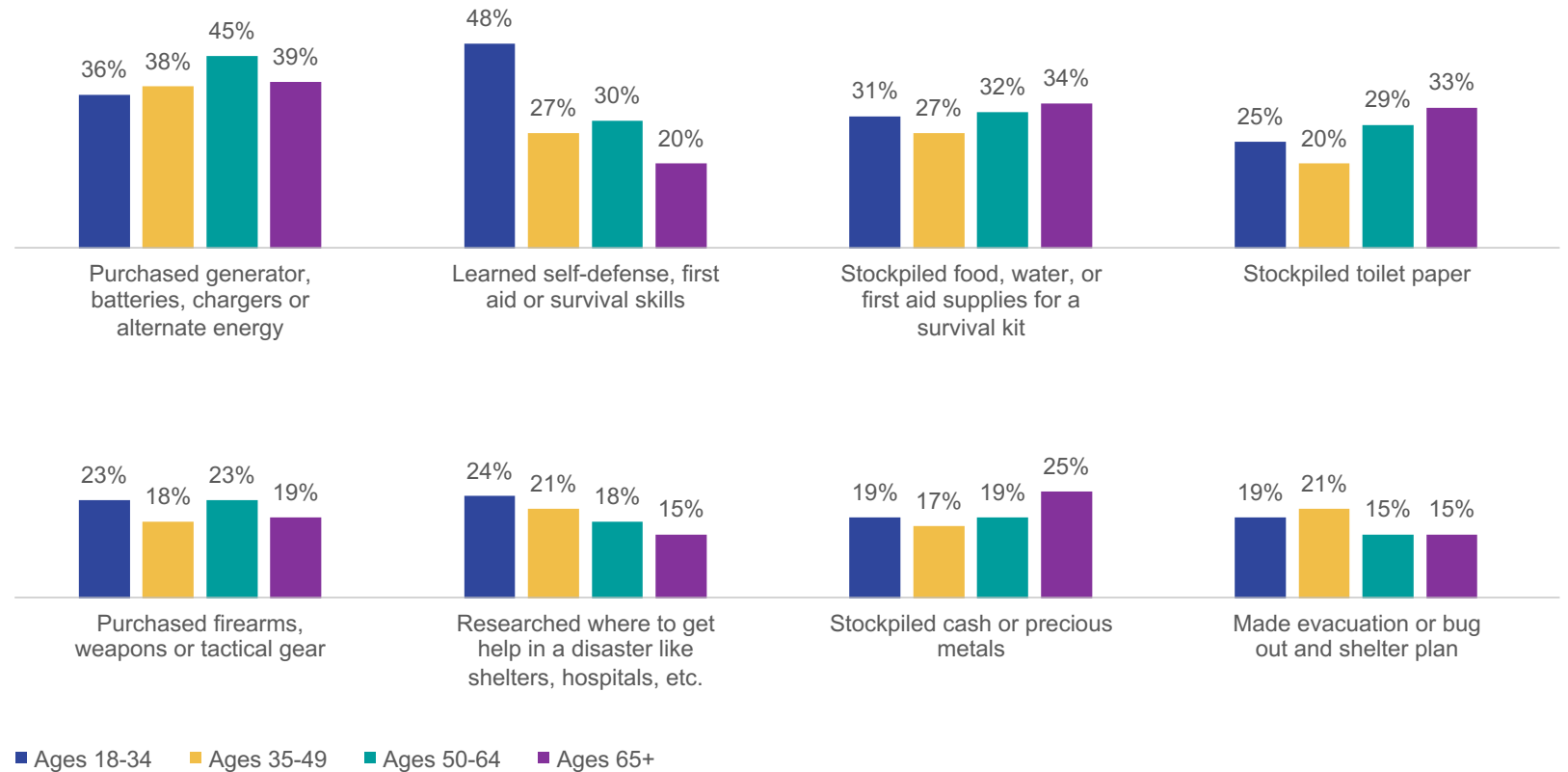
“We have to start to think about how our response to climate change could also become an important source of friction going forward.”

This is an issue for both policy makers and corporations working toward sustainability. The actions they take could lead to unintended consequences and further conflict. Given the urgency to act, forecasting the right actions is a pivotal task that needs a solution.

[Read the full Q&A on page 47.](#)

Americans prioritize their disaster prep around energy sources

Q. What, if anything, have you done to prepare for any of the possible catastrophes or other devastating events? (% Yes)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Five tensions that will drive change:

1. Civic cooperation or civil war?

Polarization feels intractable in the U.S. in 2023. One plausible outcome is the worst outcome: all-out civil war. Almost half of Americans think that's more likely than renewed civic cooperation. If it's possible, it's worth planning for. "We create multiple, diverse scenarios to better understand the present and specifically how human choices interact with key structural forces to affect the direction of the world," says Maria Langan-Riekhof from the National Intelligence Committee. Understanding today helps you plan for tomorrow, so she is always asking the big questions about the future. Today, those questions are so fundamental about security, economic development and nationalism, that it leads her to broaden her definition of "plausible" and lean into the uncertainty. There are lessons in that approach for businesses as well as governments.

Americans are slightly more convinced of a peaceful U.S.

The U.S. will experience renewed civic cooperation

54%

46%

The U.S. will experience a civil war in my lifetime

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Five tensions that will drive change:

2. Globalism vs. nationalism

The U.S. for generations has taken a leadership position in global policymaking. Working cooperatively with other nations, this process has contributed to a more global economy. But the twin shocks of the pandemic and the war in Ukraine have accelerated a nationalist streak in the U.S. and other democracies around the world. While we are polarized today, Americans hope we will embrace globalization tomorrow. But today’s polarization endangers what has been a relatively stable and peaceful period in human history. U.S. Rep. Elissa Slotkin is considering all the possible futures and thinks that today’s climate “opens up a very real possibility that leadership will support a more isolationist approach.” What does it look like to do business in a world where this tension shifts?

Most U.S. adults think the U.S. will embrace globalism

The U.S. will embrace international collaboration and diplomacy

63%

37%

The U.S. will become more nationalist and isolationist

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Five tensions that will drive change:

3. Cyber conflicts increase real-world conflicts

Will cyber conflicts lead to real-world conflicts? It’s a topic that came up with both Rep. Slotkin and futurist Jake Sotiriadis. It prompts a host of follow-up questions. How can you tell who launched the attack? Was it a nation, a state-sponsored group or some other entity? What is a proportional response? Sotiriadis also wonders how such a conflict would end. “In the past, we brought overwhelming amounts of firepower and destruction and forced what we call unconditional surrender,” he says. “While it wasn’t pretty, it was effective.” But that assumed an adversary with what he called a “center of gravity.” With a more decentralized or even anonymous instigator, ending a conflict could become much more challenging. What would a perpetual state of cyber conflict look like?

More than three in four Americans see cyber conflict causing real conflict

Cyber conflict will not increase the likelihood of real-world conflicts

23%

77%

Cyber conflict will increase the likelihood of real-world conflicts

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Five tensions that will drive change:

4. Climate change drives conflict or cooperation?

It's easy to think, as about half of Americans do, that climate change will lead to more global conflict. Josh Busby, a non-resident fellow at The Chicago Council on Global Affairs, thinks it might be a little bit of a chicken-and-egg issue. "We could also get a little too hung up on thinking about whether climate change itself will become, along with other factors, a driver of conflict," he says. "Perhaps it won't be the climate itself that will be the real catalyst but rather our reaction to it." Busby thinks we don't have to accept the fate that climate change is unstoppable. Yet we do need to think about the third-order impacts of policy (from both a government and corporate ESG perspective) of acting. And, of course, of not acting.

People are split on whether climate change will spark conflicts

Global cooperation will provide solutions to climate change and resource scarcity

47%

53%

Climate change and resource scarcity will be primary drivers of future conflicts

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Five tensions that will drive change:

5. Troops are properly skilled or not?

Today most people think our military is being properly trained for future conflicts. What will those conflicts look like? This issue looks at the retro/futurist conflict in Ukraine, which is still largely fought with 20th century tactics. But also looks at conflict that will involve many fewer human casualties or might be fought largely in the media and computer screens. Col. Chris Mayer, Ph.D, heads the English and Philosophy departments at the U.S. Military Academy at West Point. Those humanities-based skills are critical for the military and any organization. Foresight is another skill and one he thinks we're missing in both the public and private sectors. "Being able to systematically think about what's possible in the future and then use what you come up with to inform current decisions," is a noticeable skills gap today, he says, to prepare us for tomorrow.

Most people think our military is trained properly for the future

Our armed forces have trained properly for future conflicts

67%

33%

Our armed forces have not trained properly for future conflicts

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

Future optimism gaps

When it comes to the future of conflict, we are pessimistic.

For the last year, we have tracked the futures people want vs. the futures people expect. The trend has been that we generally agree on what we want, and we think that future most likely will happen. But there has been an optimism gap in *how likely* we think that future will be.

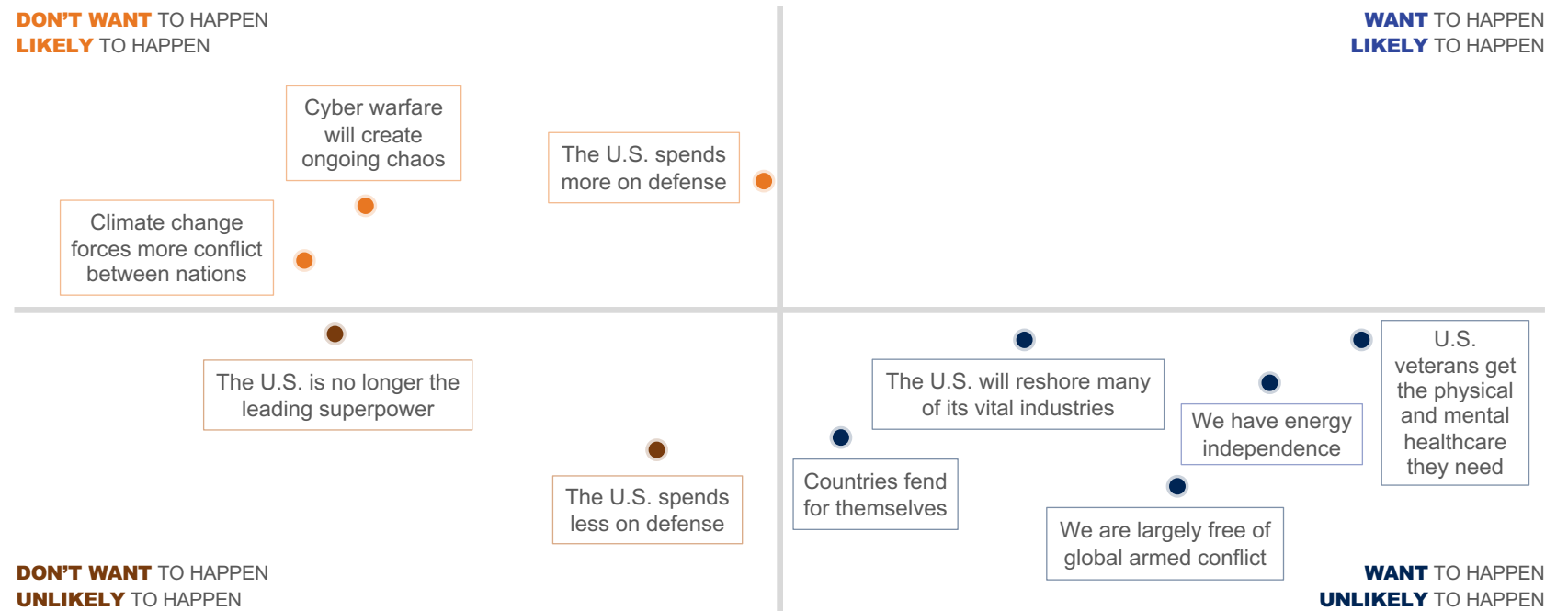
For the future of conflict, we see a break from that pattern. We don't see *any* of the futures we want to happen as being likely.

Among the biggest gaps, 77% of us don't want cyber warfare to create chaos, but 67% expect it will. And 82% of us want energy independence, but just 38% think we'll get it.

These dichotomies set up the potential for rifts between policymaking decisions for defense and commerce and what the American public wants.

None of the things we want to happen we think are likely to happen

Q. For the following future scenarios, do you want any of them to happen (%Yes) / To what extent do you think they are likely to happen? (% Likely)



(Source: Ipsos survey conducted Aug. 24-25, 2023, among 1,107 U.S. adults.)

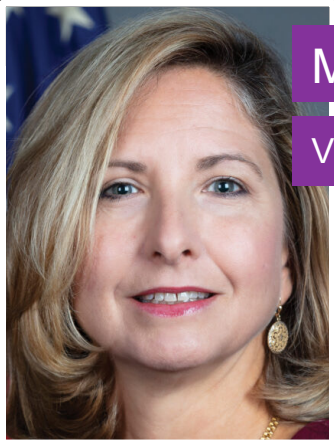
Appendix

In this section,
we show our work
and our workers

1. Full Q&As
2. Signals
3. Contributors



Why considering the worst case needs to be part of your planning



Maria Langan-Riekhof

Vice chair for analysis, acting principal vice chair of the National Intelligence Council

The National Intelligence Council's role is to coordinate perspectives across the nation's 18 intelligence entities from the CIA to the Department of Energy and connect them with U.S. policymakers. In her previous role as director of the Strategic Futures Group in the Office of the Director of National Intelligence, Maria Langan-Riekhof led the development of the latest quadrennial Global Trends report subtitled, "A More Contested World." So, what does that conflict mean for the future?

Matt Carmichael: How is the world "contested"?

Maria Langan-Riekhof: We are seeing contestation at every level of analysis that we're engaged in, from fundamental debates about the ordering principles of our societies, discussions about what is "real" or what is "truth" to growing tensions between publics and their governments and their leaders. We've seen more than a decade of rising numbers of protest movements in every region and every type of government system. In the past year there have been an incredible number of coups and coup attempts.

Carmichael: What can you already tell will need updating in the next report?

Langan-Riekhof: We are just a couple years into this 20-year report [the time horizon was 2040]. We're already seeing something that we started to identify but didn't draw out: a discussion of the pace of change in the world. It's exceeded our projections, whether we're discussing demographic trends such as declining birth rates in China or when India would overtake China as the largest country.

We said that wouldn't happen until 2027, but it's already happened. Or when environmental changes would have an impact. AI large language models arrived faster than we thought they would. It's a combination of increasing speed of change, the scope of change and the depth of change that we need to do a better job of capturing for this next report.

Carmichael: What kind of impact does that have?

Langan-Riekhof: It's challenging humanity's ability to adapt. In previous decades, you'd face one to three major changes in the systems that structure how you live, work and entertain yourself over your lifetime. Now, humans are facing those major changes every few years. What does that look like? Humans are going to be forced to redefine a lot of our relationships, between individuals and societies, between societies and corporations, governments between states and non-state actors, and between people and our own technologies. Redefining relationships in the midst of this increasing pace of change is one thing we're really going to have to grapple with in the next report.

Carmichael: How do you use foresight in your process?

Langan-Riekhof: We create multiple, diverse scenarios to better understand the present and specifically how human choices interact with key structural forces to affect the direction of the world. Then we try to illustrate the impact of those choices.

So, we ask questions about what states — and that usually means leaders — prioritize. Are they prioritizing security? Economic development? Nationalism? We ask questions about how states are engaged in the world. Are they cooperative and outwardly focused? Are they competitive and inwardly focused? And then we overlay that with some of the conditions of the big muscle movements that are shaping the world.

Carmichael: We've seen a shift toward territorial expansion. What does this signal to you?

Langan-Riekhof: It's signaling to us that we're going to be in a very unsettled interregnum in the global order for at least a decade. It's going to be heavily influenced not only by the strategic competition we're talking about between the major global powers (U.S., China, a declining Russia) and leading to challenges and strains, whether we're talking Taiwan, the South China Sea, Ukraine. But our more empowered regional countries are highly relevant.

Carmichael: How do you see climate change affecting global systems?

Langan-Riekhof: We think that climate change can stress and really disrupt our trade networks in several ways. First, stemming from the physical effects of climate change, extreme weather disrupting trade networks and supply rates. Second is from the state efforts to decrease carbon emissions. Those policy changes are trying to affect other states and how they are complying with those can also disrupt trade networks.

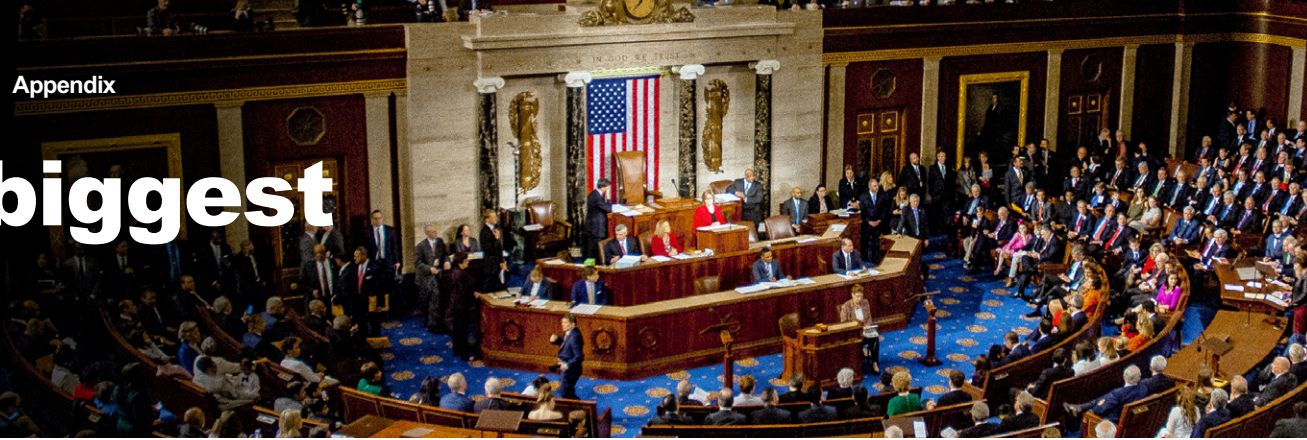
Carmichael: How, exactly?

Langan-Riekhof: All you need is one major hurricane or cyclone in the same vicinity of a port. And we haven't even talked about other strains that could compound that like a cyberattack. I don't think we should ever look at any one of these in isolation. We need to think about these challenges and how they overlay each other and could compound each other and to make any of these strains, whether it's on trade or supply routes, exponentially worse.

Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab

“We are just a couple years into this 20-year report [the time horizon was 2040]. We're already seeing something that we started to identify but didn't draw out: a discussion of the pace of change in the world.”

Why polarization is our biggest security threat



Elissa Slotkin

U.S. Rep. (MI-7th District)

U.S. Rep. Elissa Slotkin has seen conflict, war and the surrounding policies firsthand. Her background includes deployments in Iraq with the CIA, as well as work at the Pentagon, the White House and her own stint at the Office of the Director of National Intelligence. Today, she represents one of the swingiest swing districts in the nation. In a global economy, conflicts in one region can affect others quickly. There are many threats out there, but she thinks the biggest is close to home.

Matt Carmichael: What is the war in Ukraine telling us about the future of conflict?

Rep. Elissa Slotkin: What we're seeing in Ukraine is what it means when you don't invest in modernizing your military. In a weird way, it's partially retrograde, but then you add into it modern technology like drones and cyber warfare. The U.S. would never be fighting a war like this. This is a war that for all intents and purposes is a war of attrition via artillery. The U.S. basically doesn't conduct warfare like this anymore because we have invested so heavily in air power.

Carmichael: What does that signal?

Slotkin: It shows us that the days of relying on a military heavy with only [artillery] equipment and not technology is not going to be useful in the future. Also, small investments in things like commercially available drones can undermine what should be traditional military hardware advantages [like planes and munitions].

Other countries who the U.S. has an adversarial relationship with have spent time investing in technology that undercuts American military advantages. The last thing is that you can have all the sexy tools you want, but if you can't get your logistics operation competent, then you're going to be embarrassed on the world stage.

Carmichael: It also seems that war in one part of the world can still wind up a global conflict?

Slotkin: It's changed thinking for other countries around the world. It changed the thinking of our European allies who have forever sort of had a failure of imagination that this could actually happen. And we know that China is watching and thinking and processing what this means for them and a potential clash with the United States over the Straits of Taiwan. And what are we seeing in terms of how even a conflict in one kind of small region can disrupt the entire global supply chain in our global economy.

Carmichael: It seems new to equate conflict and supply chains so closely.

Slotkin: COVID-19 plus Ukraine in such short proximity to each other has really demonstrated that supply chains are vulnerable. They are not resilient. And if you don't understand your own supply chains, you're destined to be at heightened risk. During COVID-19, we saw that with things like toilet paper. Now we understand how vulnerable our food supply chains are. Or those 14-cent microchips that enable you to make a car and keep our economy going. Or active pharmaceutical ingredients. We do not make the majority of the drugs that Americans take.

Carmichael: This is a cause that's important to you.

Slotkin: I led a bipartisan defense supply chain task force in the Armed Services Committee with Rep. Mike Gallagher from Wisconsin. It was like picking up the rug to see what's underneath and there being a lot of creepy-crawlies under there. Even with our defense supply chains where there's so much law and regulation around buying American products because it's military equipment, we still had all these dependencies on places like China that made us vulnerable. The most obvious example was propellant. The chemicals that make our ordinances go boom — 90% come from China. God forbid, if we had to be in a conflict with China, we would depend on them for making things go boom.

The military is now taking steps to deal with that. But that played out over and over again for a million companies across the country, across the globe.

Carmichael: Will the motivations for why we go to war shift with climate change in terms of natural resources?

Slotkin: Human beings will always go to war over scarce resources, whether that's oil or water or access to places like the Taiwan Straits. It's not a resource, but if 70% of your trade traffic goes through that one strait, then it is critical to keep those straits open to keep ourselves fed and fueled and living a normal American life.

Carmichael: How dangerous is polarization?

Slotkin: The polarization in the U.S. is the No. 1 threat to our national security because it completely freezes decision-making. It makes it difficult to have unanimity or agreement on what we want our role to be abroad. In prior eras, issues could have been worked out among adults across the political spectrum. When you leave the water's edge and go abroad, the U.S. should speak with one voice. That doesn't happen right now and that's a real problem for national security.

Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.

“If you don't understand your own supply chains, you're destined to be at heightened risk.”

How improving tech literacy among policymakers would strengthen security



Jake Sotiriadis

Director, The Center for Futures Intelligence, National Intelligence University

When the pandemic began, the Air Force released a series of scenarios from its foresight team that included discussion of how if there was prolonged reduction of commercial air travel, that would free up more sky space for military training flights. Jake Sotiriadis was then serving as the first futurist for the Air Force. Now at National Intelligence University, he is thinking even more broadly about the future of conflict. Here's what's on his mind.

Matt Carmichael: What do you factor in when you're forecasting conflict?

Jake Sotiriadis: Conflict is part of the human condition. We have to look geopolitics. We have to look at the power of ideas. I like to look at the Heidelberg Research Institute's Conflict Barometer that looks at every conflict in the world from basically a brush fire all the way to Ukraine. It'll break down the origins of the conflict. In many cases, we'll see ideology being at the forefront.

Carmichael: Humans have warred over religion, power, money and resources. Are the causes of conflict going to shift?

Sotiriadis: We're looking at a different global sense of not only governance, but rules, if you will. Part of what's going on in Ukraine isn't just about Russia and Ukraine. It's about, in the 21st century, are we going to allow countries to solve their differences using violence? That's a message for China or autocratic regimes that think it's going to be OK to just simply employ their

militaries to achieve their goals. What happens in the next five to 10 years will determine the trajectory of the next 50 to 100 years.

Carmichael: How is technology itself shaping the future of conflict?

Sotiriadis: Technology has always played a major role, and often it's the opposite equation where war has created the catalyst for technological developments. Consider today with narrative warfare. Look at the social media aspect of how narrative warfare shifted what used to be the purview of states. If you look at 50, 60 even just 40 years ago, the strategic narrative was controlled by a country, which had access to the media. It was able to put out its version of events. Now with everybody carrying around a smartphone, you're able as an individual, to wage narrative warfare 24 hours a day. At the individual level, you're able to push a narrative across the globe in real time and spread disinformation, which has real effects.

Carmichael: With AI helping make decisions, will we see more advanced forms of war gaming, even at the policy level?

Sotiriadis: We should be able to do that. But unfortunately, bureaucracies get in the way. I'll give you a great example: A few years ago, we built a virtual reality simulation of the world in 2035, focused on post-pandemic scenarios. But it wasn't just a scenario, it was actually stepping into a virtual world. As a decision-maker, you would understand better if you were in a collapse scenario or a transformative scenario. What does that feel like and look like? How would I make decisions differently? But I can't even tell you the frustrations of just trying to do something simple like bring a virtual reality headset into the Pentagon.

Carmichael: And I think my IT department is tough.

Sotiriadis: Frankly, the technology is so far ahead of the policy that it's frustrating for those of us who are trying to push things in that direction. We've got to educate our decision-makers and senior leaders to take some bold steps to take advantage of the technology.

Carmichael: How much are tech innovations being developed for defense versus being adopted from defense?

Sotiriadis: If you look back at the development of telecommunications or how the internet was conceived,

designed, and now has morphed, those really originated in the defense realm. There is a direct connection in the national security ecosystem of driving a lot of our tech developments.

Carmichael: And the other way around?

Sotiriadis: I've been encouraged working on public- and private-sector partnerships. That's taken the form of artificial intelligence working groups and collaborative lab initiatives and tech incubators. You have a defense innovation unit that's been set up particularly to put smart folks from the defense industry in Silicon Valley so we can get promising tech developments into place and into field as fast as possible.

Carmichael: How will wars end?

Sotiriadis: We live in a world that's characterized by complexity. That's more than just "is one country going to surrender?" If we're even going to talk about that in the traditional sense. But what other components are going to be a part of that? We're talking about disinformation narratives. We're talking about technologies that are going to completely distort how we understand strategic communications.

Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.

“Frankly, the technology is so far ahead of the policy that it’s frustrating for those of us who are trying to push things in that direction. We’ve got to educate our decision-makers and senior leaders to take some bold steps to take advantage of the technology.”

How safety and security are evolving in the digital age



Dominic Perez

Chief technology officer, Curtiss-Wright

It's been said that the best offense is a good defense, but a good defense is a good defense, too. Dominic Perez, chief technology officer for aerospace manufacturer Curtiss-Wright, thinks new improvements in telecommunications, health monitoring, and data collection can keep soldiers safer in unpredictable times. These advancements hold promise on the domestic front, too, from powering humanitarian work to keeping businesses and critical infrastructure secure from cyberattacks.

Christopher Good: Data plays a huge role in modern defense. How will that change over the next decade?

Dominic Perez: Everyone's already collecting just about everything that can be collected, from biometric markers on a soldier, to the frequency and amplitude of vibrations on a helicopter engine, all the way down to the post that you're liking on social media. I don't think it's the type of data that's going to change, but what we can do with it. The associations that can be built with large language models [AI algorithms] will really blow peoples' minds.

Good: What are some uses for those data sources?

Perez: Fall detection is a pretty simple one. You have soldiers wearing sensors, and if they're down, you can send someone to help them. There's also heart rate to measure fatigue, or galvanic skin response for hydration. These soldiers are out in the harshest conditions doing a job more difficult than any of us can imagine. If we can support them health-wise, that'll be important.

Good: How do you use that data responsibly?

Perez: The key is context and nuance. Many things that are true across large populations have very little relevance to the individual. One example is BMI (body mass index): It's a metric that was originally designed to be applied to entire populations. But when you look at an individual, it may or may not apply. We need to use some common sense. Which is sometimes not common! And we're just beginning to understand how bias can get inadvertently baked into these systems. If people are using them as a basis for life-altering decisions, they need to build a rigorous human review process.

Good: Is complexity a problem in this tech?

Perez: A soldier is not an IT person, but they often have to act as one in really terrible conditions. So, something we've been developing for over 15 years is PacStar IQ-Core Software, a platform that sits a layer above those networks and takes away some of the complexity.



Good: What does that look like?

We found that to add a phone to a system using the native software, it takes like 60 clicks of the mouse, and in our software, it takes eight. But for another example, imagine a special operations warfighter. If the digital information sources are too complex, they'll just revert to radio, right? All this complexity has to be balanced with usability.

Good: How do you keep all this technology connected, charged and online?

Perez: Today's battery technology is amazing, but we haven't really had a revolution since the lithium-ion battery. Looking to the future, there are options like hydrogen fuel cells. But powering, storing and transporting them is very difficult. One exciting area is the potential for advanced small, modular nuclear reactors. The Department of Defense has been exploring potential applications for years, and they're very, very interested in how that is going to develop.

Good: How would that work, exactly?

Perez: I'm not saying we're going to strap a reactor to a soldier, "Iron Man"-style. But to airlift a small reactor — that's not science fiction, or even very far off. And dropping those into areas without working infrastructure? That's going to be a game-changer for decarbonization, for humanitarian aid, and for defense.

Good: What's the most important lesson you've learned from the war in Ukraine?

Perez: What we've seen is that modern conflict is a lot more like everyday life than a traditional conflict. You have operators working off their cell phones or collaborating through WhatsApp, where standard network connectivity is critical — stuff we take for granted. A lot of NATO countries don't have the budget that we have, but when things get tough, they are going to find a way to get it done. If that's through WhatsApp, that's what's going to happen. So, we need to help protect those networks.

Good: What should businesses and marketers be thinking about right now?

Perez: The biggest thing is probably cybersecurity. Our border was physically defined by geography, but that's no longer the case. We are on a cyber front that has millions of access points, maybe billions. And our adversaries have shown that they have no regard for the difference between military or government installations and civilian installations. They will use any opportunity to launch a ransomware attack against a hospital, knowing that's impacting life-critical operations. And if they pay that ransomware, even if your stuff gets unlocked, the funds are going to the cyber-criminals, further emboldening them. Any business could become a pawn in a much larger game.

Christopher Good is a staff writer for What the Future.

“What we’ve seen is that modern conflict is a lot more like everyday life than a traditional conflict. You have operators working off their cell phones or collaborating through WhatsApp.”

How foresight, ethics and tech education can better prepare us for uncertainty



Col. Chris Mayer, Ph.D

Department head of English and Philosophy, U.S. Military Academy at West Point

Technology is dramatically reshaping the future of training and education, including for the military. Col. Chris Mayer is a futurist and a department head at U.S. Military Academy at West Point. Looking ahead, he emphasizes the importance of incorporating foresight skills, technological literacy, and a deep understanding of ethics and humanities in education. He believes these elements are essential for both military personnel and civilians to effectively navigate uncertainty and adapt to evolving environments.

Kate MacArthur: How does futurism shape your curriculum and influence other leaders?

Col. Chris Mayer: We are looking at a document and concept called Army 2040. We're thinking about how's the world going to change and then what do we need to do today to help our students prepare for that world? Not just West Point, but a lot of colleges and universities would benefit from a capstone course that brought together all they learned in general education that was grounded in foresight. Students would have a chance to bring together all the different perspectives, historical, economic, social, ethical, legal into one course, but also gaining that grounding and foresight that they could use later on, and to get the mindset that you can't predict the future, but you can explore it and use it to make decisions today.

What's the most critical shift you're seeing going forward for education and training?

Mayer: I view training as gaining specific skills and knowledge in a predictable environment for a routine task.

Whereas education is more focused on the broader competencies. People talk about critical thinking, communication, creativity, and these are much more applicable to dealing with uncertain environments, where you have to read the situation and understand what's appropriate.

MacArthur: What would be a military example?

Mayer: The Ukrainian army's ability to adapt and understand and to think faster than the Russian army, and to be able to delegate decisions down to the lowest levels. Even the Russians putting tires on their planes to protect them against drones. The ability to do creative things and to do them quickly highlights the importance of education more than training. It's applicable to organizations in the civilian sector as well, given the complexity of the world, given that when COVID-19 hit, you had to train on protocols for dealing with masks and hand washing. It was the education that prepared companies to adapt to that new environment.

MacArthur: What does the technological evolution of defense change for moral and ethical best practices?

Mayer: Technology has always caused an ethical concern. Even when the crossbow was made, people thought it was unfair because it allowed such a distance between the target and the, and the person shooting the crossbow. All our cadets take a core philosophy course, and they start with critical reasoning, then they do ethical theory, then they do ethics of war so applying it to war. It's important that they understand the foundational ethical principles of war, going to war, and in war. In war, it's discrimination between combatants and non-combatants and then necessity of engaging a target, like is it necessary for the military objective? You look at these new technologies like AI that could [one day] target on its own without a human in the loop. Understanding the key ethical principles and seeing how they're applied in this new context is extremely important.

MacArthur: How are you developing the critical skills to use these technologies as a human-machine team?

Mayer: Even in training now, [cadets are] using a lot more technological things like the Boston Dynamics dog that walks so that the first time they see things like that, it's not when they leave here.

MacArthur: What skill gap is the most critical that not only military but companies and brands to shore up?

Mayer: One is being able to systematically think about what's possible in the future and then use what you come up with to inform current decisions. You're seeing more companies using foresight, but many companies rely on one view of the future rather than looking at worst case and other possible futures. Data literacy is a challenge for many. Related to that is using technology to pull information and to make better and faster decisions than others and then adapt more quickly than others. Finally, this civil discourse piece. It's building cohesive teams of different people that are committed to a purpose. So many of the political and individual conversations now are so divisive and people who have differing views just questioning each other's motives and block one another rather than enjoying the debate.

MacArthur: Is there any other best practice that might be applicable to the business world?

Mayer: The future will be shaped by technology, but we cannot forget that technology should serve humans. Being able to evaluate what technology is doing and understand generally how it works and its weaknesses and its strengths is important — not just for cadets in their Army careers, but also just everyday life. Not following the GPS into the lake is a good thing.

Kate MacArthur is managing editor of What the Future.

The views in this interview are Col. Mayer's and not the views of the Army or the Military Academy.

“Being able to evaluate what technology is doing and understand generally how it works and its weaknesses and its strengths is important — not just for cadets in terms of their Army careers, but also just everyday life.”

How veteran healthcare will shape private healthcare and vice versa



Amanda Lienau, Ph.D

Director of Open Innovation, Veterans Health Administration

Some of the best healthcare innovations come from the military, from advancements in antibiotics to surgical techniques to electronic health records. The Veterans Health Administration (VHA), part of the U.S. Department of Veterans Affairs (VA), is one of America's largest integrated healthcare systems. As advances in technology and the nature of defense change, so will the models of Veteran and private healthcare, says Amanda Lienau, the VHA's director of Open Innovation.

Kate MacArthur: How does VHA forecast and plan for healthcare needs that could be decades away?

Amanda Lienau: We're closely attending to weak signals of emerging trends and practices, partially through paying attention to ideas and practices that we're hearing from our field staff. Then through our office, beginning to test, prototype and iterate on novel ideas of new technologies or care pathways at a small scale to see how we might make use of those new technologies or care pathways, then iterating and working on them over time to see if there is a good fit for VHA care.

MacArthur: How and where does VHA influence private healthcare or healthcare at-large?

Lienau: The biggest is that two-thirds of trainees across a variety of professions will do some of their clinical training in the VHA. Many of our staff, the people who work at VA, also work at private healthcare settings. And they're maybe using a particular technology in that

private healthcare system, and they want to test it within the VA. This is a bidirectional learning that occurs both with innovations that start at VA and then that same person is curious and wants to test it in a private healthcare setting. Or that can happen at a larger, more systemic level.

MacArthur: What's an example of bidirectional learning?

Lienau: A clinician in a private healthcare setting and within VA was making use of a technology in that private setting that allowed for [radiologic imaging](#) to be prioritized to allow the radiologists on the care team to read the most urgent reports first and read them in order of priority. We were able to then successfully test and make use of that same technology within VA and test how it impacted and influenced the Veteran experience of care as well as the radiologist care team experience within VA.

MacArthur: What VHA innovations could change healthcare for the general public in the coming decade?

Lienau: The adoption of telehealth and asynchronous care [outside of the business day], as well as the use of technology to augment and personalize care through novel data points through various sensors and wearable technology, the use of real-time data through those sensors and wearable technologies, and the use of various computational strategies. That includes natural language processing, optical character recognition, machine learning under the broader umbrella of artificial intelligence to reduce administrative burden and to help augment the care that's being provided by care teams.

MacArthur: How might the nature of Veteran care evolve as the nature of defense changes?

Lienau: There are fewer physical injuries as the nature of defense changes to being less close-quarters fighting and more long-distance efforts that are both, psychological or PSYOPs in nature, as well as attacks that can be done via a long distance. We're seeing fewer physical injuries and more reports of mental health concern. With this significant decrease in physical injuries, we're seeing our focus on the mental health and mental welfare of Veterans as being more primary. We also know that a person's mental status,

cognitive skills, and their mental wellness overall augment and support their ability to attend to physical health needs.

MacArthur: What is driving more of those needs?

Lienau: The underlying reason we believe we're seeing this difference is it has always been a mental battle as well as a physical battle. For this reason, VA is a leader in bringing mental health care to Veterans. VA has the largest integrated mental health treatment as part of primary care and is integrated in even specialty care. Then the communication between mental health providers and the variety of physical health providers is all in the same record.

MacArthur: Ipsos research shows that Veterans with VA benefits are more likely to be satisfied with their healthcare than civilians. What does that tell you about the job the VA and VHA are doing?

Lienau: It isn't accomplished because there's still a mismatch between the Veterans' reported experience of care and the general population view of the quality and experience of VA care. Part of what we are doing — all of us in VA with personal conversations and as well as public ones — is sharing that information out as a mechanism to help modify the public perception that is incorrect.

Kate MacArthur is managing editor of What the Future.

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How the ways we respond to climate change could lead to conflict



Josh Busby

Author; professor; non-resident fellow at The Chicago Council on Global Affairs

The rhetoric about climate change often is stated as a type of war. But could our changing environment spark actual conflict? It's already contributed to some, including the Syrian civil war, among others, says Josh Busby, a non-resident fellow at the Chicago Council on Global Affairs. A professor of public affairs at the University of Texas at Austin, he also just finished two years as a senior climate advisor at the U.S. Department of Defense. His 2022 book, "States and Nature, the Effects of Climate Change on Security," explains why climate shocks can lead to negative security consequences.

MacArthur: What is the biggest concern about how climate change could factor into future conflicts?

Busby: We're now in a world in which there are major responses to climate change that could be as, if not more, significant than the physical consequences of climate impacts.

MacArthur: Such as?

Busby: We're increasingly trying to compete for sourcing of raw materials for the clean energy transition, thinking about critical minerals like cobalt, lithium. The conflicts over those responses may escalate conflict. That could be because there are major distributional issues associated with where you are able to source those minerals. They're both within countries and maybe between countries. That is something that we're not fully aware of. But we could also get a little too hung up on thinking about whether climate change itself will become, along with other factors, a driver of conflict.

MacArthur: Is the risk of global conflict over climate change overblown?

Busby: It depends on who's overblown with whom. The intelligence community in their last assessment about climate change that came out in 2021 [see p. 11] talked about the risks of conflict over these responses to climate change. Like efforts to engineer the atmosphere to reduce the impact of climate change, either through solar radiation management, or efforts to change the ability of the ocean to absorb carbon dioxide. They were really worried about unilateral efforts by one country to try to geoengineer the atmosphere that could become a grave source of conflict.

MacArthur: How might that look in the future?

Busby: Trying to tease through with some certainty the social effects of climate that we know are happening and other things that are somewhat unknowable harkens back to the old Donald Rumsfeld missive about known unknowns.

MacArthur: Your book discusses why drought contributed to civil war in Syria but not in neighboring Lebanon. Is that a good example of the risk factors?

Busby: That conflict was internationalized, in part, because conflicts don't stay local. There are a variety of risk factors for conflict within countries. With respect to climate change, it's high agricultural dependence. If they live in countries that have a recent history of violence, that have weak states, that have what we say is high political exclusion, what happens when there's a drought and their needs are not met by the government, they're actively discriminated against? It's a pretty complex portrait. But we have to start to think about how our response to climate change could also become an important source of friction going forward.

MacArthur: How does the U.S. compare for its risk of conflict due to climate effects?

Busby: The U.S. isn't immune to any of those problems. We're better prepared on some level than other countries, given our relative wealth to be able to deal with them. But when you do not have parts of the country as well-represented in government, then we expect worse social outcomes. Think about Puerto Rico after Hurricane Maria. It wasn't merely its physical distance as an island, but also its political status as not a state.

MacArthur: How do policy decisions trickle down to businesses and citizens?

Busby: We don't have to accept the fate of runaway climate change being inevitable. We now have instruments and tools available to us at that are increasingly market competitive, like renewables that we can make the transition to cleaner energy. Companies are in a position to not only lead the way through decarbonization, but also make a lot of money from that. Companies that can innovate and deliver those products that allow us to decarbonize are going to help us stave off the worst effects of climate change.

MacArthur: An Ipsos poll found that among catastrophes, Americans were most prepared for a power outage. What do you make of that?

Busby: We talked about Puerto Rico after Maria, where people went a year without power. We had the Texas freeze a couple of years back where we lost power for three days, and several hundred people died in that context. You may be worried about localized looting on a temporary basis until order can be restored. But the long-run consequence could be a further decline in Americans' trust that their government is there to respond to their needs.

Kate MacArthur is managing editor of What the Future.

“We talked about Puerto Rico after Maria, where people went a year without power. But the long-run consequence could be a further decline in Americans' trust that their government is there to respond to their needs.”

Signals

What we're reading today that has us thinking about tomorrow

Goldman Sachs launches geopolitical advisory group, in response to the ongoing risk of conflict in the world, via [Reuters](#).

Firms are bringing production back home because of the Ukraine war, China's slowdown — and TikTok via [CNBC](#). War and geopolitical instability have cast the fragility of global supply chains in stark relief. Now, “reshoring”— that is, investment in manufacturing on U.S. soil — is back in vogue.

Tough week on Capitol Hill via [Steven Moore](#). “Global security is being held hostage by a few members of the House of Representatives who raise a lot of money by shouting “NO!” to everything,” from Taiwan to Ukraine, Moore writes.

North Korea's hackers are after intel, not just crypto via [The Economist](#). North Korean hacker groups often end up with victims' ransom money. But experts say more and more cyberattacks are targeting state secrets.

Climate change may increase conflict deaths, says IMF via [Reuters](#). The increasing unpredictability and volatility of our climate could drive tomorrow's conflicts, from food and resource shortages to climate migration.

Worry about possible worldwide conflict rises via [Ipsos](#). The most recent Ipsos survey for Halifax International Security Forum finds an increased expectation of a global conflict, and growing support for beefing up the military in several countries.

20 years after the invasion of Iraq, few feel the war has made America safer via [Ipsos](#). The Axios/Ipsos Two Americas Index finds most Americans do not think the Iraq War made America safer, and most don't think it was right to invade in 2003.

Navigating the new AI frontier via [Ipsos](#). AI presents a unique threat to companies trying to safeguard their reputation. Bad actors from around the world can leverage AI's, inflicting severe damage to a business' reputation along the way.

Researchers at Ipsos, the University of Chicago and University of Michigan present new analysis on the lifesaving impact of public safety early warning systems in Ukraine via [Ipsos](#). Public safety alerts have saved countless lives in Ukraine — but alert fatigue presents a considerable challenge to solve.

Majority of Americans continue to support Ukraine, but have mixed views on war outlook via [Ipsos](#) Chicago Council on Global Affairs-Ipsos poll finds majority of Americans support ongoing U.S. aid to Ukraine, but are split on long-term assistance.

Contributors



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