

PUBLIC VIEWS ON

MULTIPLE

DIMENSIONS

OF SECURITY



NUCLEAR WEAPONS, TERRORISM, ENERGY, AND THE ENVIRONMENT: 2007

Hank C. Jenkins-Smith, Ph.D.
Professor and Associate Director

Center for Applied Social Research
University of Oklahoma

Kerry G. Herron, Ph.D.
Research Scientist

Center for Applied Social Research
University of Oklahoma



Sandia National Laboratories

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Kerry G. Herron, Ph.D.
Research Scientist
Center for Applied Social Research
University of Oklahoma

Hank C. Jenkins-Smith, Ph.D.
Professor and Associate Director
Center for Applied Social Research
University of Oklahoma

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Center for Applied Social Research
University of Oklahoma
2 Partners Place, 3100 Monitor, Suite 100
Norman, Oklahoma 73072

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Alton D. Romig, Jr., Ph.D.

Senior Vice President and Deputy Laboratories Director for Integrated Technologies and Systems

John M. Taylor

Manager, ITS Strategic Office

David Cunningham

Graphic Artist

University of Oklahoma, Norman, OK

Carol L. Silva, Ph.D.

Associate Director, Center for Applied Social Research
Assistant Professor, Department of Political Science

University of New Mexico, Albuquerque, NM

Roger L. Hagenruber, Ph.D.

Emeritus Director, UNM Institute for Public Policy
Research Professor, Department of Political Science

Mark Peceny, Ph.D.

Chair, Department of Political Science
Interim Director, UNM Institute for Public Policy

Amelia A. Rouse, Ph.D.

Deputy Director, UNM Institute for Public Policy

Amy S. Goodin

Deputy Director of Research, UNM Institute for Public Policy

Texas A&M University, College Station, TX

Matthew Henderson

Web Services Administrator, Bush School of Government and Public Service

Abstract

We analyze and compare findings from identical national surveys of the US general public on nuclear security and terrorism administered by telephone and Internet in mid-2007. Key areas of investigation include assessments of threats to US security; valuations of US nuclear weapons and nuclear deterrence; perspectives on nuclear proliferation, including the specific cases of North Korea and Iran; and support for investments in nuclear weapons capabilities. Our analysis of public views on terrorism include assessments of the current threat, progress in the struggle against terrorism, preferences for responding to terrorist attacks at different levels of assumed casualties, and support for domestic policies intended to reduce the threat of terrorism.

Also we report findings from an Internet survey conducted in mid 2007 that investigates public views of US energy security, to include: energy supplies and reliability; energy vulnerabilities and threats, and relationships among security, costs, energy dependence, alternative sources, and research and investment priorities. We analyze public assessments of nuclear energy risks and benefits, nuclear materials management issues, and preferences for the future of nuclear energy in the US. Additionally, we investigate environmental issues as they relate to energy security, to include expected implications of global climate change, and relationships among environmental issues and potential policy options.

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Executive Summary

Chapter One: Introduction and Overview

We report findings from parallel telephone and Internet surveys conducted in mid-2007 of US general public views on selected nuclear security and terrorism issues. We also report findings from an Internet tracking survey of selected energy security and related environmental issues conducted in the same time frame. All three surveys build on previous foundational studies in this series to show opinion change over time.

Chapter Two: Nuclear Security

Q: How have public valuations of US nuclear weapons capabilities changed since the end of the Cold War?

Response patterns to related questions about the importance of nuclear weapons for US power and influence, their importance for various deterrence functions, the perceived importance of retaining US nuclear weapons today, and investment support for maintaining US capabilities to develop and improve nuclear weapons in the future are all mutually reinforcing. They show empirically that public valuations of US nuclear weapons capabilities have not waned in the post-Cold War era. Americans continue to believe that nuclear weapons are important for US power, are necessary for deterring the use of nuclear weapons by others, and should be retained. Public support for investment in maintaining those capabilities has *increased* since the end of the Cold War.

Q: As the number of Americans who experienced the Cold War as adults declines, is nuclear deterrence likely to be devalued?

Our data are inconclusive, and 16 years into the post-Cold War period may still be too soon for unmistakable patterns to be identified. While it is clear that the importance of nuclear deterrence increases systematically with age, not having experienced the Cold War seems to exert a negative influence on the perceived efficacy of nuclear deterrence among the combined data from seven phone surveys between 1995 and 2007. However, that effect is not ap-

parent among combined data from three Internet samples collected in 2005, 2006, and 2007. Also, no directional pattern in mean evaluations of the importance of nuclear deterrence is apparent when looking at the assessments among 18–21 year olds in each survey period, none of whom were adults during the Cold War. It may be that with further time, a replicable pattern will emerge among both phone and Web participants, but as of this writing, the patterns are insufficiently consistent to support a definitive finding.

Q: How do members of the public view the threat of nuclear proliferation?

Repeated measurements using different question formats since 1993 show that the US public consistently rates the risks posed by the further spread of nuclear weapons above a value of seven on a scale where zero represents no risk and ten represents extreme risk. While the risks of war with a nuclear armed North Korea or Iran are judged above midscale, the risks that either country may provide nuclear weapons or nuclear materials to terrorist groups is judged significantly higher than the risks of interstate nuclear conflict. In terms of relative risks associated with these two nuclear proliferators, the public judges Iran to pose the greater threat, both in terms of interstate conflict and in terms of the potential for Iran to provide nuclear weapons resources to terrorists. When considering the use of US military forces to compel denuclearization of North Korea and Iran, public support is above midscale for US participation in a UN coalition and below midscale for unilateral US military actions. For both multilateral and unilateral force options, mean public support for compelling Iran to denuclearize is higher than support for compelling North Korea to divest its nuclear weapons capabilities.

Chapter Three: Security from Terrorism

Q: How do members of the public view the threat of terrorism today; how confident are they in official assessments of that threat; and how confident are they in our abilities to prevent attacks in the United States?

Our data show that respondents consider terrorism to be the greatest threat to security in the United States today. When asked to rate the overall threat of terrorism, they consistently place mean assessments well above midscale, typically between a value of 6.5 and 7.5 on a scale from zero (no threat) to ten (extreme threat). Our trend analyses demonstrate that these perceptions

are highly reactive to actual events, and should future acts of terrorism occur in the US, threat perceptions can be expected to rapidly increase (as they did following 9/11). In the absence of such attacks, terrorism is likely to remain high on the public's list of concerns, but in the event of such attacks, public alarm will spike.

Similarly, as the flip side of threat perceptions, confidence levels in our abilities to predict and prevent acts of terrorism are modest and somewhat below midscale. In the absence of future attacks, confidence levels can be expected to grow slowly, but they almost surely will decline rapidly in response to any future attacks. Together, threat perceptions and confidence in our abilities to predict and prevent those threats can be thought of as a proxy for the dimensions of security relating to terrorism. As threat perceptions decline and confidence levels grow, public feelings of security from terrorism increase, and, conversely, levels of public security decline sharply and rapidly with increased perceptions of threat and demonstrated inability to predict and prevent attacks, especially in the United States.

Q: How do Americans evaluate the ongoing war on terrorism and its prospects?

On average, respondents are not optimistic about the war on terrorism. Mean assessments of its progress are below midscale and trending downward. That picture is supplemented with similar downward trends in public confidence that the US eventually will prevail in its struggle against terrorism. On average, participants without college educations, those over the age of 30, and men rate progress in the struggle against terrorism significantly higher than do their counterparts. In judging prospects for eventually winning the war on terrorism, men without college educations are more optimistic, though mean assessments are not above midscale. Race/ethnicity and household income do not, on average, reliably shape judgments on the war on terrorism or its prospects. Respondents who identify themselves as politically conservative or Republican judge both progress in the war on terrorism and its eventual outcome significantly more positively than do those who consider themselves to be politically liberal or who identify most closely with the Democratic party.

On average, most participants rate US efforts to secure its land borders well below midscale, with measurements showing relatively little change over the past three years. Efforts to improve security at US seaports and harbors

are judged somewhat more effective, but still below midscale and relatively flat. Only US efforts to improve the security of air travel are rated above midscale and show increasing public confidence.

Q: How supportive are citizens of intrusive domestic policies intended to prevent terrorism?

Our data confirm historical patterns that suggest Americans are tolerant of government efforts to secure them from threats, even when such measures intrude on civil liberties and privacy, and even if they are of questionable demonstrated security value. Given the vantage of historical perspective, some previous efforts at enhancing security later have come to be viewed as serious mistakes, such as the imprisonment of opponents of US participation in World War I, or the internment of American citizens of Japanese ancestry during World War II, or the excesses of McCarthyism at the height of the “red” scare during the early Cold War years, among others. But at times when security is perceived to be threatened, the public often is tolerant of such intrusions into what otherwise would be considered protected liberties.

We are witnessing a contemporary adjustment to the peacetime balance of liberty and security in the US as a result of the ongoing struggle with terrorism and resulting policies intended to enhance homeland security. Our respondents appear to understand and accept such policies, within limits, and we are not seeing significant public resistance to measures taken thus far to strengthen security against terrorism. As has happened in the past, immigration appears particularly vulnerable to public opinion, as do protections for those arrested or captured on suspicion of terrorism. While the public perceives that security is being emphasized at the expense of some liberties, our respondents indicate moderate support for a variety of such measures, and we have not yet begun to see appreciable resistance. There is a substantial debate underway among civil libertarians and members of the legal community about homeland security measures perceived as unjustifiable intrusions into citizens’ rights, but that debate seems not to have resonated deeply among those whom we have surveyed to date.

Chapter Four: Energy and Environmental Security

Q: How accepting is the American public of nuclear energy, and how are associated risks and benefits, including environmental factors assessed?

We find that members of the public believe the risks from burning fossil fuels equal or exceed those associated with the nuclear generation of electricity. When asked to assess specific risks and benefits of nuclear energy, most respondents believe the benefits outweigh corresponding risks. Among a variety of factors influencing public views on nuclear energy, the three most important are (a) the safety of nuclear power plant operations; (b) how spent nuclear fuel is managed, including its transportation and disposition; and (c) the adequacy of future energy supplies. At present, the lack of greenhouse gas emissions, while judged important in an absolute sense, ranks lowest of seven named factors for influencing support for or opposition to nuclear energy. When asked to assess prospects for building additional nuclear generation capacities, overall support is above midscale for building new nuclear reactors, with mean support for constructing such reactors at existing nuclear power facilities higher than support for constructing additional nuclear power plants at new locations in the US.

From these findings, we conclude that public support for nuclear energy is substantial and appears to be strengthening in comparison to support for burning fossil fuels to generate electricity. However, we consider this support to be fragile and susceptible to significant downturn should future nuclear events endanger populations anywhere in the world. Unsurprisingly, renewable sources, such as hydroelectric dams, solar power, and wind generation are perceived to pose significantly fewer risks than either nuclear or fossil fuel based generation, but our respondents seem to consider nuclear generation to be important for meeting US energy requirements and are likely to be increasingly supportive, absent future nuclear accidents of a serious nature.

Q: How does the public prefer that spent nuclear fuel be managed?

Most of our respondents are not aware of current practices of storing spent nuclear fuel at designated nuclear power plants across the US. When presented with brief pro and con arguments for each of the following alternative storage or disposition options: (a) continuing current practices of storage at existing nuclear power facilities; (b) opening a centralized deep

geological repository at Yucca Mountain: (c) opening privately owned and managed temporary storage sites, or (d) developing an international consortium for storing and reprocessing spent nuclear fuel, our participants favor deep geological storage at Yucca Mountain.

From these patterns of responses and from those reported in prior analyses, we conclude that many members of the public are poorly informed about the spent nuclear fuel issue. Most consider the issue to pose a serious risk associated with nuclear energy, and they identify it as one of the most important factors influencing the future of nuclear energy; but most also are misinformed about current practices. Most respondents prefer that a centralized underground storage facility be used, and about one in three participants think such a facility already is in use.

Q: How would the public like to see future energy requirements met?

In considering how to meet current and future energy requirements, our respondents express a strong consensus that it is important to reduce US dependence on foreign sources of energy. Most prefer a balanced approach that includes energy conservation and energy development, and most would like to see today's energy mix change in important ways. They would like the US to increase the percentage of total energy requirements provided by renewable sources from the current six percent to approximately 50 percent; increase the proportion of nuclear generated energy from the current eight percent to approximately 20–25 percent; and reduce current reliance on fossil fuels from 85 percent of total energy to 25–30 percent over the next 20 years.

Q: Do public beliefs about energy and environmental security and preferences for associated policies vary systematically with levels of general knowledge about energy and the environment? If so, how?

Yes, our data show predictable and replicable relationships between varying levels of basic knowledge about energy and environmental issues and beliefs about current and future energy policies and related environmental concerns. We find that our respondents to Internet surveys conducted in 2006 and 2007 are significantly better informed than our phone respondents also surveyed in 2006. Using combined data from the two Internet surveys and the phone survey, and controlling for individual demographic characteristics and political ideology, we find that as levels of basic factual knowledge about energy and environmental security increase, certainty increases

that greenhouse gasses are causally related to global climate change, perceptions of risks from burning fossil fuels increase, preferences are higher for increasing the proportion of total energy deriving from renewable sources, and greater support is reported for building additional nuclear generation capacities at existing *and* new sites. Our data also show that as factual knowledge increases, satisfaction with current US energy policies and confidence in our abilities to meet future energy requirements decline, assessments of risks associated with nuclear generation and risks associated with renewable sources of energy decrease, the preferred proportion of future energy needs provided by burning fossil fuels declines, support decreases for emphasizing energy conservation over energy development, and support declines for continuing present storage of spent nuclear fuel at designated nuclear power plants or for opening privately managed temporary storage facilities. Overall, the views and preferences of members of the public about energy are related systematically to how factually informed they are about energy security and associated environmental issues.

Q: How does the public view global climate change?

Two out of three Internet respondents in 2007 report paying substantial levels of attention to global climate change (GCC). When tested on their factual information about predominate scientific opinions, expectations, and predictions about the causes and prospects of GCC, results support the supposition that GCC is an important and relevant issue to most of our respondents. About three out of four participants believe greenhouse gasses are contributing to rising average global temperatures, and those who hold such views are more certain in their conclusions than are the minority of respondents who do not believe there is a causal link between greenhouse gasses and global warming. When asked to assess the risk to people and the environment posed by global warming, about 75 percent rate the risk above midscale, with mean ratings among all three respondent groups in 2006 and 2007 being at or above seven on a scale from zero (no risk) to ten (extreme risk). Similarly, about 80 percent of respondents from all three samples rate the importance of reducing greenhouse gas emissions above midscale, with means above seven on a zero (not at all important) to ten (extremely important) scale.

The directional implications of these findings are clear; the issue of global climate change may be complex and the science may be evolving, but a substantive majority of the public has concluded the following: (a) average global temperatures are increasing; (b) rising temperatures pose serious risks to people and

the environment; (c) greenhouse gasses are causally linked to global warming; and (d) it is important for the world to reduce greenhouse gas emissions.

Q: What are ordinary citizens willing to pay for research and development of new energy resources?

Using contingent valuation methods, our survey respondents are estimated to be willing to pay an average of about \$82 per year (per household) in the form of higher energy and product prices to fund research on alternatives to fossil fuels. When the options include research on nuclear energy, the average annual WTP increases to about \$107 per year (per household).

Chapter One

Introduction and Overview

This report presents findings from parallel telephone and Internet surveys of 1,703 phone respondents conducted between March 15 and May 31, 2007, and 1,542 Internet participants conducted May 15–30, 2007. These surveys investigate US general public views on selected nuclear security and terrorism issues.

We also report findings from an Internet tracking survey of 1,504 individuals conducted May 4–15, 2007, on selected energy security and related environmental issues.

All three surveys build on comparative baselines established in 2005 (nuclear security and terrorism) and 2006 (energy and environmental security), and on prior foundational research conducted between 1993 and 2005.¹ Financial and institutional support for this study was provided by Sandia National Laboratories, the University of Oklahoma, Texas A&M University, and the University of New Mexico.

Section 1.1: Research Goals and Objectives

Our overall research goals are organized into two research tracks involving four related dimensions of security. The nuclear security and terrorism track consists of parallel phone and Internet surveys conducted in odd-numbered years, plus an Internet only tracking survey in even-numbered years. In a complementary fashion, the energy and environmental security track consists of parallel phone and Internet surveys conducted in even-numbered years, supplemented by an Internet only tracking survey in odd-numbered years. All are designed to provide coordinated research, and are intended to measure and analyze evolving public understandings of four interrelated dimensions of security: nuclear security, security from terrorism, energy security, and environmental dimensions of security.

¹ For the baseline study on nuclear security and terrorism, see Herron and Jenkins-Smith 2006a; for the baseline study on energy and environmental security, see Jenkins-Smith and Herron 2007. Each is available on-line at: <http://casr.ou.edu/nsp>. Findings from previous surveys on related issues published between 1994 and 2004 are summarized in Herron and Jenkins-Smith 2006b.

Track 1: Nuclear Security and Terrorism

For this track, our primary research goals are to analyze public views about the evolving nature of nuclear security and terrorism and to identify trends in public perceptions and preferences relevant to the evolution of related US security policies. Specific research objectives include the following:

- Employ a split survey design that compares telephone and Internet data collections to meet two methodological objectives.
 - Where appropriate, map backward to selected baseline questions asked in previous surveys in this series for continued trend analyses and develop new questions intended for repeated application in future surveys.
 - Compare responses collected by telephone with responses to the same questions collected via the Internet to monitor the comparability and validity of telephone and Internet survey methods.
- Identify and analyze emerging changes and trends in public perceptions of US nuclear weapons policies and selected national and international security issues. Examine evolving US public assessments of risks, benefits, policy preferences, and research and investment priorities associated with nuclear weapons and strategic security.
- Identify and analyze emerging and changing trends in US public concerns about homeland security, including the threat of terrorism, contemporary views of the ongoing war on terrorism, and assessments of US policies to prevent terrorism.
- Analyze belief systems among members of the US general public and their relationships to views on nuclear security and terrorism. Specifically investigate public beliefs about balancing security and liberty.

Track Two: Energy and Environmental Security

Our primary research goals for this track are to analyze public views about contemporary energy security and associated environmental issues and to identify trends in public perceptions and preferences relevant to the evolution of related US policies. Specific research objectives include the following:

- Develop a split survey design that compares telephone and Internet data collections to meet the same two methodological objectives specified for Track 1.
- Identify and analyze public perceptions of US energy security, to include: energy supply and reliability; energy vulnerabilities and threats, including supply disruptions; and relationships among security, costs, energy dependence, alternative sources, and research and investment priorities.
- Investigate environmental issues as they relate to energy security, to include legacy issues deriving from earlier energy developments and applications, public understandings and expected implications of global climate change, and relationships among environmental issues and potential policy options.
- Identify emerging changes and analyze trends in public views on nuclear energy, to include risks, benefits, policy preferences, research and investment priorities, and public trust. Specifically investigate understandings and preferences regarding nuclear materials management and disposal issues.
- Analyze public perceptions of nuclear fuel cycle and waste management options, including regional temporary storage, reprocessing, permanent disposal, and transportation to temporary or permanent storage facilities.
- Analyze belief systems among members of the US general public and their relationships to views on energy security and related environmental issues.

Section 1.2: Methodological and Conceptual Considerations

We design all phases of the larger research project to support multidimensional analyses, including quantitative methods such as descriptive, relational, and trend analyses. The split survey design for Track 1 (nuclear security and terrorism) in 2007 includes telephone interviews conducted between March 15 and May 31 with 1,703 respondents randomly chosen nation-wide and 1,542 surveys employing the same questions administered via the Internet May 15–30. Track 2 investigations (energy and environmental security) in 2007 consist of an Internet tracking survey conducted May 4–15 with 1,504 participants responding to the same baseline questions asked by phone and Internet in 2006. Details of sampling methods, collection procedures, and cooperation rates are provided in Appendix 1.

Conceptualizing Security

The term “security” is associated with contextual meanings that are so broad and variable that some scholars consider it to be an “essentially contested concept” (Gallie 1962; Buzan 1991). Like other complex ideas such as power, justice, peace, and freedom, the concept of security includes an ideological dimension that reduces the utility of empiricism for resolving differences in definitional and conceptual explanations (Little 1981; Buzan 1991). Even those who specialize in security studies cannot agree on the boundaries of the concept or of the field of study. To some who take a more classically narrow approach, security relates to matters of the state and its military capabilities—particularly the use of force (Buzan, Waever, and de Wilde 1998). But since the end of the Cold War, the concept of security has broadened to include conventions associated with many aspects of globalization and humanitarian concerns, such as hunger, health, human rights, economics and trade, global climate change, and international system stability (Fierke 2007). Some, such as Buzan (1991) and Fierke (2007) caution that the proliferating conceptual application of the term “security” to new fields and new concerns may locate agency in states rather than in institutional or individual actors in specific fields, and some issues may become militarized even though a political solution may be more appropriate.

While a detailed examination of the concept of security is beyond the scope of this brief discussion, it is useful to make a few key points. Essentially, perceived security is about *feeling* safe from harm or danger, and actual security is about *being* safe. When measuring and analyzing public opinion, we are dealing with perceptions and beliefs, and thus at the individual level of analysis, security is a *feeling* that is inherently subjective to individual contexts and interpretations. At a social level, security is a normative political construct. It is assessed by governmental agencies and political leaders, and is partially a function of policy processes. While some empiricism may be applied, there remain large areas of subjective interpretation of public security that become the bases for official judgments and policies.

One of the most critical aspects of defining and understanding security is to recognize that its meaning is heavily dependent on risk or threat. Theoretically, in the absence of some real or imagined risk or threat, security would be maximized, but actually, under such a theoretical construct (which is not realistically plausible), security would have no meaning at all. Edkins

(2003) contends that the human desire for perfect security from all threats to our existence is illusory, and some degree of insecurity is inherent to all life—including human existence. Fierke (2007, 8) argues that: “The search for perfect security is not merely illusory, but becomes part and parcel of the problem, that is, it contributes to the production of insecurity and the construction of threats.”

If it is the imagined and real sources of risks and threats that give the concept of security meaning, it follows that one of the most useful ways of conceiving security is in relation to perceived and actual risks and threats. Following the insightful conceptualization of security many years ago by Arnold Wolfers (1952), perhaps security can be best understood as the inverse of risk/threat. Because there are some risks and threats over which no individual or government has control (such as the threat of eventual death), comprehensive and enduring security is impossible. Because security takes its meaning from the absence of risk/threat, and because it is impossible to prove why something did *not* occur, attributing the sources and causes of security is problematic. We may presume the reasons a threatening event, such as interstate nuclear war, has yet to occur relate to deterrence based on mutually assured destruction, but we cannot know that is the sole or even primary reason. Similarly, we cannot know for sure why large-scale acts of terrorism have not occurred in the United States from September 11, 2001 to the time of this writing. We can make assumptions about the effectiveness of preventive measures and about terrorist capabilities and motivations, but we cannot *prove* why another act of the scale of 9/11 has not yet occurred. From this line of reasoning, we conclude that the concept of security is based on individual feelings and political assumptions and assessments of risks and threats. This becomes key when considering how to measure and track security.

Because of the essentially contested nature of the concept of security, because our understanding of it is based on assumptions about risks and threats, and because of the growing application of the concept of security to more fields and policy domains, we need to carefully delineate those dimensions being studied in this project. As previously noted, we are limiting our investigation and analysis to public understandings of four interrelated dimensions of security.

- Nuclear security encompasses nuclear weapons and their development, management, and uses; nuclear materials and their production, applications,

and safeguards; nuclear proliferation and associated implications; and public perceptions of and support for policies relating to each of these aspects of nuclear security.

- Terrorism and its implications for all levels of security includes public understandings of the various threats posed by terrorism, assessments of ongoing efforts to prevent and combat terrorism, and the effects of terrorism on key societal values such as freedom and liberty.
- Energy security includes energy dependence, adequacy of energy sources and supplies, threats and vulnerabilities to energy access, nuclear energy risks and benefits, alternative energy sources, and research and development into future energy requirements and options, including willingness to pay for energy research and development.
- A fourth dimension of security is the growing importance of environmental issues as they relate to traditional concepts of physical security, economic security, and energy management. Of particular interest in this dimension is global climate change (another contested concept) and how public assessments of its dynamics are evolving.

Interrelationships

We consider these four dimensions of security to be closely intertwined, and one of our long-term goals is to better understand how fellow citizens relate concepts and beliefs associated with these four dimensions. Given the baselines now established in each of our two research tracks investigating four dimensions of security, in future studies we can probe more deeply into their perceived connectedness. Some areas seem obviously to be closely related, such as nuclear weapons and the potential for their use in terrorism. Others may be somewhat less clear, such as the relationships among energy independence, fossil fuels, and global warming. Still others are much more subtle, such as the relationships of porous borders and illegal immigration with security from terrorism and with the social and economic implications of the associated labor pool. We can explore some of these relationships with our current data, but future cycles of this research will allow more detailed examination of how Americans relate these four dimensions, and the degree to which they see crosscutting security implications.

Measuring Security

Given the previously noted complexities involved in defining and conceptualizing security, direct questions about security and how secure people feel are problematic. First, one must specify what level of analysis is being asked: individual, national, regional, global? Next, it is quite possible for individuals to feel secure from terrorism or interstate war, and yet feel insecure about economic well-being, health, the costs of energy, environmental issues, or any number of other aspects affecting security at the individual level. And even when respondents are asked to assess security at a specific level of analysis, it is difficult for them to separate personal feelings and concerns at the individual level from those of the social and political groups to which they belong at higher and more aggregated levels of analysis. To address direct questions about security means that respondents must make several assumptions. First is the level of analysis; is it security for me personally, or for my family, or for my community, or for my nation, or for everyone? The next cognitive demand is to evaluate security from what or from whom, which requires assumptions of specific sources of risks or threats and their nature. Then there is the temporal dimension of security, which raises issues of immediate and contemporary security versus longer-term and future security. This dimension is particularly relevant to discussions of energy and environmental security. There also is the important question of whose security is being threatened or strengthened and who is bearing what proportion of the costs. Security measures for one group often impinge on the security of other groups. This is particularly relevant in considering security among different nation states or when dealing with issues such as immigration. Some people may be very accepting of intrusive or restrictive measures if the associated costs seem likely to be born by others. While the designs of questions can specify some of these requirements, direct inquiries about security still demand cognitive compartmentalization and individual assumptions on the part of respondents, all of which can affect response validity.

For these and related reasons, we think it is preferable methodologically for purposes of opinion survey research to conceive of security and measure it as the inverse of risk or threat. As argued above, one of the many ways to conceive of security is as the absence or minimization of threat. Because threats can be more discretely defined and specified, we hypothesize that respondents are better able to compartmentalize and separately assess threats of dif-

ferent types acting at different levels of analysis than they are to assess conceptual questions about the more difficult to specify and more variable concept of security. While we have included a few direct inquiries about security assessments, we focus more intently on exploring public perceptions of threats and risks, the inverse of which can be used more reliably to represent feelings of security.

Phone vs. Internet Surveys

There are two major trends in opinion survey research that seem especially relevant to our long-term goals in this project. First, the representativeness of and access to mass publics in the developed world via wired telephony is declining as more households take advantage of wireless communications and depend less on wired landlines. The number of US households with wired phone connections is declining even while our population continues to grow. The most recent estimates available from the federal government concerning the size of the population without wired telephones suggest that during the last six months of 2006, more than three out of every 20 American homes (15.8 percent) did not have landline telephone connections. During the same period, one out of every eight American homes (at least 12.8 percent) had only wireless telephones (Blumberg and Luke 2007). It is not reliably known what percentage of households have both wired and wireless connections, and the issue of telephone penetration is becoming even more complex with the introduction of cable systems that carry wired digital phone services that, in some cases, may be channeled through wireless routers and handsets. Technical developments are occurring so rapidly as to blur the traditional understandings of wired, wireless, and cellular telephony.

Regardless of definitional issues, an increasing proportion of households are depending exclusively on cell phones and wired and wireless Internet connections for voice and text communications. Since random surveying via telecommunications that incur costs per call that are born by the respondent present legal and expense sharing issues that make surveying cell phones impractical (raising safety issues and requiring the use of monetary incentives), the proportion of the US population that can be reached for phone interviews is declining and becoming relatively less representative of the population at

large (compared to previous decades when wired telephony was the standard for most US households)² even as the world becomes ever more connected.

The second trend is that access to the Internet continues to grow and is increasingly making the proportion of US households that can be surveyed via the Internet larger and more representative of the parent population. The PEW Internet and American Life Project (Horrigan 2007) estimates that approximately 70 percent of all adults in the US use the Internet, and while that percentage appears to be leveling off, it continues to grow, even if more slowly than in recent years. PEW estimates that in early 2007, approximately 47 percent of all adult Americans had a broadband connection at home, a five percent increase from the previous year. And among those who do use the Internet at home, approximately 70 percent have a broadband connection (Horrigan 2007). But Internet access continues to be uneven, with rural areas having lower levels of access than metropolitan areas. There also are differential access patterns among various population subgroups, such as racial and ethnic minorities and lower socioeconomic groups.

These trends can be thought of as two lines of public representativeness, one of which is trending downward while the other is trending upward. Where and when they will cross (or have crossed) cannot be known precisely, but the implication for opinion survey research is that neither phone only nor Internet only surveys should be relied upon exclusively for understanding mass public opinion in the United States. These trends have important implications for sampling, response rates, and survey validity, and in today's transitional environment, it is prudent to comparatively use both survey collection methods. Accordingly, we are employing the previously described cross-modal methods to establish and compare views among both subsets of the population—those who continue to be accessible via wired phone connections, and those who increasingly choose to communicate via other means,

² For example, the percentage of young adults (18–24 years of age) who use cell phones exclusively is substantially higher than older adults, skewing the age demographic for phone surveys of wired households. For a discussion of the implications of declining wired telephony for random digit dial surveys, see Tucker, Brick and Meekins (2007). For a discussion of issues associated with surveying cell phone numbers, see Brick, et al. (2007).

including the Internet. We believe doing so supports more rigorous findings whose validity is reinforced.³

Section 1.3: Organization of the Report

Chapter Two analyzes issues relating to nuclear security by addressing the following three inquiries:

- How have public valuations of US nuclear weapons capabilities changed since the end of the Cold War?
- As the number of Americans who experienced the Cold War as adults declines, is nuclear deterrence likely to be devalued?
- How do members of the public view the threat of nuclear proliferation?

In Chapter Three, we focus on security from terrorism by addressing the following questions:

- How do members of the public view the threat of terrorism today; how confident are they in official assessments of that threat; and how confident are they in our abilities to prevent attacks in the United States?
- How do Americans evaluate the ongoing war on terrorism and its prospects?
- How supportive are citizens of intrusive domestic policies intended to prevent terrorism?

Chapter Four analyzes multiple dimensions of energy and environmental security in an integrated fashion by addressing the following inquiries:

- How accepting is the American public of nuclear energy, and how are associated risks and benefits, including environmental factors, assessed?
- How does the public prefer that spent nuclear fuel be managed?
- How would the public like to see future energy requirements met?

³ For a more detailed discussion comparing phone and Internet survey methods, see Jenkins-Smith and Herron 2007.

- Do public beliefs about energy and environmental security and preferences for associated policies vary systematically with levels of general knowledge about energy and the environment? If so, how?
- How does the public view global climate change?
- What are ordinary citizens willing to pay for research and development of new energy resources?

Appendix One describes sampling, data collection, and associated research methods. We also provide illustrations of the demographic representativeness of respondents compared to US national population parameters.

Because there are many more questions than can be discussed in a limited report, we provide two indices listing all the questions contained in our surveys. In Appendix Two, we provide a comprehensive listing of questions asked in the parallel phone and Internet surveys on nuclear security and terrorism. Response frequencies and central tendencies are displayed.

Appendix Three provides a comprehensive listing of questions asked in our Internet survey on energy security and related environmental issues. Here too, we describe distributions of responses and central tendencies.

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Chapter Two

Nuclear Security

This chapter address the following questions relating to the nuclear dimensions of security:

- How have public valuations of US nuclear weapons capabilities changed since the end of the Cold War?
- As the number of Americans who experienced the Cold War as adults declines, is nuclear deterrence likely to be devalued?
- How do members of the public view the threat of nuclear proliferation?

Section 2.1: Valuation of US Nuclear Weapons Capabilities

To address the issue of how American valuations of US nuclear weapons capabilities are evolving, we ask four sets of related inquiries. The first investigates public views of the importance of nuclear weapons for US military superiority and international leadership. The second set asks about the efficacy of US nuclear deterrence. Our third inquiry relates to beliefs about the importance of retaining US nuclear weapons, and we conclude with trends in support for investing in capabilities for developing and improving US nuclear weapons in the future.

Importance of Nuclear Weapons for US Power and Influence

We begin our analysis with responses to the following two questions about the overall importance of nuclear weapons for US military power and international leadership. Each is answered using a scale from zero to ten where zero means not at all important, and ten means extremely important.¹

¹ Throughout this chapter, we will review a number of selected survey questions and results. Distributions of responses to each are provided in Appendix 2.

- p24: How important are nuclear weapons for maintaining US influence and status as a world leader?
- p25: How important are nuclear weapons for maintaining US military superiority?

Mean responses to the first question are above 6.7 on the zero to ten scale, and means to the second question are above a value of seven. The modal response (scale value chosen by most respondents) for each is ten, the highest response option available. Differences in means between phone and Internet respondents are not statistically significant.² These results indicate that respondents consider US nuclear weapons to be integral to US power, status, and influence today.

Importance of US Nuclear Weapons for Deterrence

Our next set, consisting of the following three questions, inquires about the importance of US nuclear weapons for a range of deterrence functions. Again response scales for each are from zero to ten, with zero meaning not at all important, and ten meaning extremely important.

- p21: How important do you believe US nuclear weapons are for preventing other countries from using nuclear weapons against us today?
- p22: How important are US nuclear weapons for preventing other countries from providing nuclear weapons or nuclear materials to terrorists today?
- p23: How important are US nuclear weapons for preventing other countries from using chemical or biological weapons against us today?

In absolute terms, mean responses to each question are above midscale, ranging from above seven for deterring the use of nuclear weapons against the US by other countries, to above a value of six for preventing countries from us-

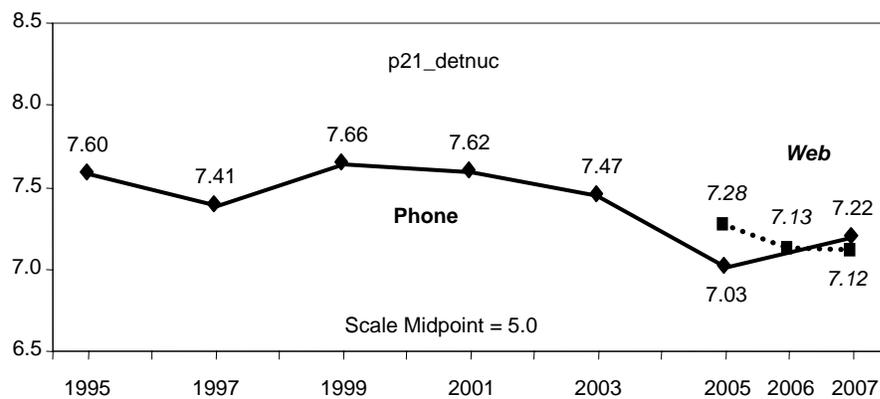
² Throughout this study, we report the results of analyses of variance (ANOVAs) in terms of *p*-value, which is a measure of the probability that differences in means would have occurred by chance. In this report, statistical significance is attributed to those differences that would have occurred by chance fewer than five times in 100 (equivalent to a 95 percent confidence level). However, statistical significance does not always equate to operational relevance. The relevance of statistically significant differences in means must be judged in the context of the variables being measured and the groups being compared.

ing chemical or biological weapons against the US, and declining slightly to just below a value of six for deterring countries from providing nuclear weapons or materials to terrorists. It also is noteworthy that the modal response to each of the three questions is the highest scale value of ten. Differences in average responses from phone and Internet respondents are not statistically significant for any of the three questions. In relative terms, the importance of US nuclear weapons for deterring other countries from using nuclear weapons against the US is clearly valued significantly higher by most participants than either of the other two deterrence applications.

Because we asked the first question about deterring the use of nuclear weapons by other countries in each of our surveys since 1995, we can examine trends by comparing mean responses from each of those surveys in Figure 2.1.

Figure 2.1: Trends in Mean Importance of US Nuclear Weapons for Preventing Other Countries from Using Nuclear Weapons Against the US

(0 = not at all important—10 = extremely important)



Though variation of mean responses is relatively narrow in absolute terms, and all means have remained above a value of seven since we began the measurements, the overall trend has been downward from a mean of 7.60 in 1993 to a mean of 7.22 in 2007, a decline of five percent that is statistically significant ($p < .0001$).

Responses to these three questions illustrate that participants consider deterrence provided by US nuclear weapons to be important, and the highest priority is placed on their role in deterring the use of nuclear weapons by other

countries. Trends in means suggest that the perceived importance of nuclear deterrence may be declining slowly.

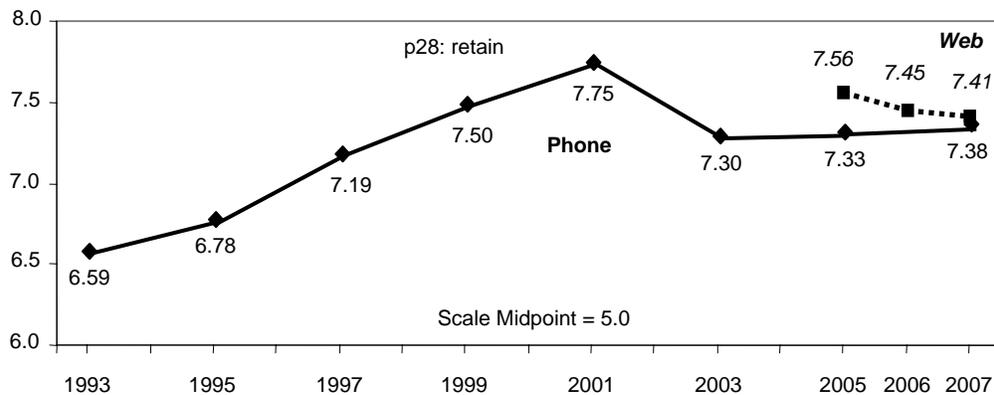
Importance of Retaining US Nuclear Weapons

Our next indicator derives from response patterns to the following question about the importance of retaining US nuclear weapons today. The response scale is the same zero (not at all important) to ten (extremely important) previously used.

- p28: How important is it for the US to retain nuclear weapons today?

As shown in Appendix 2, the distributions of responses are skewed heavily toward the upper end of the scale, with approximately three-fourths of phone and Internet participants rating the importance of retaining US nuclear weapons above midscale. Means of 7.38 for phone respondents and 7.41 for Internet participants do not differ significantly. We chart trends in means since 1993 in Figure 2.2.

Figure 2.2: Trends in Mean Importance of Retaining US Nuclear Weapons Today
(0 = not at all important—10 = extremely important)



Since our first measurements in 1993, roughly 18 months after the demise of the Soviet Union, mean public assessments of the importance of retaining US nuclear weapons have increased nearly 12 percent from 6.59 to 7.38. This trend differs from the decline we expected to record when we began

this project, and it shows not only that Americans continue to consider it necessary that the US retain nuclear weapons capabilities, but the importance of doing so has increased significantly ($p < .0001$) since the early years of the post-Cold War era. Though this trend does not speak to preferences for numbers or types of weapons, it clearly indicates a strong emphasis on retaining US nuclear weapons capabilities.

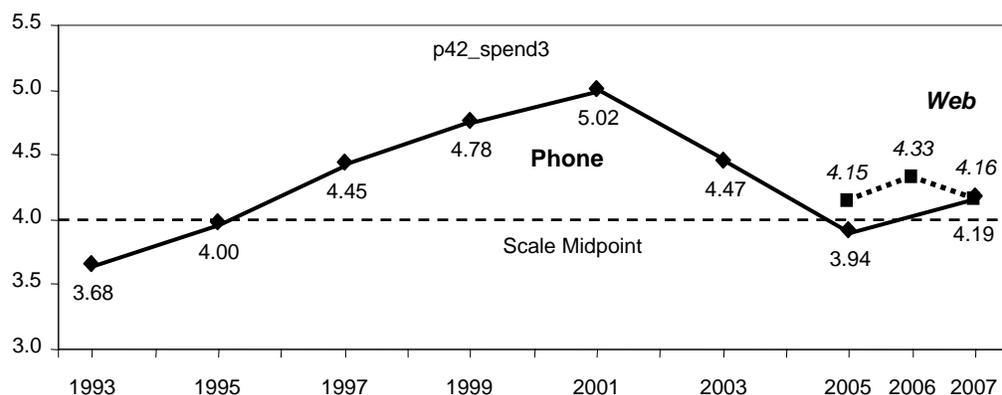
Support for Investing in Nuclear Weapons Infrastructure

Our final inquiry into this issue asks how members of the public think investments in sustaining US nuclear weapons capabilities should change. It is answered on a scale from one to seven where one means spending should substantially *decrease*, and seven means spending should substantially *increase*.

- p42: How should government spending change for maintaining the ability to develop and improve US nuclear weapons in the future?

Consistent with our previous indicators of valuation, large majorities of both phone and Internet respondents think investments in US nuclear weapons capabilities should be sustained or increased. Means for both groups are above midscale, and we show trends in mean responses since 1993 in Figure 2.3.

Figure 2.3: Trends in Support for Investments in US Nuclear Weapons Infrastructure
(1 = substantially decrease—7 = substantially increase)



Notice the sustained upward trend among phone respondents between 1993 and 2001, followed by a decline in 2003 and 2005, with an upturn in 2007.

Though mean preferences about investing in US nuclear weapons infrastructure shows somewhat more variation than responses to other questions in this discussion, mean support in 2007 is almost 14 percent higher than when we began in 1993. Of course questions about spending that do not specify prospective investment levels or force respondents to prioritize among alternative investment categories are not finite indicators of how much spending members of the public support for nuclear weapons, but this question does provide a useful directional indicator when employed as a companion to the other questions previously discussed and when monitored over time.

Short Answer

Q: How have public valuations of US nuclear weapons capabilities changed since the end of the Cold War?

Response patterns to related questions about the importance of nuclear weapons for US power and influence, their importance for various deterrence functions, the perceived importance of retaining US nuclear weapons today, and investment support for maintaining US capabilities to develop and improve nuclear weapons in the future are all mutually reinforcing. They show empirically that public valuations of US nuclear weapons capabilities have not waned in the post-Cold War era. Americans continue to believe that nuclear weapons are important for US power, are necessary for deterring the use of nuclear weapons by others, and should be retained. Public support for investment in maintaining those capabilities has *increased* since the end of the Cold War.

Section 2.2: Efficacy of Nuclear Deterrence and Cold War Experience

As described in the previous section and illustrated in Figure 2.1, mean assessments of the importance of US nuclear capabilities for deterring the use of nuclear weapons by other countries remains high in absolute terms, but is declining slowly. This raises the important question of whether the efficacy of nuclear deterrence may be changing as the fraction of Americans who did not experience the tensions of the Cold War as adults increases. When we began asking survey questions about nuclear deterrence for this project in 1995, only eight percent of our phone respondents had not experienced the Cold War as adults. By the time of our latest surveys in 2007, 15 percent of phone respon-

dents and 31 percent of Internet participants were below the age of 18 when the Cold War ended in 1991. As the Cold War era recedes into history, will individuals who did not experience it as adults value nuclear deterrence differently than those who coped with its nuclear tensions? If so, Cold War experience might become an important demographic factor for future public valuation of nuclear security.

Of the three nuclear deterrence questions described in the previous section, question p21, which asks respondents to assess the importance of US nuclear weapons for preventing other countries from using nuclear weapons against us today has been asked in each of our surveys since 1995. Because of its repeated application, it provides the best over time indication of how the efficacy of deterrence may be evolving. Employing a combined data set with responses to this question from different phone samples in 1995, 1997, 1999, 2001, 2003, 2005, and 2007, we use age as a predictor variable. Additionally, we perform the same regression using combined data from our three Internet surveys conducted in 2005, 2006, and 2007. We summarize regression results for each survey mode in Table 2.1.

Table 2.1: Relating Age to Importance of Nuclear Deterrence

Dependent Variable in Bivariate Regressions	Mode	Intercept	Coefficient	p Value	Adj. R ²
Preventing countries from using nuclear weapons against us (p21: 0 = not at all important — 10 = extremely important)	Combined Phone	6.75	.015	<.0001	.009
	<i>Combined Web</i>	5.64	.033	<.0001	.039

Results show that among both phone and Internet respondents age is systematically related to beliefs about the efficacy of nuclear deterrence, and among both groups, the importance of US deterrence increases with respondent age. While the coefficient for each year of age is small, the cumulative effect is substantial. For example, over an average adult life span of 18 to 78 years of age, the importance of nuclear deterrence would increase by approximately 0.9 points for phone respondents, and about two full points for Web participants on our scale from zero to ten. We also note that while these regressions are calculated using combined data sets, when examined individually, age is statistically significantly related to increased importance of nuclear deterrence in each of our several discrete phone and Internet samples.

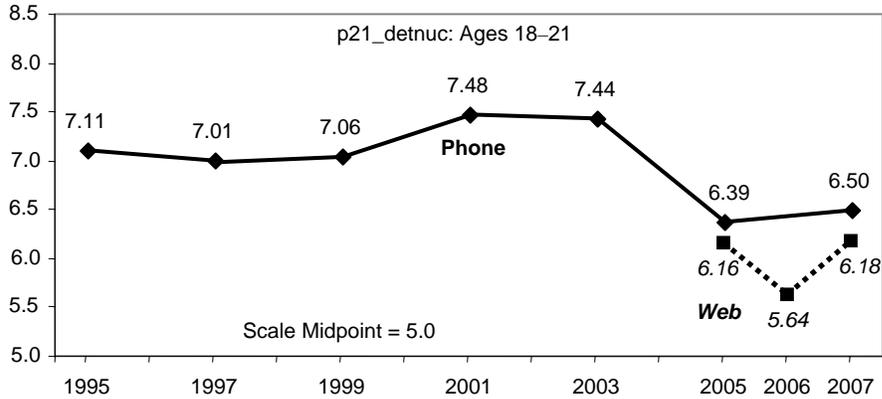
To separate the maturation factor from Cold War experience, we report three additional tests. First, we examine the youngest age group eligible to take our survey in 1995 (when the question was introduced) that was below adulthood in December 1991 when the dissolution of the USSR marked the official end of the Cold War. Respondents in 1995 between 18 and 21 years of age were 14–17 years old in 1991. Using that age group as a baseline, we compare mean responses among the same age group (18–21 years of age) in each of our subsequent surveys to see if mean valuations of deterrence decline as participants enter the response pool who were further from adulthood when the Cold War ended. By looking at the same age range each time the question is administered, we eliminate the influence of increasing age on deterrence assessments. Our second approach compares mean assessments in each of our surveys between respondents who experienced the Cold War as adults and those who did not. In our final test, we again employ combined multiyear data sets for phone respondents and separately for Internet participants in which we use both age and a dummy variable identifying those participants who did not experience the Cold War as adults to predict importance of nuclear deterrence.³ If there are patterns suggesting that not having experienced the Cold War as an adult is systematically related to valuing nuclear deterrence today, we should find evidence to that effect in these complimentary approaches.

Efficacy of Deterrence Among Those 18–21 Years of Age

Respondents must be at least 18 years of age to participate in any of our surveys. When in 1995 we first asked the question about the importance of US nuclear weapons for deterring other countries from using nuclear weapons against us, respondents between the ages of 18 and 21 years would have been 14 to 17 years old when the Cold War ended in 1991. Because we know that increasing age is systematically associated with increasing valuations of nuclear deterrence, we will use the same 18–21 year age range to form our baseline for this analysis across surveys. In figure 2.4, we compare mean responses to our reference question among participants who are 18–21 years of age in each of our surveys.

³ A so-called “dummy” variable is a dichotomous variable coded a value of one in this case to indicate individuals who did not experience the Cold War as adults and coded a value of zero to indicate those who were adults during the Cold War.

Figure 2.4: Mean Importance of Nuclear Deterrence Among Ages 18–21
 (0 = not at all important—10 = extremely important)



Among 18–21 year old phone respondents, mean importance of US nuclear weapons for preventing other countries from using nuclear weapons against us has remained relatively stable, with an increase in 2001, immediately following the attacks of 9/11, and a decline in 2005. But the overall change in mean assessments between 1995 and 2007 is not statistically significant ($p = .1451$). Variation in means among Web participants of the same age group between 2005 and 2007 also is not significant. None of the respondents in this age group from any of our samples experienced the Cold War as an adult, and each succeeding group of 18–21 year olds was further from adulthood at the time the Cold War ended, yet no statistically significant trend emerges as they enter the sampling pool.

Efficacy of Deterrence as a Function of Cold War Experience

Next we compare assessments in each survey period between those respondents who were 18 or more years of age when the Cold War ended in 1991 and those who did not experience the Cold War as adults. Table 2.2 compares means for each group in each survey, and Figure 2.5 comparatively plots those means over time to look at trends.

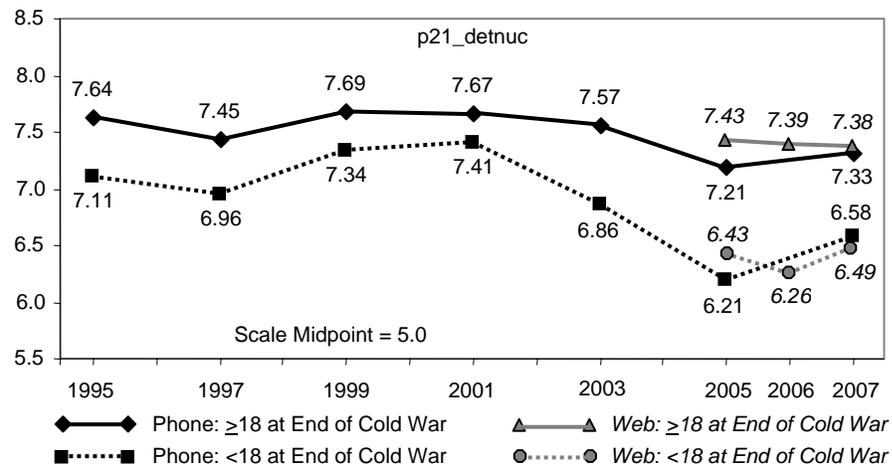
Table 2.2: Comparing Mean Efficacy of Deterrence by Cold War Experience

Importance of US nuclear Weapons for preventing other countries from using nuclear weapons against us (p21: 0 = not at all important—10 = extremely important)

Mode	Age End		1995	1997	1999	2001	2003	2005	2006	2007
	Cold War									
Phone	≥18		7.64	7.45	7.69	7.67	7.57	7.21		7.33
	<18		7.11	6.96	7.34	7.41	6.86	6.21		6.58
	p-value		.0041	.0449	.0858	.2231	.0002	<.0001		
Web	≥18							7.43	7.39	7.38
	<18							6.43	6.26	6.49
	p-value							<.0001	<.0001	<.0001

Figure 2.5: Trends in Mean Efficacy of Nuclear Deterrence

(0 = not at all important—10 = extremely important)



Note that in each survey those respondents who experienced the Cold War as adults rate the importance of US nuclear deterrence capabilities higher, on average, than do their counterparts who did not experience the Cold War as adults. And except for our surveys in 1999 and 2001, mean assessments by those who were adults at the end of the Cold War are statistically significantly higher than those ratings from participants who were below adulthood when the Cold War ended. Part of the gap in perspectives could be related to maturation, since assessments of the efficacy of deterrence tends to increase with age, but notice also that the gap between the two groups

appears to have widened since 2001. Differences in means between phone and Web survey collections are small and reinforcing.

Controlling for Chronological Age

To help separate the influences of maturation (chronological age) and Cold War experience, our final test returns to combined multiyear data sets and uses multivariate regressions in which the predictor variables are respondent age and a dummy variable coded such that those respondents who did not experience the Cold War as adults are assigned a value of one, and all others are coded zero. These regressions indicate the influence of not having experienced the Cold War, while holding age constant. We summarize regression results in Table 2.3.

Table 2.3: Relating Age and Cold War Experience to Efficacy of Deterrence

Dependent Variable in Bivariate Regressions	Data / Mode	Age	<i>p</i> Value	No Cold War as Adult	<i>p</i> Value	Adj. R ²
Preventing countries from using nuclear weapons against us (p21: 0 = not at all important — 10 = extremely important)	Combined Phone	.011	<.0001	-.402	<.0001	.011
	Combined Web	.029	<.0001	-.185	.1646	.039

When age is held constant among respondents to our seven phone surveys since 1995, those who were below the age of 18 when the Cold War ended systematically rate the value of nuclear deterrence lower than their counterparts who were adults during the Cold War. However, among our three Internet samples, when age is held constant, not having experienced the Cold War as an adult is not systematically related (at a 95 percent confidence level) to the efficacy of deterrence.

Short Answer

Q: As the number of Americans who experienced the Cold War as adults declines, is nuclear deterrence likely to be devalued?

Our data are inconclusive, and 16 years into the post-Cold War period may still be too soon for unmistakable patterns to be identified. While it is clear that the importance of nuclear deterrence increases systematically with age, not having experienced the Cold War seems to exert a negative influence on the perceived efficacy of nuclear deterrence among the combined data from seven phone surveys between 1995 and 2007. However, that effect is not apparent among combined data from three Internet samples collected in 2005, 2006, and 2007. Also, no directional pattern in mean evaluations of the importance of nuclear deterrence is apparent when looking at the assessments among 18–21 year olds in each survey period, none of whom were adults during the Cold War. It may be that with further time, a replicable pattern will emerge among both phone and Web participants, but as of this writing, the patterns are insufficiently consistent to support a definitive finding.

Section 2.3: Threat of Nuclear Proliferation

How Americans understand the threat of nuclear proliferation and what kinds of policy strategies citizens may support for limiting or responding to the effects of proliferation are important aspects of public dimensions of nuclear security. In this section we investigate three related aspects of public understandings of nuclear proliferation. First, we review selected data collected during the first decade of this study between 1993 and 2003 to examine (a) patterns expressed about the expected implications of the breakup of the Soviet Union for further proliferation and (b) public assessments in the early years of the post-Cold War period of the risks to the US of the further spread of nuclear weapons among other countries. Second, we examine responses to more recent inquiries begun in 2005 and asked in both phone and Internet surveys about the risks of nuclear weapons spreading to other states in the next ten years. Third, we analyze public views on specific cases of proliferation to North Korea and to Iran and the degree to which potential unilateral US counter proliferation actions and multilateral UN actions receive public support.

Public Views in the Early Post-Cold War Years

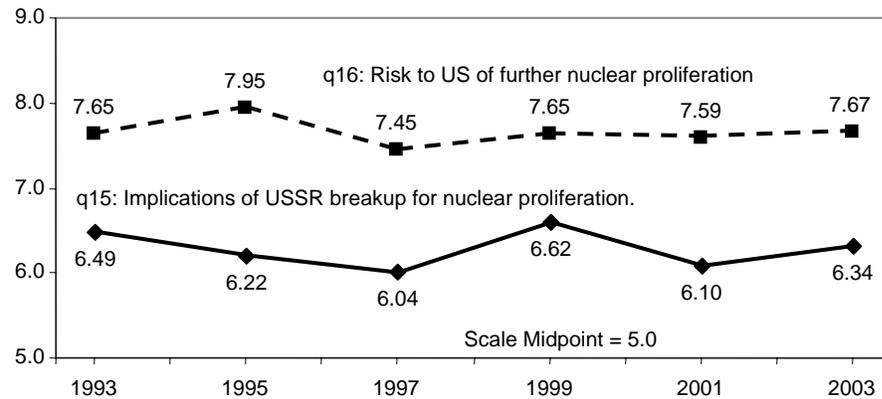
When we began this series of studies in 1993, we sought to gage public expectations about the implications of the demise of the Soviet Union and the

end of the Cold War for future nuclear proliferation. We asked the following two questions in each of our phone surveys between 1993 and 2003.

- q15: On a zero to ten scale where zero means the likelihood for the future spread of nuclear weapons is greatly reduced and ten means it is greatly increased, how do you think the breakup of the Soviet Union has affected the likelihood that nuclear weapons will spread to other countries?
- q16: How do you think the spread of nuclear weapons to other countries influences the security of the United States? On a scale where zero means the spread of nuclear weapons poses no risk to the US, and ten means the spread of nuclear weapons poses extreme risk, how do you rate the risk to the US if more countries have nuclear weapons?

We chart mean responses to each over the ten year period in Figure 2.6.

Figure 2.6: Mean Assessments of the Threat of Nuclear Proliferation: 1993–2003
(0 = no risk—10 = extreme risk)



As shown by the solid line in Figure 2.6, throughout the early post-Cold War years, our respondents considered the breakup of the USSR to have increased the chances of further nuclear proliferation, with mean ratings around 6.5 on the scale from zero to ten. Differences in means between 1993 and 2003 are not significant ($p = .1560$). During the same period, respondents consistently rated the risk to the US of further proliferation above 7.5 on a zero to ten scale, as shown by the dashed line. Variation in mean risk assessments was small and not statistically significant ($p = .7413$).

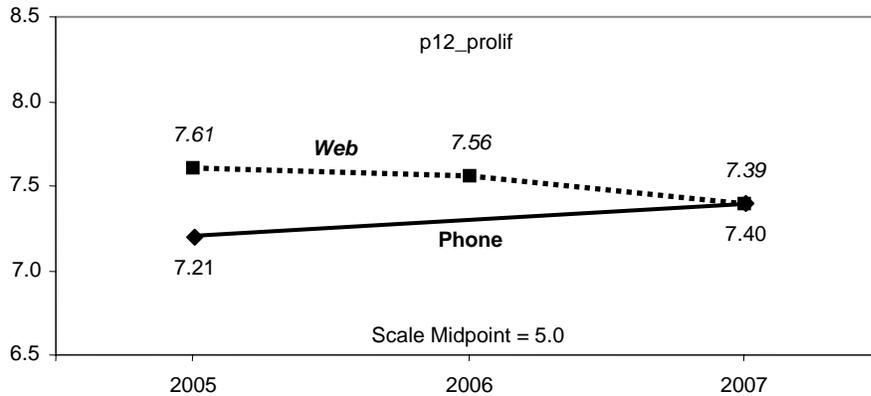
Contemporary Public Views on Nuclear Proliferation

When we revised our baseline measurements 2005, we replaced the two previous questions with the following inquiry into the same issue.

- p12: Using a scale from zero to ten, where zero means no risk and ten means extreme risk, how do you rate the risk that nuclear weapons will spread to other countries within the next ten years?

We chart means from 2005, 2006, and 2007 in Figure 2.7.

Figure 2.7: Recent Trends in Mean Risk of Proliferation in Next Ten Years
(0 = no risk—10 = extreme risk)



Though the wording of the inquiry changed in 2005, mean responses are similar to the patterns of responses to our earlier question about the risk to the US of further nuclear proliferation previously shown in Figure 2.6 (dashed line). Mean assessments of the risks associated with further nuclear proliferation are consistently rated above a value of seven on a zero to ten scale. Clearly, respondents to seven phone surveys and three Web surveys between 1993 and 2007 consider the spread of nuclear weapons to constitute significant risk to US interests.

Nuclear Proliferation Involving North Korea and Iran

To gain insight into how respondents view threats associated with nuclear proliferation to specific countries and to learn more about the kinds of poli-

cies they would support to deny such proliferation, we ask two sets of four questions that are identically worded except for the identity of the proliferating state. One set of questions identifies North Korea as the proliferator, and the other set identifies Iran. Two of the four questions for each country deal with risk assessment and two address policy choices for compelling denuclearization. Though the two sets are posed separately, we combine their wording below to show the individual questions, beginning with the first two inquiries about risk assessments.

- p13/17: For this question, I want you to assume that (North Korea/Iran) possesses nuclear weapons. On a scale from zero to ten, where zero means no risk and ten means extreme risk, how do you rate the risk of the US being involved in a nuclear war with (North Korea/Iran) within the next ten years?
- p14/18: Again, assuming that (North Korea/Iran) possesses nuclear weapons and using the scale from zero to ten where zero means no risk and ten means extreme risk, how do you rate the risk of (North Korea/Iran) providing nuclear weapons or nuclear materials to terrorists?

We graphically compare mean risk assessments by country and by survey mode in Figures 2.8 and 2.9.

Figure 2.8: Mean Risks of Nuclear War with North Korea or Iran
(0 = no risk—10 = extreme risk)

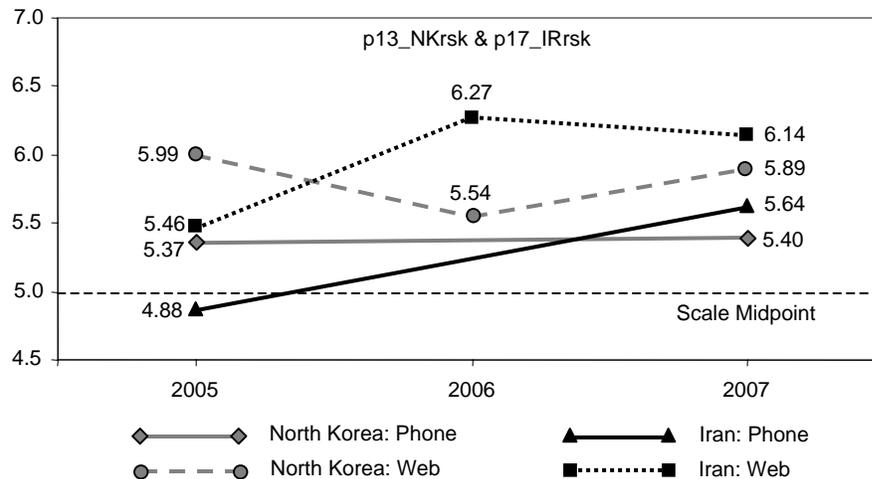
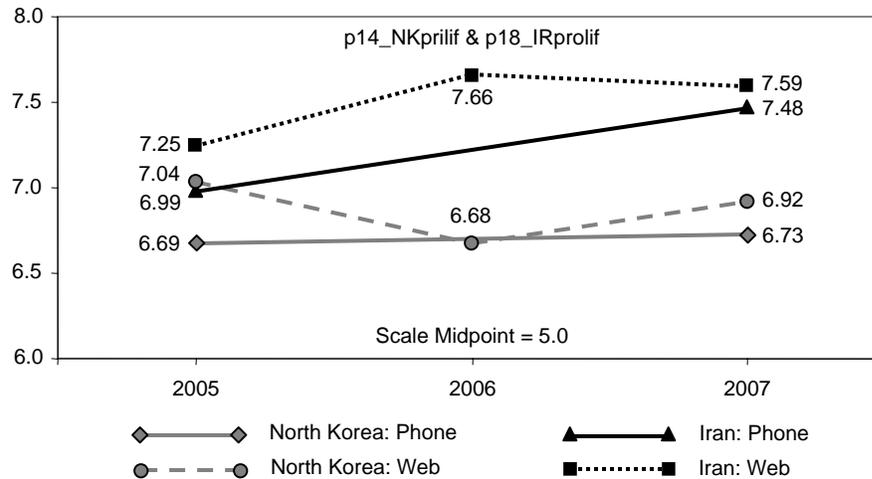


Figure 2.9: Mean Risks of Proliferation of Nuclear Capabilities from North Korea or Iran to Terrorists (0 = no risk—10 = extreme risk)



While our Internet participants tend to rate the risks of nuclear war with either North Korea or Iran somewhat higher than phone respondents, risks of nuclear conflict with both countries are rated near or above midscale in each measurement period, with perceived risks of war with a nuclear Iran exceeding those associated with North Korea and increasing over the period from 2005 to 2007. Perceived risks of nuclear conflict with North Korea remain relatively steady during the same period.

As shown in Figure 2.9, all ratings for the risks of nuclear proliferation are above 6.5 on the zero to ten scale, and respondents clearly consider the risks of proliferation of nuclear weapons or nuclear materials from either North Korea or Iran to potential terrorist groups to be significantly higher than risks of interstate nuclear war. In terms of relative threat of such proliferation, Iran is judged a significantly greater threat than North Korea, and while these kinds of perceived risks remain relatively steady for North Korea during the three measurement periods, assessed risks increase significantly for Iran.

Our remaining two questions in this series shift the inquiry from risk assessments to prospective support for policy options involving the use of US force to compel each country to abandon its nuclear weapons programs. These questions were asked in 2006 and 2007.

- p15/19: On a scale from one to seven, where one means strongly oppose and seven means strongly support, how would you feel about using US military forces, as part of a United Nations military coalition, to compel (North Korea/Iran) to abandon its nuclear weapons program if diplomacy and economic sanctions fail to achieve this goal?
- p16/20: Again on a scale from one to seven, where one means strongly oppose and seven means strongly support, how would you feel about using US military forces, acting alone if necessary, to compel (North Korea/Iran) to abandon its nuclear weapons program if diplomatic efforts fail and the United Nations declines to take such action?

We compare means for each in Table 2.4.

Table 2.4: Mean Support for Compelling Denuclearization
(1 = strongly oppose—7 = strongly support)

Policy Option	Web 2006	Web 2007	Phone 2007
p15: Use US military force as part of UN coalition to compel <i>North Korea</i> to denuclearize	4.39	4.49	4.37
p19: Use US military force as part of UN coalition to compel <i>Iran</i> to denuclearize	4.71	4.67	4.62
p16: Use US military force acting alone to compel <i>North Korea</i> to denuclearize	3.42	3.59	3.39
p20: Use US military force acting alone to compel <i>Iran</i> to denuclearize	3.70	3.77	3.62

Two policy relevant patterns are apparent. First, mean support for forcefully compelling Iran to denuclearize is significantly stronger than mean support for compelling North Korea to denuclearize ($p < .0001$ in each case). Second, mean support for forceful denuclearization compelled by UN action in which US military forces participate is significantly greater than support for unilateral US actions ($p < .0001$ in each case). Note that mean support for the UN multilateral option is above midscale (4.0) for both North Korea and Iran, while mean support for unilateral US action is below midscale in both cases.

Short Answer

Q: How do members of the public view the threat of nuclear proliferation?

Repeated measurements using different question formats since 1993 show that the US public consistently rates the risks posed by the further spread of nuclear weapons above a value of seven on a scale where zero represents no risk and ten represents extreme risk. While the risks of war with a nuclear armed North Korea or Iran are judged above midscale, the risks that either country may provide nuclear weapons or nuclear materials to terrorist groups is judged significantly higher than the risks of interstate nuclear conflict. In terms of relative risks associated with these two nuclear proliferators, the public judges Iran to pose the greater threat, both in terms of interstate conflict and in terms of the potential for Iran to provide nuclear weapons resources to terrorists. When considering the use of US military forces to compel denuclearization of North Korea and Iran, public support is above midscale for US participation in a UN coalition and below midscale for unilateral US military actions. For both multilateral and unilateral force options, mean public support for compelling Iran to denuclearize is higher than support for compelling North Korea to divest its nuclear weapons capabilities.

In Chapter Three, we shift our focus from nuclear security to selected issues relating to security from terrorism.

Chapter Three

Security from Terrorism

In this chapter, we investigate the following questions relating to security from terrorism.

- How do members of the public view the threat of terrorism today; how confident are they in official assessments of that threat; and how confident are they in our abilities to prevent attacks in the United States?
- How do Americans evaluate the ongoing war on terrorism and its prospects?
- How supportive are citizens of intrusive domestic policies intended to prevent terrorism?

Section 3.1: Public Assessments of Terrorism

We investigate four aspects of public beliefs about terrorism in this section. First, we compare public views of terrorism relative to other threats to security. Second, we quantify the overall perceived threat of terrorism—including weapons of mass destruction (WMD). Third, we examine public confidence in government's abilities to assess the threat of terrorism at home and abroad, and we close this section with a look at public confidence in our abilities to prevent future acts of terrorism in the United States.¹

Relative Threat

We begin by looking at the threat of terrorism in a relative context compared to other threats to security using the following question.

- p6: Which of the following would you say poses the single biggest threat to security in the United States today? Is it:
 1. Poverty and economic inequality
 2. Threats to the environment
 3. Religious and political extremism

¹ Throughout this chapter, we will employ results from a variety of survey questions to address selected issues, and distributions of responses to each question are provided in Appendix 2.

4. War between nations
5. Acts of terrorism
6. Crime and corruption
7. Illegal immigration
8. Something else

About one-third of respondents identify acts of terrorism as the greatest threat to security today, and another 15 percent (phone and Internet) identify the closely related category of religious and political extremism. The only other threat receiving a double digit percentage was illegal immigration (19 percent Internet; 15 percent phone), which also has implications relating to the threat of terrorism. Responses to this question in 2005, 2006, and 2007 are quite similar, and the relative order of the priorities assigned is the same among phone and Internet respondents in 2007. Clearly, among the potential security threats listed here, terrorism is viewed as the primary challenge to the physical security of Americans today.

Direct Assessments

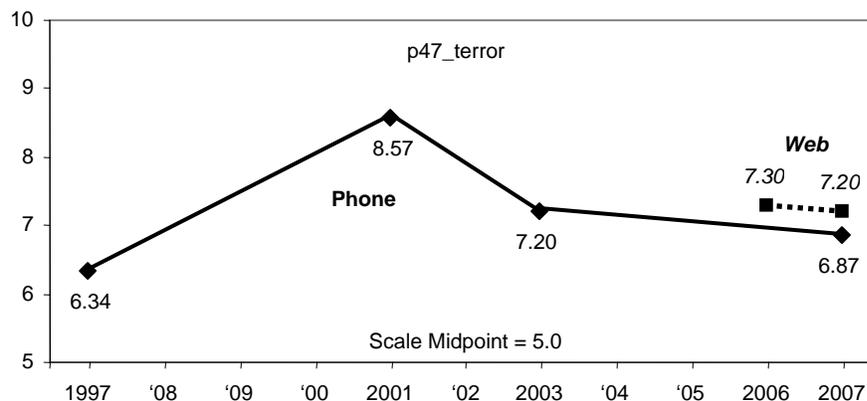
Our next approach is a more direct question that asks respondents to assess the overall threat of terrorism of all types and from all sources today.

- p47: Considering both foreign and domestic sources of terrorism, and both the likelihood of terrorism and its potential consequences, how do you rate today's threat from all kinds of terrorism in the US on a scale from zero to ten, where zero means no threat and ten means extreme threat?

We first asked this question in 1997, which allows comparisons of public assessments prior to and following the attacks of 9/11 and subsequent US efforts in the war on terrorism. We chart trends in mean responses in Figure 3.1.

Figure 3.1: Trends in Mean Overall Threat of Terrorism of all Types

(0 = no threat—10 = extreme threat)



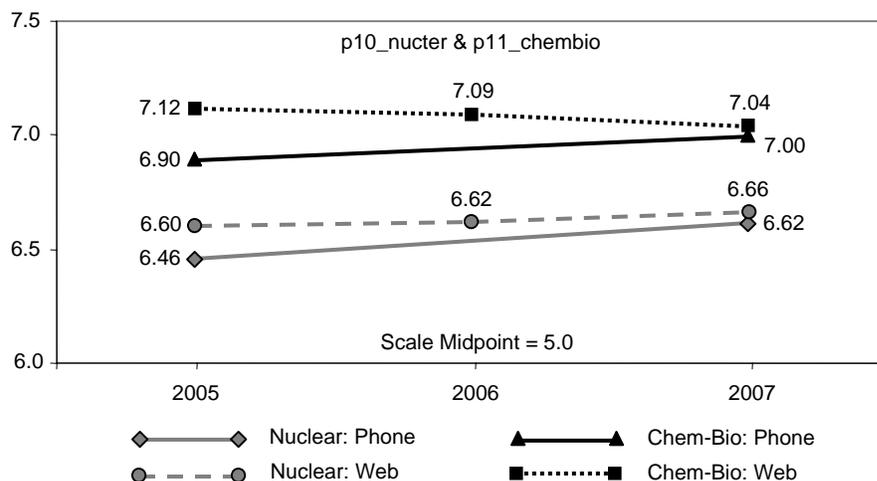
These central tendencies show how perceptions of the threat of terrorism peak with our measurement in 2001, immediately following the attacks of 9/11, and how they decline in subsequent years. Notwithstanding the understandably sharp increase in reaction to 9/11, the difference in means among phone respondents between our pre-9/11 measure in 1997 and our most recent measure in 2007 reflects an increase of about eight percent, which is statistically significant ($p < .0001$). Internet participants in 2006 and 2007 rate the threat somewhat higher, on average, than their counterparts who participate by phone. Whether the apparent downward trend in recent years continues will be evident in subsequent waves of our national security survey.

To focus the assessment on threats from terrorist acts in which weapons of mass destruction are used, we pose the following two questions.

- p10: Now I want you to assess the risk of nuclear terrorism. Using a scale from zero to ten, where zero means no risk and ten means extreme risk, how do you rate the risk of terrorists using nuclear weapons against us, including so-called dirty bombs, within the next ten years?
- p11: On the same scale from zero to ten, where zero means no risk and ten means extreme risk, how do you rate the risk that terrorists will use chemical or biological weapons against us within the next ten years?

We compare trends in means for both questions in Figure 3.2.

Figure 3.2: Mean Risk of WMD Terrorism in Next Ten Years
(0 = no risk—10 = extreme risk)



Mean responses to both questions in each survey period are well above midscale, and differences in means between phone and Web surveys narrow over the course of our three measurements. The threat of chemical and biological terrorism is rated significantly higher, on average, than that of nuclear terrorism, but it is apparent that both sources of WMD terrorism are perceived by our respondents to pose substantial threats to the US.

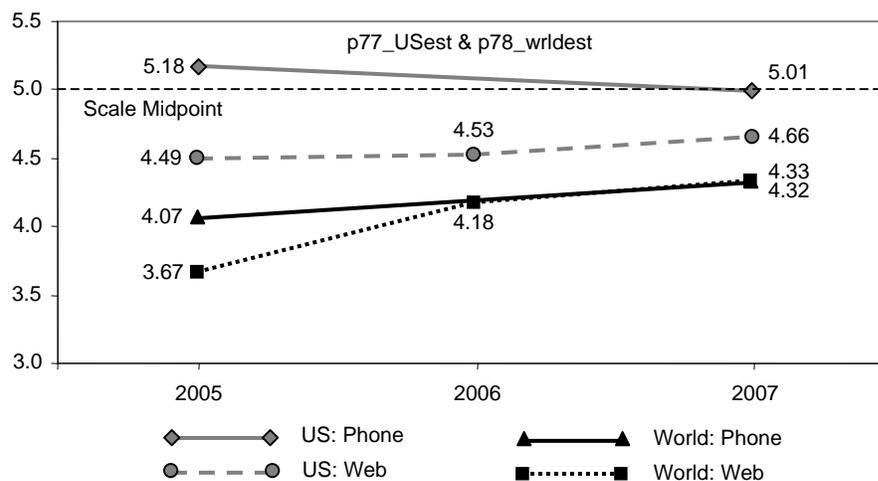
Confidence in Official Assessments of the Threat

To better understand how members of the public evaluate official estimates of the threat of terrorism at home and abroad, we ask the following two questions, each of which is answered on a zero to ten scale, where zero means no confidence and ten means complete confidence.

- p77: How much confidence do you have in our government’s ability to accurately assess the threat of terrorism occurring in the US?
- p78: How much confidence do you have in the US government’s ability to accurately assess the threat of terrorism occurring elsewhere in the world?

We compare trends in mean responses in Figure 3.3.

Figure 3.3: Confidence in Government’s Abilities to Assess Threats of Terrorism
(0 = no confidence—10 = complete confidence)



These trends suggest that our respondents have only moderate levels of confidence in US government abilities to accurately assess the threat of terrorism. For example, in 2007, 38 percent of phone respondents and 42 percent of Web participants rate government abilities to assess terrorism in the US below midscale, and about 50 percent of phone and Web respondents rate government capabilities for assessing the threat of terrorism occurring elsewhere below midscale.

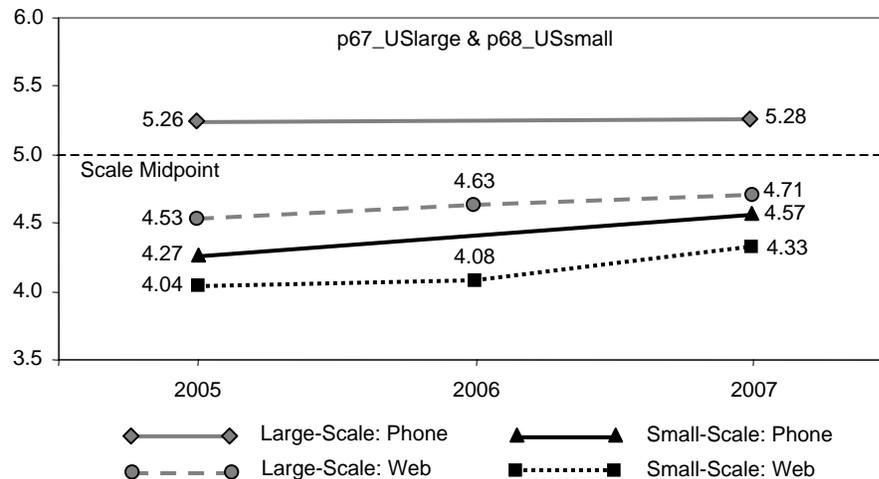
Confidence in Meeting the Threat

We discuss in more detail specific beliefs about the war on terrorism and its prospects in the following section, but here we describe mean responses to two broader questions of confidence about preventing terrorism within the United States. Each is answered on a scale from zero to ten, where zero means not at all confident and ten means completely confident.

- p67: How confident are you that the US can prevent large-scale terrorist attacks that injure or kill thousands of people from occurring in the US in the next ten years?
- p68: How confident are you that the US can prevent small-scale terrorist attacks that injure or kill a few people from occurring in the US in the next ten years?

Trends in means are shown in Figure 3.4.

Figure 3.4: Confidence in Abilities to Prevent Terrorist Attacks in the US
(0 = not at all confident—10 = completely confident)



Respondents' mean levels of confidence in our abilities to prevent large-scale terrorist attacks that injure or kill thousands of people in the US in the next ten years have remained relatively steady since 2005, and they exceed mean levels of confidence in our abilities to prevent small-scale terrorist attacks that injure or kill a few people. Phone respondents express significantly more confidence in our abilities to prevent large-scale attacks than do their counterparts who participated via the Internet, and phone respondents report the only means that are above midscale. Trends in confidence levels relating to preventing small-scale attacks gradually increase after 2005, and are significantly higher for both groups of respondents in 2007 (phone: $p = .0042$; Web: $p = .0138$). These patterns of responses suggest that citizens are only moderately confident that we can meet the threat of terrorism sufficiently to prevent such attacks here at home, and the potential for change may be a function of future experience. Public confidence levels about preventing terrorism are likely fragile, and confidence is relatively harder to gain and maintain than it is to lose. In the absence of future attacks, we expect confidence levels to grow slowly; should future attacks occur, we expect public confidence to decline rapidly.

Short Answer

Q: How do members of the public view the threat of terrorism today; how confident are they in official assessments of that threat; and how confident are they in our abilities to prevent terrorist attacks in the United States?

Our data show that respondents consider terrorism to be the greatest threat to security in the United States today. When asked to rate the overall threat of terrorism, they consistently place mean assessments well above midscale, typically between a value of 6.5 and 7.5 on a scale from zero (no threat) to ten (extreme threat). Our trend analyses demonstrate that these perceptions are highly reactive to actual events, and should future acts of terrorism occur in the US, threat perceptions can be expected to rapidly increase (as they did following 9/11). In the absence of such attacks, terrorism is likely to remain high on the public's list of concerns, but in the event of such attacks, public alarm will spike.

Similarly, as the flip side of threat perceptions, confidence levels in our abilities to predict and prevent acts of terrorism are only modest and somewhat

below midscale. In the absence of future attacks, confidence levels can be expected to grow slowly⁵⁸⁶, but they almost surely will decline rapidly in response to any future attacks. Together, threat perceptions and confidence in our abilities to predict and prevent those threats can be thought of as a proxy for the dimensions of security relating to terrorism. As threat perceptions decline and confidence levels grow, public feelings of security from terrorism increase, and, conversely, levels of public security decline sharply and rapidly with increased perceptions of threat and demonstrated inability to predict and prevent attacks, especially in the United States.

Section 3.2: Assessing US Efforts to Combat Terrorism

To measure public assessments of progress in combating terrorism, we ask two questions about the ongoing war on terrorism and inquire about three specific efforts to improve border security. We begin with the following two survey questions about the war on terrorism and its prospects.

- p63: On a scale from zero to ten, where zero means not at all effective and ten means extremely effective, how effective, overall, do you believe US efforts in the war on terrorism have been thus far?
- p48: Using a scale from zero to ten, where zero means not at all confident and ten means extremely confident, how confident are you that we will eventually win the war on terrorism?

We chart trends in mean responses to each in figures 3.5 and 3.6.

Figure 3.5: Mean Assessments of US Efforts in the War on Terrorism

(0 = not at all effective—10 = extremely effective)

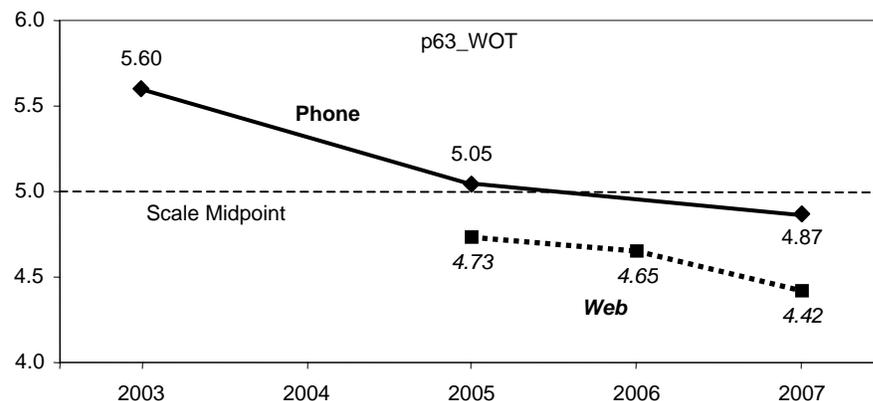
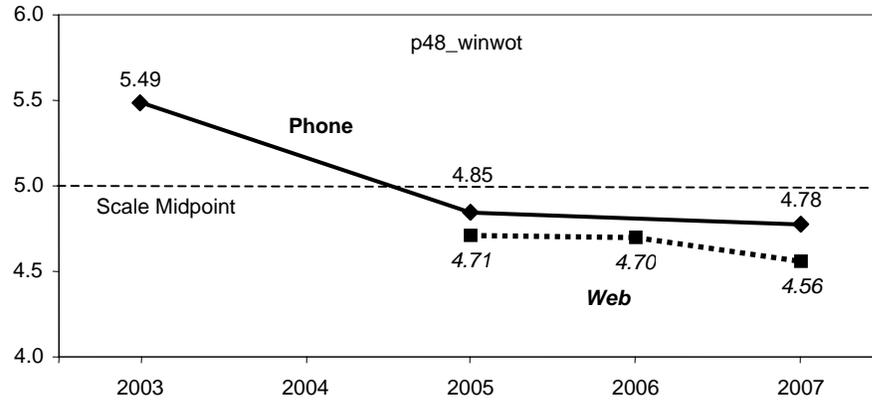


Figure 3.6: Mean Confidence in Eventually Winning the War on Terrorism
 (0 = not at all confident—10 = extremely confident)



Trends in mean assessments of progress in combating terrorism and prospects for eventually prevailing in that struggle decline appreciably from our initial measurements in 2003. As shown in Figure 3.5, between 2003 and 2007, mean judgments of progress in the war on terrorism among phone respondents decline a statistically significant 13 percent ($p < .0001$) and move from above to below midscale. Means from our Web participants since we began comparative Internet surveys in 2005 all are below mid-scale, and also decline significantly ($p = .0009$).

As shown in Figure 3.6, mean levels of confidence among phone respondents about the US eventually prevailing in the struggle against terrorism also decline a significant 13 percent ($p < .0001$), and though the decline in confidence among our Internet participants is not statistically significant ($p = .1678$), means in each measurement period consistently are below midscale.

These parallel trends show that Americans judge progress in the ongoing war on terrorism to be problematic and suggest weakening confidence in its eventual outcome.

The Role of Individual Characteristics

To complete our look at these two measurements, we combine data from all our phone and Internet respondents between 2003 and 2007 and compare means among selected groups to gain insight into how views of the war on

terrorism and its prospects for success may be differentiated by personal attributes. In Table 3.1, we compare mean responses to each question by demographic categories and political orientations.

Table 3.1: Mean Assessments of WOT and Its Prospects by Personal Characteristics: 2003–2007

Personal Characteristics	p63: Effectiveness of WOT thus far? (0 = not at all effective— 10 = extremely effective)		p48: Confidence in eventually winning? (0 = not at all confident— 10 = extremely confident)	
		<i>p</i> Value		<i>p</i> Value
College grad ²	4.66	<.0001	4.62	<.0001
< College grad	4.99		4.96	
Ages 18–30	4.66	.0019	4.77	.5114
Ages 31 & over	4.89		4.82	
Women	4.73	<.0001	4.66	<.0001
Men	4.97		4.99	
Racial/ethnic minority ³	4.82	.8317	4.99	.0573
Racial/ethnic majority	4.84		4.78	
Income <\$50K	4.77	.4208	4.80	.5994
Income \$50K+	4.83		4.84	
Liberal ⁴	3.22	<.0001	3.31	<.0001
Moderate ⁵	4.70		4.69	
Conservative ⁶	6.25		6.12	
Partisan Dem ⁷	3.97	<.0001	4.09	<.0001
Independent ⁸	4.46		4.37	
Partisan Repub ⁹	6.14		6.08	

² College graduates and all graduate level work/degrees.

³ American Indian, Black, or Hispanic.

⁴ Strongly or somewhat liberal.

⁵ Slightly liberal or middle of the road or slightly conservative.

⁶ Somewhat or strongly conservative.

⁷ Identify completely or somewhat with Democratic party.

⁸ Identify slightly with Democratic party or independent or identify slightly with Republican party.

⁹ Identify somewhat or completely with Republican party.

As shown in Table 3.1, respondents without college educations, those over the age of 30, and men rate the progress of the war on terrorism significantly higher, on average, than do participants with college educations, younger respondents between the ages of 18 and 30, and women. Characteristics of race/ethnicity and household income do not show systematic differentiation in mean judgments on the war on terrorism.

When the question shifts to confidence in eventually winning the struggle with terrorism, education remains a discriminating factor, but older respondents are not, on average, significantly more optimistic than are younger participants. On average, men are more confident of winning than are women, and while racial/ethnic minorities are nominally more confident, on average, than are racial/ethnic majorities, the difference in means does not quite meet the statistical significance at the 95 percent confidence level. Again, income is not a systematic factor.

As we noted in our discussion of the conceptualization of security in Chapter One, an ideological component often is present in judgments about security, and mean evaluations of the progress of the war on terrorism are systematically higher among more politically conservative respondents and those who identify most strongly with the Republican party. Political moderates and independents rate progress in the war on terrorism at levels between those of liberals and conservatives and between those of partisan Democrats and partisan Republicans. The same patterns of differentiations among means are evident in judgments about the prospects of eventually prevailing in the war on terrorism. Political conservatives and those who identify strongly with the Republican party are systematically more optimistic about winning than are political liberals and those who identify strongly with the Democratic party.

Assessments of Selected US Homeland Security Measures

To gain more insight into public views of US domestic efforts to improve homeland security against terrorism, we ask the following three questions about progress in securing US land borders, seaports and harbors, and air travel. Each is answered using a scale from zero to ten, where zero means not at all effective, and ten means extremely effective.

- p64: How effective have efforts been to improve security at US borders?
- p65: How effective have efforts been to improve security at US seaports and harbors?
- How effective have efforts been to improve security at US airports?

Figure 3.7 compares trends since 2005 in mean responses to the first two questions, and in Figure 3.8 we show trends since 2003 in responses to our question about airport security.

Figure 3.7: Mean Effectiveness of Efforts to Improve Security at US Borders and Seaports (0 = not at all effective—10 = extremely effective)

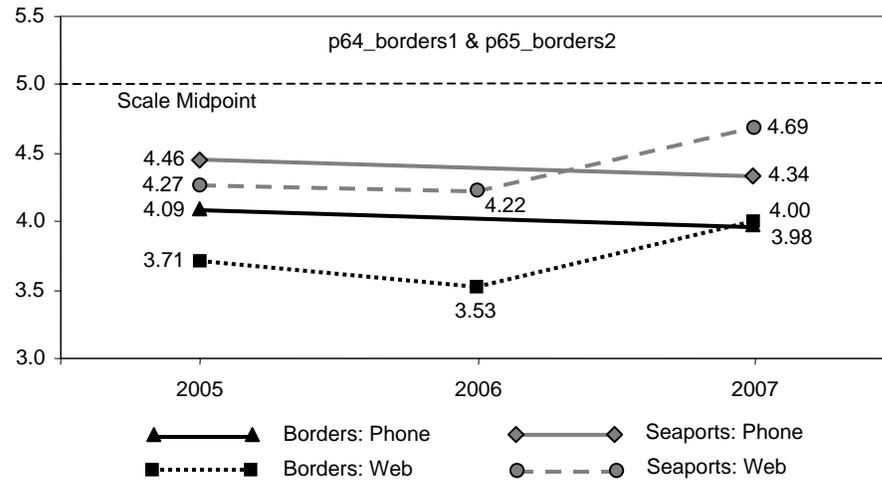
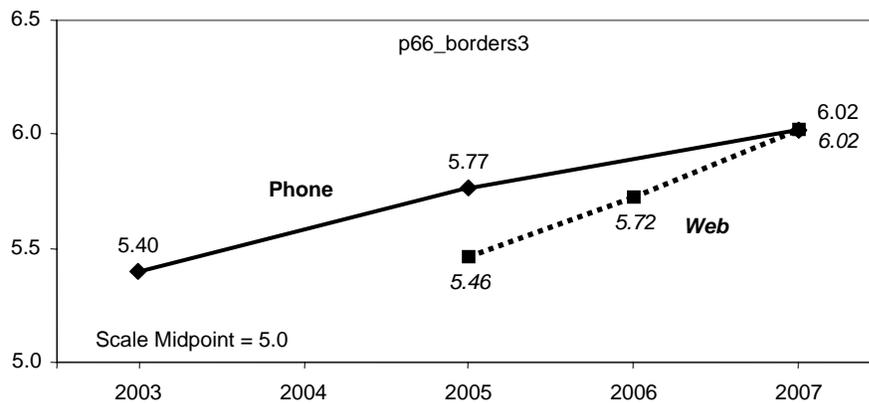


Figure 3.8: Mean Effectiveness of Efforts to Improve Airport Security (0 = not at all effective—10 = extremely effective)



As shown in Figure 3.7, trends are relatively flat, and means are all below midscale for assessments of efforts to improve border and port security, with ratings somewhat higher for seaports as compared to land borders. These patterns suggest that most respondents do not consider government efforts to improve security at either land or coastal borders to be effective.

In contrast, mean assessments of ongoing efforts to improve airport security, as shown in Figure 3.8, are all above midscale and trend upward in each measurement period since 2003. While it might be argued that increased security measures at airports are better known by more people because of the frequency of air travel, tens of thousands of Americans cross the US borders with Mexico and Canada on a daily basis, and while fewer Americans traverse US port facilities, respondents can observe differences in the effectiveness of measures taken since 9/11 to strengthen security among all three types of transportation loci and modes. In our most recent surveys, security improvements at airports are rated, on average, about 50 percent higher than efforts at land borders. Current concerns about illegal immigration may be affecting assessments of border security, but the overall picture is one in which US efforts in improving security are perceived as least effective for land borders, relatively better at seaports and harbors, but still below midscale, and substantially more effective at US airports.

Short Answer

Q: How do Americans evaluate the ongoing war on terrorism and its prospects?

On average, respondents are not optimistic about the war on terrorism. Mean assessments of its progress are below midscale and trending downward. That picture is supplemented with similar downward trends in public confidence that the US eventually will prevail in its struggle against terrorism. On average, participants without college educations, those over the age of 30, and men rate progress in the struggle against terrorism significantly higher than do their counterparts. In judging prospects for eventually winning the war on terrorism, men without college educations are more optimistic, though mean assessments are not above midscale. Race/ethnicity and household income do not, on average, reliably shape judgments on the war on terrorism or its prospects. Respondents who identify themselves as politi-

cally conservative or Republican judge both progress in the war on terrorism and its eventual outcome significantly more positively than do those who consider themselves to be politically liberal or who identify most closely with the Democratic party.

On average, most participants rate US efforts to secure its land borders well below midscale, with measurements showing relatively little change over the past three years. Efforts to improve security at US seaports and harbors are judged somewhat more effective, but still below midscale and relatively flat. Only US efforts to improve the security of air travel are rated above midscale and show increasing trends of public confidence.

Section 3.3: Public Tolerance for Intrusive Security Measures

How public needs for liberty and security are balanced is a function largely of social and political processes intended to acquire and maintain the necessary security for individual and social liberties to be freely exercised. A problem arises when acquiring the necessary security comes at the expense of the very liberties whose protections require that security. Typically, the process begins from a point of normative equilibrium or balance between social order and security on the one hand and civil liberties and personal prerogatives on the other hand. The equilibrium can be disturbed by internal upheaval and turmoil from domestic sources such as unpopular wars, crises in government, and domestic terrorism. But historically in the United States, the most frequent disruptions in the balance between liberty and security are caused by external threats, such as those posed today by terrorists. This is especially true when the goal of the terrorists is to fundamentally change US social and political values.

Today's struggle with terrorism is forcing governments at all levels in the US to consider how to preserve security and order without sacrificing more liberty to protective measures than is at risk from the threat of terrorism. History suggests that such balancing is dynamic and subject to correction both during and following the associated threat crises. History also shows that governments typically choose to prioritize security over liberty until one of two conditions is met. Either the threat is unambiguously defeated or public intolerance for intrusive security measures is exceeded. Monitoring public levels of tolerance and measuring public preferences for how liberty and security

are prioritized and balanced can provide useful insights into what kinds of policies, techniques, and technologies intended to improve security are more and less acceptable to the public. Such public assessments can be expected to evolve in relation both to perceived threats and to perceived intrusiveness of government efforts to mitigate those threats. Thus preferences can be expected to change over relatively short periods of time, and successive and ongoing measurements of public understandings and preferences about how liberty and security are being balanced are necessary for understanding the efficacy of domestic security measures and policies.

With these dynamics and objectives in mind, we include a variety of inquiries about public beliefs relating to balancing liberty and security, including measurements of tradeoff principles in the abstract, and more direct measurements of the acceptance and tolerance for specific policies for preventing terrorism. In this section, we draw on trends from those metrics to examine and illustrate US public tolerance for intrusive measures intended to reduce the threat of terrorism and increase public security. We begin with the three following questions probing what respondents believe about the tradeoffs involved. Because each was first asked in 1995 (six years before 9/11) and next asked in the days immediately following 9/11, we can compare pre- and post-attack responses, as well as observing how subsequent post-attack views evolve as the shock of 9/11 dissipates.

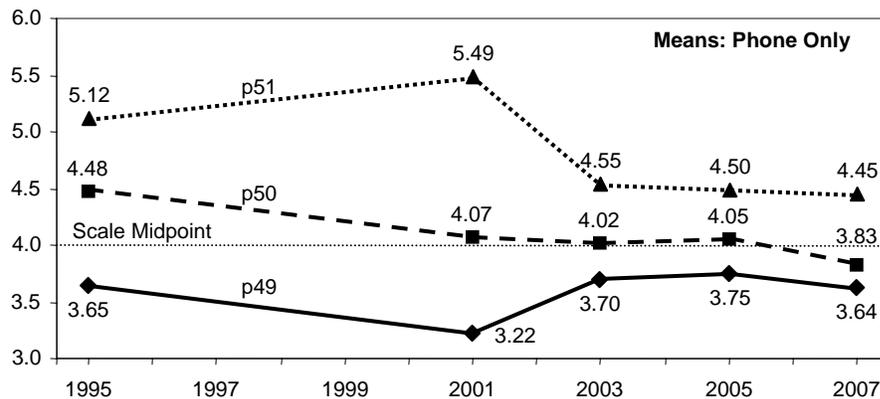
Lead-in (1995): The bombings of the World Trade Center in New York and the federal building in Oklahoma City have raised questions about what can be done to stop terrorism.

Lead-in (2001 and later): The terrorist attacks in New York and Washington, DC on September 11, 2001 have raised questions about what can be done to stop terrorism in the US. Using a scale from one to seven, where one means strongly disagree and seven means strongly agree, please respond to the following statements.

- p49: There is nothing the government can do to stop determined terrorists.
- p50: The government could stop terrorists, but only with unacceptable intrusions on people's rights and privacy.
- p51: The government must try to stop terrorists, even if it intrudes on some people's rights and privacy.

Because the most informative trend illustrations are provided by the phone data (which begin prior to 9/11), and to allow comparative trends in mean responses to all three questions to be shown on the same graph, and because Internet comparisons are similar to the phone data, we show only trends in mean responses to each question from phone surveys in figure 3.9.

Figure 3.9: Trends in Mean Beliefs About Tradeoffs in Preventing Terrorism
(1 = strongly disagree—7 = strongly agree)



Several points are noteworthy. As shown by the bottom line (p49), mean responses to the assertion that government can do nothing to stop determined terrorists all are below midscale, indicating consistent disagreement. Opinion is divided about the second assertion (p50) that government can stop terrorism only through unacceptable intrusions into rights and privacy. Mean responses begin above midscale six years prior to 9/11, but decline to midscale immediately following 9/11, and trend downward below midscale by our latest survey. For our third assertion that government must try to stop terrorists, even if it intrudes on some people’s rights and privacy (p51), mean responses are all above midscale (indicating agreement). Finally, note that the gap between mean responses to all three questions is widest immediately following 9/11, and narrows appreciably since. These patterns of responses suggest that over the 12 year time frame that includes the seminal events of 9/11, respondents conclude that government can take effective actions to prevent terrorism, and while those actions may require intrusive security measures, they can be justified.

Balancing Liberty and Security in Principle

Does the public have a normative expectation of how such balancing policies should be prioritized? Is there a public sense of when the relationship

between liberty and security is becoming unacceptably skewed? We ask the following two questions to compare what respondents think the normative balance between liberty and security should be ideally, and what they think the relationship is today.

Lead-in: Increasing security for Americans sometimes requires reducing liberties, and finding the right mix of security and liberty is a matter for public debate.

- p52: For this question, assume that black marbles represent the level of emphasis placed on the security of Americans and white marbles represent the level of emphasis placed on liberties of Americans. How many of each color would you place in a total combined mix of 100 marbles.
- p53: Again, using the marbles example where black marbles represent the level of emphasis placed on the security of Americans, and white marbles represent the level of emphasis placed on liberties of Americans, how many of each color do you think represents the way the US government is balancing considerations of security and liberties today?

We compare mean responses from 2007 in Figures 3.10 and 3.11.

Figure 3.10: Mean Preferred (Normative) Balance of US Security and Liberty

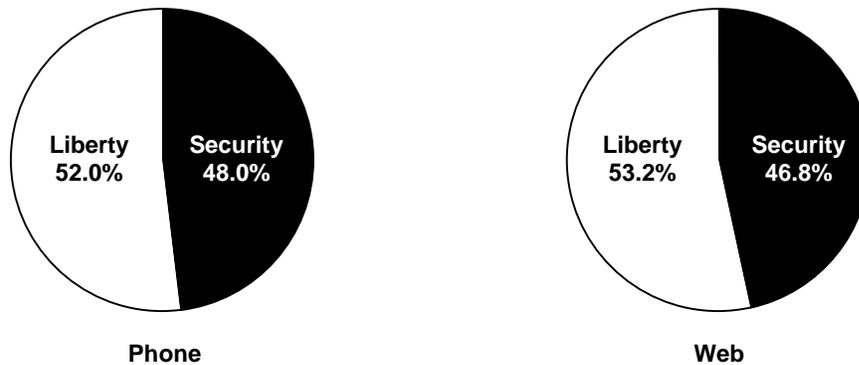


Figure 3.11: Mean Current Balance of US Security and Liberty



As shown in Figure 3.10, on average, both respondent groups prefer that somewhat more emphasis be placed on protecting liberties over security, and while our Web participants weight liberty slightly higher than our phone respondents, group preferences are not statistically significantly different.

Mean assessments of how government actually is balancing liberty and security today, shown in Figure 3.11, indicate both respondent groups judge that security is being weighted more heavily than they ideally would prefer. Differences are largest among phone respondents.

Acceptability of Specific Intrusive Security Measures

To probe a variety of security measures that pose different levels of intrusiveness into civil liberties, we ask the following extensive set of questions, each of which is answered on a scale from one to seven, where one means strongly oppose and seven means strongly support. All are posed in the context of how supportive the respondent is about implementing each policy for the purpose of preventing terrorism in the US.

- p54: Requiring national identification cards for all US citizens
- p55: Restricting immigration into the US to prevent terrorism
- p56: Permitting government officials to hold and interrogate suspected terrorists within the US for a period of one year without charging the suspects with a crime
- p57: Permitting government officials to monitor the phone conversations of American citizens who are suspected of involvement in terrorism without requiring a warrant from a court of law
- p70: Collecting personal information about you, such as your name, address, phone number, income, and social security number
- p71: Collecting information about your behavior, such as where you shop, what you buy, what organizations you belong to, and where you travel
- p72: Conducting pat-down searches of your clothing and inspections of your belongings
- p73: Taking photographic images of you without your knowledge

- p74: Taking harmless electronic scans of your hands and face
- p75: Taking a sample of your DNA

In Table 3.2, we combine mean response values for phone participants in 2005 and 2007, and we combine responses of Internet participants in 2005, 2006, and 2007. We use means to rank order the series of prospective policies from most acceptable to least acceptable for each of the two survey modes.

Table 3.2: Mean Support for Intrusive Measures to Prevent Terrorism
[rank indicates order of support from highest (1) to lowest (9)]

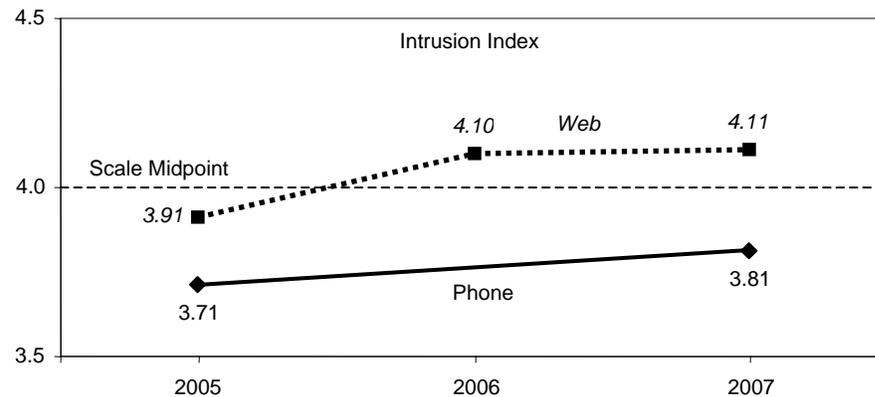
Policy Options (1 = strongly oppose— 7 = strongly support)	Phone Rank	Combined Means Phone '05, '07	Combined Means Web '05, '06, '07	Web Rank
p55: Restrict immigration into US	1	5.19	5.43	1
p54: Require national ID cards	2	4.89	4.95	2
p57: Monitor phones of Americans suspected of terrorism	NA	NA	4.42	3
p70: Collect your personal data	3	3.93	3.86	5
p56: Hold/interrogate suspects one year without charging	4	3.89	4.14	4
p74: Take electronic scans of your hands and face	5	3.65	4.14	4
p72: Conduct pat-downs and inspect your belongings	6	3.37	3.83	6
p75: Sample your DNA	7	3.13	3.50	7
p71: Collect information about your behaviors	8	2.96	3.13	9
p73: Take photos without your knowledge	9	2.76	3.17	8

Restricting immigration into the US is the measure most acceptable to respondents, followed by requiring national identification cards. Collecting information about individual behaviors and taking photos of individuals without permission are least acceptable. Though mean acceptability is higher among Web participants than phone respondents for all but one measure, the relative ordering of preferences is similar among both response groups.

These questions are designed compatibly to allow them to be combined into a single index of acceptability.¹⁰ Our “intrusion” index is created by averaging equally weighted responses to each question (ignoring missing values). In Figure 3.12, we compare trends in mean intrusion index scores for phone and Internet respondents from 2005 to 2007.

Figure 3.12: Trends in Mean Intrusion Index Scores: 2005–2007

(1 = strongly oppose—7 = strongly support)



Overall support increases, on average, for an index of our measures of ten policies that impinge civil liberties and privacy for the purposes of preventing terrorism. Change over time among phone respondents is not statistically significant ($p = .1206$), but mean support among our Internet participants increases significantly over the period ($p = .0002$).

Results suggest that while domestic policies implemented since 9/11 that infringe on civil rights and privacy may have generated considerable press coverage and debate, support among our respondents for a variety of potentially restrictive policies has not weakened, with mean index scores remaining near midscale. These findings indicate substantial public tolerance for such policies.

¹⁰ Technically, the adequacy of an index of this kind is measured by calculating the “alpha coefficient” of the group of measures. Scales are considered adequate if the alpha exceeds 0.6. The alpha for this scale (using the 2007 phone and Web data) is 0.87, indicating that these measures as a group do a good job of capturing respondents’ overall acceptance levels of intrusive security policies.

Short Answer

Q: How supportive are citizens of intrusive domestic policies intended to prevent terrorism?

Our data confirm historical patterns that suggest Americans are tolerant of government efforts to secure them from threats, even if such measures intrude on civil liberties and privacy, and even when they are of questionable demonstrated security value. Given the vantage of historical perspective, some previous efforts at enhancing security later have come to be viewed as serious mistakes, such as the imprisonment of opponents of US participation in World War I, or the internment of American citizens of Japanese ancestry during World War II, or the excesses of McCarthyism at the height of the “red” scare during the early Cold War years, among others.¹¹ But at times when security is perceived to be threatened, the public often is tolerant of such intrusions into what otherwise would be considered protected liberties.

We are witnessing a contemporary adjustment to the peacetime balance of liberty and security in the US as a result of the ongoing struggle with terrorism and resulting policies intended to enhance homeland security. Our respondents appear to understand and accept such policies, within limits, and we are not seeing significant public resistance to measures taken thus far to strengthen security against terrorism. As has happened in the past, immigration appears particularly vulnerable to public opinion, as do protections for those arrested or captured on suspicion of terrorism. While the public perceives that security is being emphasized at the expense of some liberties, our respondents indicate moderate support for a variety of such measures, and we have not yet begun to see appreciable resistance. There is a substantial debate underway among civil libertarians and members of the legal community about homeland security measures perceived as unjustifiable intrusions into citizens’ rights, but that debate seems not to have resonated deeply among those whom we have surveyed to date.¹²

¹¹ There are many other examples in American history of security efforts being prioritized over protections for civil liberties in times of crisis. For discussions of historical excesses and how liberties and security have been balanced in wartime, see Linfield (1990), Rehnquist (2000), and Stone (2004).

¹² For a small sample of a much wider body of literature critical of current US security policies that infringe civil liberties, see Cassel (2004), Cohen and Wells (2004), Darmer,

We next turn our attention to two different dimensions of security by addressing questions relating to energy security and associated environmental issues in Chapter Four.

Baird, and Rosenbaum (2004), Leone and Anrig (2003), and Wilson (2005). For discussions of related constitutional issues, see Berkowitz (2005), Rehnquist (2000), Posner (2006), Posner and Vermule (2007), and Tushnet (2005). For a critical assessment of threat inflation and manipulation, see Mueller (2006).

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Chapter Four

Energy and Environmental Security

Energy security has a number of environmental dimensions that make analyzing energy and environmental issues interactively more productive than attempting to separately address them. In this chapter, we investigate the following questions about energy security and related environmental issues.¹

- How accepting is the American public of nuclear energy, and how are associated risks and benefits, including environmental factors, assessed?
- How does the public prefer that spent nuclear fuel be managed?
- How would the public like to see future energy requirements met?
- Do public beliefs about energy and environmental security and preferences for associated policies vary systematically with levels of general knowledge about energy and the environment? If so, how?
- How does the public view global climate change?
- What are ordinary citizens willing to pay for research and development of new energy resources?

Section 4.1: Public Views on Nuclear Energy

There recently has been a confluence of events that may be affecting elite and mass attitudes in the United States about nuclear energy. Rising costs of crude oil and increasing demands for oil and petroleum products from rapidly expanding economies in developing countries such as China and India are increasing competition for a finite natural resource. The potential for disruptions in the oil supply also is being heightened by political instability and security concerns in the Middle East and some other oil producing countries such as Venezuela and Nigeria. Coupled with worries about supply, there is widespread and growing concern about emissions of green-

¹ In doing so, we will review a number of selected survey questions and results. Distributions of responses to each question from our energy and environmental security surveys in 2006 and 2007 are provided in Appendix 3.

house gasses and their implications for global climate change. These and other factors are interacting to raise concerns among experts and policy makers about the availability and cost of oil and petroleum based products and the implications for the environment of continuing to rely primarily on fossil fuels. Such concerns appear to be reducing long-standing opposition to nuclear energy from some environmental activists and other traditional opponents of nuclear generation. To better understand how such trends may be affecting broader public understandings and attitudes about nuclear energy in the US, we ask four sets of questions that help illuminate different dimensions of the outlook for nuclear energy. Our first group of questions compares perceptions of relative risks associated with different sources of energy. The second set investigates beliefs about specific risks and benefits associated with nuclear energy in the US and asks how respondents balance offsetting assessments. The third line of inquiry probes the relative importance of a variety of factors for influencing public views about nuclear energy, and our final set of questions measures support for building additional nuclear generation capacities.

Relative Risks from Alternative Sources of Energy

We begin with a review of our questions about comparative risks of alternative energy sources below.

Lead-in: The next set of questions concerns all kinds and uses of energy, including electricity for homes and businesses; gas, oil, and coal for heating; and transportation fuels, such as gasoline and diesel. Considering the effects of both normal operations and potential accidents, how do you rate the risks to society and the environment from each of the following sources of energy using a scale from zero to ten, where zero means no risk and ten means extreme risk?

- w32: The risks from fossil fuels, such as coal, oil, and natural gas
- w33: The risks from nuclear power plants
- w34: The risks from renewable sources of energy, such as from hydroelectric dams, solar power, and wind generation

In Table 4.1, we summarize mean responses to each from our phone and Internet surveys conducted in 2006 and our follow-on Internet survey in 2007.

Table 4.1: Mean Risk Assessments of Alternative Energy Sources

(0 = no risk—10 = extreme risk)

Risks of Energy Sources	Phone 2006	Web 2006	Web 2007
w32: Risks from fossil fuels	6.53	6.40	6.73
w33: Risks from nuclear power plants	6.99	6.50	6.14
w34: Risks from renewable sources	3.38	2.81	2.35

Not unexpectedly, renewable sources of energy, such as hydroelectric, solar, and wind are judged to pose fewer risks than either fossil fuels or nuclear generation. In both samples from 2006, mean risks from nuclear energy are judged somewhat higher than those perceived to result from burning fossil fuels. But note that changes in means among Internet participants between our 2006 and 2007 surveys reverse the order of risks believed to be associated with nuclear vs. fossil fuels, and all differences in means between 2006 and 2007 are statistically significant. Mean assessments of risks from burning fossil fuels increase from 6.40 to 6.73 ($p = .0003$), while mean risks from nuclear generation decrease from 6.50 to 6.14 ($p = .007$).

Weighing the Risks and Benefits of Nuclear Energy

To investigate more closely specific risks perceived to be associated with nuclear energy, we pose the following questions in random order. We compare mean responses in Table 4.2.

Lead-in: I want to ask about your beliefs about some of the possible risks associated with nuclear energy use in the US. Please consider both the likelihood of a nuclear event occurring and its potential consequences when evaluating the risk posed by each of the following on a scale from zero to ten where zero means no risk and ten means extreme risk.

- w63: An accident at a US nuclear power plant within the next 20 years that results in the release of large amounts of radioactivity
- w64: An accident during the transportation or storage of spent nuclear fuel from nuclear power plants in the US within the next 20 years that results in the release of large amounts of radioactivity

- w65: A terrorist attack at a US nuclear power plant within the next 20 years that results in the release of large amounts of radioactivity
- w66: The diversion of nuclear fuel from a nuclear power plant in the US within the next 20 years for the purpose of building a nuclear weapon

Table 4.2: Mean Assessments of Nuclear Energy Risks
(0 = no risk—10 = extreme risk)

Potential Risks	Phone 2006	Web 2006	Web 2007
w63: Accident at nuclear power plant	6.06	6.19	6.17
w64: Accident transporting or storing spent nuclear fuel	6.22	6.34	6.19
w65: Terrorist attack on nuclear power plant	6.83	6.91	6.93
w66: Diversion of nuclear fuel for weapon production	5.75	5.64	5.60

Of those risks named, the risk of terrorists attacking a US nuclear power plant causing a release of radioactivity is rated highest, on average, and the potential diversion of nuclear fuel for the purposes of building a nuclear weapon is judged lowest. Notice that while all the risk ratings are well above midscale (5.0), all are below a scale value of seven.

Next we review the following questions, posed in random order, asking participants to rate selected benefits of nuclear generation. Means are compared in Table 4.3.

Lead-in: Now I want to ask about your beliefs about some of the possible benefits associated with nuclear energy use in the US. Please evaluate the benefits associated with each of the following on a scale from zero to ten, where zero means not at all beneficial and ten means extremely beneficial.

- w67: Fewer overall greenhouse gas emissions because nuclear energy production does not create greenhouse gasses
- w68: Reliable power because nuclear energy generates large amounts of electricity and is not affected by weather conditions, such as low rainfall or no wind.
- w69: Greater US energy independence because nuclear energy production does not require oil or gas from foreign sources
- w70: Reduced environmental damage because of less need for mining coal or extracting oil and gas

Table 4.3: Mean Assessments of Nuclear Energy Benefits

(0 = not at all beneficial—10 = extremely beneficial)

Potential Benefits	Phone 2006	Web 2006	Web 2007
w67: Fewer greenhouse gas emissions	6.89	7.26	7.36
w68: Large amounts of reliable power generation	7.12	7.34	7.46
w69: Greater US energy independence	7.20	7.52	7.60
w70: Reduced environmental damage	6.83	7.18	7.43

In terms of mean nominal values, our Internet participants consistently rate these potential benefits from nuclear energy higher than phone respondents, and the trend between our two Internet measurements in 2006 and 2007 is upward. Note also that all but two of the benefits are rated above a value of seven. Only the value of fewer greenhouse gas emissions and reduced environmental damage are rated below seven by our phone respondents in 2006.

To force participants to weigh the risks and benefits of nuclear energy, we ask the following question.

- w71: Using a scale from one to seven, where one means the risks of nuclear energy far outweigh its benefits, four means the risks and benefits are equally balanced, and seven means the benefits of nuclear energy far outweigh its risks, how do you rate the overall balance of the risks and benefits of nuclear energy in the US? Remember, you can choose any number from one to seven.

Mean responses from all three samples are above midscale, indicating that perceived benefits of nuclear energy outweigh perceived risks. The mean response for phone respondents in 2006 is 4.64; and the means from our two Internet samples are 4.32 in 2006 and 4.57 in 2007, which is a statistically significant increase in one year ($p < .0001$). Whether we compare named risks and benefits or ask participants to weigh them in the aggregate, perceived benefits from nuclear energy are judged to outweigh perceived risks by most respondents.

Factors Influencing Opinions About Nuclear Energy

To help understand how attitudes about nuclear energy are shaped, our third line of inquiry pursues insight into what kinds of factors and issues affect respondent perceptions and views on nuclear energy. We ask the following questions in random order.

Lead-in: Now I want to know what kinds of issues affect your views about the use of nuclear energy. Using a scale from zero to ten, where zero means not at all important and ten means extremely important, please rate the importance of each of the following considerations when you make judgments about nuclear energy.

- w74: The adequacy of future energy supplies
- w75: US dependence on foreign sources for energy
- w76: Greenhouse gas emissions
- w77: The safety of the operation of nuclear reactors
- w78: Managing spent nuclear fuel from nuclear power plants, including its transportation and storage
- w79: The spread of nuclear materials to countries and groups outside the US
- w80: The risk of terrorist attacks against nuclear energy facilities

In Table 4.4, we show mean responses and the relative order (rank) of issues from highest (1) to lowest (7) for each of our surveys in 2006 and 2007.

Table 4.4: Factors Influencing Attitudes About Nuclear Energy

Issue	Phone 2006		Web 2006		Web 2007	
	Rank	Mean	Rank	Mean	Rank	Mean
w77: Operational safety	1	7.64	1	8.32	1	8.28
w78: Managing spent nuclear fuel	2	7.42	2	8.07	2	8.07
w74: Adequacy of energy supplies	3	7.18	3	7.97	3	8.07
w75: US energy dependence	5	7.00	4	7.93	4	8.01
w80: Terrorist attacks on facilities	4	7.04	5	7.60	5	7.48
w79: Spread of nuclear materials	6	6.71	6	7.20	6	7.29
w76: Greenhouse gas emissions	7	6.08	7	6.97	7	7.05

Note that each of the named factors is rated above a value of six on the zero to ten scale, indicating that each is considered important. But clearly there are priorities, and these patterns of mean responses are remarkably similar in order across three samples taken by two survey modes over a period of a year. The most important issues for shaping public views on nuclear energy are (1) the safety of operations of nuclear reactors; (2) managing spent nuclear fuel; and (3) the adequacy of future energy supplies. The least important of the seven factors named in our surveys is emission of greenhouse gasses.

Building Additional Nuclear Generation Capacities

Our final set of questions in this series asks participants to express their support for constructing new nuclear reactors at the sites of existing nuclear power plants and at new locations in the US. Again, we compare mean responses in Table 4.5.

- w72: Using a scale from one to seven, where one means strongly oppose and seven means strongly support, how do you feel about constructing additional nuclear reactors at the sites of existing nuclear power plants in the US?
- w73: Using the same scale from one to seven, where one means strongly oppose and seven means strongly support, how do you feel about constructing additional nuclear power plants at new locations in the US?

Table 4.5: Mean Support for Constructing Additional Nuclear Reactors

(1 = strongly oppose—7 = strongly support)

	Phone 2006	Web 2006	Web 2007
w72: At existing nuclear power plants	4.40	4.34	4.54
w73: At new locations in the US	3.92	4.16	4.40

With the exception of phone respondents in 2006 on the issue of construction at new locations, means are otherwise above midscale, indicating support. It also is noteworthy that among participants in our two Internet samples, means for both questions increase significantly between 2006 and 2007 (w72: $p = .0010$; w73: $p = .0004$).

Short Answer

Q: How accepting is the American public of nuclear energy, and how are associated risks and benefits, including environmental factors, assessed?

We find that members of the public believe the risks from burning fossil fuels equal or exceed those associated with the nuclear generation of electricity. When asked to assess specific risks and benefits of nuclear energy, most respondents believe the benefits outweigh corresponding risks. Among a variety of factors influencing public views on nuclear energy, the three most important are (a) the safety of nuclear power plant operations; (b) how spent nuclear fuel is managed, including its transportation and disposition; and (c) the adequacy of future energy supplies. At present, the lack of greenhouse gas emissions, while judged important in an absolute sense, ranks lowest of seven named factors for influencing support for or opposition to nuclear energy. When asked to assess prospects for building additional nuclear generation capacities, overall support is above midscale for building new nuclear reactors, with mean support for constructing such reactors at existing nuclear power facilities higher than support for constructing additional nuclear power plants at new locations in the US.

From these findings, we conclude that public support for nuclear energy is substantial and appears to be strengthening in comparison to support for burning fossil fuels to generate electricity. However, we consider this support to be fragile and susceptible to significant downturn should future nuclear events endanger populations anywhere in the world. Unsurprisingly, renewable sources, such as hydroelectric dams, solar power, and wind generation are perceived to pose significantly fewer risks than either nuclear or fossil fuel based generation, but our respondents seem to consider nuclear generation to be important for meeting US energy requirements and are likely to be increasingly supportive, absent future nuclear accidents of a serious nature.

Section 4.2: Managing Spent Nuclear Fuel

How to store or otherwise dispose of spent nuclear fuel is a worldwide concern, and one of the major obstacles to further growth of the nuclear energy industry in the United States and elsewhere. As illustrated in the previous

discussion of risks and issues related to nuclear energy that concern members of the public, the safe transportation and storage or disposition of spent nuclear fuel is seen as a serious risk and is one of the most important issues our respondents identify as helping shape their attitudes about nuclear energy. In this section, we report results from a general knowledge question that suggests only about one in five respondents are aware of current temporary storage measures. Then we describe results from a series of questions that measure public acceptance of alternative storage or disposition policy options.

Knowledge About Current Practices

We ask the following question to assess general knowledge about current measures being used to temporarily store spent nuclear fuel. We show response patterns in Table 4.6.

- w81: As nuclear fuel is used to generate electricity, it becomes contaminated with radioactive byproducts. When it can no longer efficiently produce electricity, it is called spent nuclear fuel. To the best of your knowledge, what is currently being done with most of the spent nuclear fuel produced in the US? Is it: (random order)
 1. Stored above ground in specified nuclear power plants throughout the US
 2. Shipped to Nevada and stored in a facility deep underground
 3. Chemically reprocessed and reused
 4. Shipped to regional storage sites

Table 4.6: Current US Disposition of Spent Nuclear Fuel

Current Disposition Policy	Phone 2006 (%)	Web 2006 (%)	Web 2007 (%)
1. Stored above ground in special containers at specified nuclear power plants throughout the US	20	20	22
2. Shipped to Nevada and stored in a facility deep underground	43	33	33
3. Chemically reprocessed and reused	10	13	13
4. Shipped to regional storage sites	26	34	31

While most respondents may consider the management of spent nuclear fuel to be one of the most important risks associated with nuclear energy, clearly, most are unaware of how spent nuclear fuel currently is being

stored above ground at designated nuclear power plants, some of which are near large population centers across the United States. It appears that public debate about the prospective deep geological repository in Nevada's Yucca Mountain may have caused a plurality of citizens to assume that the facility is currently receiving spent nuclear fuel, since one-third of participants in our latest Internet survey chose that response option. In the same survey, only 22 percent of respondents knew of current practices.

Preferences About How to Manage Spent Nuclear Fuel

To test reactions to possible storage or disposition options, we briefly describe pros and cons of four policy options, three of which are specific to US spent nuclear fuel disposition, and one of which approaches the issue from a broader international perspective. After describing each option and presenting associated pro and con arguments, we ask respondents to indicate their support or opposition. For each option, the pro and con arguments are randomly ordered, and responses to each question are recorded before subsequent options are described and questions posed.

Lead-in: Spent nuclear fuel is highly radioactive and must be protected for thousands of years or be reprocessed and reused. Currently, there are four basic options for dealing with these materials. After hearing key arguments for and against each of the options, I will ask you to rate each as an alternative way to deal with the spent fuel from nuclear power plants.

Option one is to continue the current practice of storing spent nuclear fuel above ground in special containers at some of the existing nuclear power plants.

Opponents argue that many of these plants are near rivers, oceans, and large population centers, and permanent storage is needed where the waste can be better secured against possible terrorist attacks.

Supporters argue that transporting spent nuclear fuel to a central underground storage facility by truck, train, or barge would be too risky, and that the current practice of storing spent nuclear fuel at nuclear power plants buys time for finding future solutions.

- w82: Using a scale from one to seven, where one means strongly oppose and seven means strongly support, how do you feel about the current practice of storing spent nuclear fuel at existing nuclear power plants?

Option two is to ship spent nuclear fuel, primarily by train, to a central facility where it would be stored in special containers deep underground and permanently monitored. The potential site being studied is in southern Nevada inside Yucca Mountain.

Opponents argue that nuclear materials could eventually leak into underground water, and the risks of transporting radioactive materials to a central facility would be too high.

Supporters argue that a central facility would remove radioactive materials from their current locations near large population centers, rivers, and oceans, and would allow more careful monitoring and control.

- w83: Using the scale from one to seven, where one means strongly oppose and seven means strongly support, how do you feel about the option of opening a long-term underground storage facility where spent nuclear fuel from all over the US would be stored?

Option three is to ship the spent nuclear fuel by truck and train to privately owned temporary storage sites where it would be monitored for up to 50 years. At that point, a more long-term decision could be made about how to manage it.

Opponents argue that private firms might not be safe stewards of the spent nuclear fuel, and that the risks of transporting radioactive materials to and from a temporary facility would be too high.

Supporters argue that private facilities for temporary storage of spent nuclear fuel would remove the materials from their current locations near large population centers, rivers, and oceans, and would allow more time for developing longer-term management options.

- w84: Using the scale from one to seven, where one means strongly oppose and seven means strongly support, how do you feel about the option for opening privately owned facilities where spent nuclear fuel would temporarily be stored?

Finally, worldwide, the spread of nuclear materials that might be used to make nuclear weapons is a growing concern. Some countries may attempt to use nuclear energy programs to produce enriched uranium that can be used for nuclear weapons. Others may try to recover plutonium from spent nuclear fuel and use it in nuclear weapons. Today, North Korea and Iran illustrate these kinds of concerns.

One suggestion to control the spread of nuclear materials is to designate a small number of countries with proven nuclear expertise and a history of secure management of nuclear materials as the only countries authorized to enrich nuclear materials and reprocess spent nuclear fuel. These countries would provide fuel for nuclear power plants at market price to other countries.

Opponents of such a plan argue that this arrangement would place developing countries at the mercy of more highly developed countries who might withhold nuclear fuel needed for producing electricity.

Supporters of such a plan argue that this arrangement would help prevent the spread of nuclear materials that might be used to make nuclear weapons while still allowing developing countries to have the benefits of nuclear energy.

- w85: Using the scale from one to seven, where one means you would strongly oppose this process and seven means you would strongly support it, how do you feel about having a few designated countries provide nuclear fuel at market price to all other countries that produce nuclear energy?

We compare mean responses to each of the four options in Table 4.7.

Table 4.7: Mean Support for Spent Nuclear Fuel (SNF) Disposition Options
(1 = strongly oppose—7 = strongly support)

SNF Disposition Options	Phone 2006	Web 2006	Web 2007
w82: Continue current practice of storing SNF at existing nuclear power plants	3.73	3.56	3.60
w83: Open long-term centralized underground storage facility	4.11	4.12	4.21
w84: Open privately owned facilities for temporary storage	2.59	3.12	3.19
w85: Develop international consortium for reprocessing and providing nuclear fuel	3.82	3.73	3.72

Of these policy choices, only the centralized deep geological repository receives above midscale support from our respondents. The option for private facilities to temporarily store SNF is least favored.

Short Answer

Q: How does the public prefer that spent nuclear fuel be managed?

Most of our respondents are not aware of current practices of storing spent nuclear fuel at designated nuclear power plants across the US. When presented with brief pro and con arguments for each of the following alternative storage or disposition options: (a) continuing current practices of storage at existing nuclear power facilities; (b) opening a centralized deep geological repository at Yucca Mountain; (c) opening privately owned and managed temporary storage sites, or (d) developing an international consortium for storing and reprocessing spent nuclear fuel, our participants favor deep geological storage at Yucca Mountain.

From these patterns of responses and from those reported in the prior section, we conclude that many members of the public are poorly informed about the spent nuclear fuel issue. Most consider the issue to pose a serious risk associated with nuclear energy, and they identify it as one of the most important factors influencing the future of nuclear energy; but most also are misinformed about current practices. Most respondents prefer that a centralized underground storage facility be used, and about one in three participants think such a facility already is in use.

Section 4.3: Meeting Future Energy Requirements

In this section we discuss respondent perspectives about meeting future energy requirements using three lines of inquiry. In the first, we measure views about the importance of reducing energy dependence. In the second, we examine preferences for how to balance energy conservation and energy development. And in the third approach, we report how respondents prefer that future energy requirements be apportioned among fossil fuels, nuclear energy, and renewable sources.

Reducing US Dependence on Foreign Sources of Energy

We ask the following question to assess the saliency of US dependence on foreign energy sources.

- w41: Using a scale from zero to ten, where zero means not at all important and ten means extremely important, how important is it to reduce US dependence on foreign sources of energy of all types?

Mean responses from our phone participants in 2006 (8.79) and our Internet respondents in 2006 (8.61) and 2007 (8.60) are all strong indicators of the high levels of importance participants place on reducing US dependence on foreign energy sources. These kinds of means represent a consensus of opinion that it is of considerable importance to reduce US dependence on foreign sources of energy, and they suggest the saliency of this factor is high among the public.

Balancing Energy Conservation and Energy Development

To better understand how the public views conservation and development as means toward meeting future energy needs, we ask participants to respond to the following three randomly ordered statements on a scale from one to seven, where one means strongly disagree and seven means strongly agree.

- w60: Meeting our future energy needs requires a combination of energy conservation and developing additional sources of energy, but I prefer that we emphasize conservation.
- w61: Meeting our future energy needs requires a combination of energy conservation and developing additional sources of energy, but I prefer that we emphasize developing energy sources.
- w62: Meeting our future energy needs requires a combination of energy conservation and developing additional sources of energy, and I prefer that we balance conservation and development equally.

We compare mean responses in Table 4.8.

Table 4.8: Mean Views on Balancing Energy Conservation and Development

(1 = strongly disagree—7 = strongly agree)

Energy Conservation vs. Energy Development	Phone 2006	Web 2006	Web 2007
w60: Prefer to emphasize energy conservation	5.21	4.33	4.41
w61: Prefer to emphasize energy development	5.62	5.22	5.18
w62: Prefer that conservation and development be equally balanced	5.84	5.30	5.37

On average, phone and Internet respondents prefer a balanced approach in which both energy conservation and development are pursued to help meet future energy needs.

Future Energy Mix

Our concluding set of questions on the subject of future energy requirements tells respondents how much of total current US energy requirements are provided by fossil fuels, nuclear generation, and renewable sources, and asks them to indicate how they think the proportions should change over the next two decades. We summarize mean percentages in Table 4.9.

Lead-in: Now think about the overall mix of energy sources for the US. We currently get about 85 percent of our energy from fossil fuels, eight percent from nuclear energy, and six percent from renewable sources. The following three questions concern how you would like to see this mix of energy sources change over the next 20 years. Please tell me approximately what percentage of the total US energy supply you would like to see come from each of these three energy sources. (random order)

- w42: What percent of our energy should come from fossil fuels, which currently provide about 85 percent of our energy?
- w43: What percent of our energy should come from nuclear energy, which currently provides about eight percent of our energy?
- w44: What percent of our energy should come from renewable sources, which currently provide about six percent of our energy?

Table 4.9: Preferred Total Energy Mix In 20 Years (Mean Percentages)

Current Disposition Policy	Phone 2006	Web 2006	Web 2007
w42: Fossil fuels (currently 85%)	31.3	26.6	25.3
w43: Nuclear energy (currently 8%)	22.2	22.0	23.6
w44: Renewable sources (currently 6%)	46.3	51.4	51.0

Phone and Internet respondents both in 2006 and 2007 are generally consistent, preferring to shift current proportions over the next 20 years so as to derive approximately one-half of total US energy supplies from renewable sources, approximately one-quarter of energy supplies from nuclear generation, with fossil fuels providing the remaining one-quarter of energy needs. Of course cost implications, investment levels, technical issues, and life style changes associated with such major shifts in energy sourcing are not discussed, and those and other implementation factors could shift preferences, but these indications suggest the directions most respondents prefer to see taken in reshaping the total US energy mix for the foreseeable future.

Short Answer

Q: How would the public like to see future energy requirements met?

In considering how to meet current and future energy requirements, our respondents express a strong consensus that it is important to reduce US dependence on foreign sources of energy. Most prefer a balanced approach that includes energy conservation and energy development, and most would like to see today's energy mix change in important ways. They would like the US to increase the percentage of total energy requirements provided by renewable sources from the current six percent to approximately 50 percent; increase the proportion of nuclear generated energy from the current eight percent to approximately 20–25 percent; and reduce current reliance on fossil fuels from 85 percent of total energy to 25–30 percent over the next 20 years.

Section 4.4: Relating Basic Energy Knowledge to Beliefs and Preferences

While it is not practical to comprehensively test survey participant knowledge about energy issues (or any other complex area of public policy) in voluntary surveys, it can be useful to gain impressions of differential levels of factual knowledge about policy areas that are dependent on science and technology. Do citizens' views about policy issues vary systematically with levels of factual knowledge about a given policy domain? To investigate relationships between basic levels of factual knowledge about energy and preferences for energy related policies, we pose the following seven questions. Correct responses are indicated below for each.

Lead-in: As you may know, in the US today, electricity is generated from three basic sources: (a) fossil fuels, such as coal, oil, and natural gas; (b) nuclear reactors; and (c) renewable sources of energy, such as hydroelectric dams, solar power, and wind generation. The next several questions are about your views of these three sources of electricity.

- w35: Considering the overall production of electricity, to the best of your knowledge, which one of the following three sources produces the most electricity in the United States each year? (random order)
 1. fossil fuels (correct)
 2. nuclear energy
 3. renewable energy
- w36: Which of these three sources produces the most greenhouse gasses and other kinds of air pollution? (random order)
 1. fossil fuels (correct)
 2. nuclear energy
 3. renewable energy
- w37: To the best of your knowledge, approximately what percent of US electricity is produced by nuclear energy plants today? Would you say that it is:
 1. 1–15 percent
 2. 16–30 percent (correct)
 3. 31–45 percent
 4. 46–60 percent
 5. 61–75 percent
 6. 76–90 percent
 7. > 90 percent
- w38: As you are probably aware, we have been mining coal, pumping oil, and extracting natural gas from underground deposits in the United States for many years. Of these three sources of fossil energy, which do you believe has the largest remaining reserves of potential energy that we know about in the US? Is it coal, oil, or natural gas? (random order)
 1. coal (correct)
 2. oil
 3. natural gas

- w39: To the best of your knowledge, approximately what percent of crude oil used in the US today is imported from other countries? Would you say that it is:
 - 1–15 percent
 - 16–30 percent
 - 31–45 percent
 - 46–60 percent
 - 61–75 percent (correct)
 - 76–90 percent
 - > 90 percent

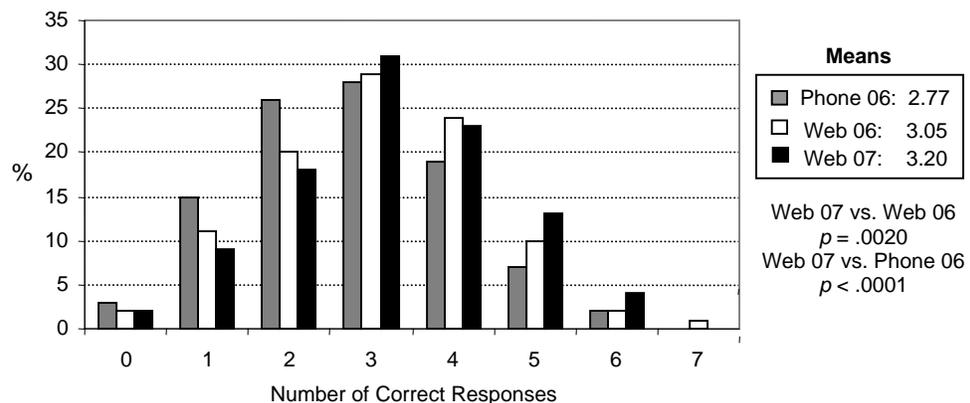
- w40: Which of the following countries do you think provides the largest quantity of crude oil imports to the United States? (random order)
 - Canada (correct)
 - Saudi Arabia
 - Venezuela
 - Russia
 - Kuwait
 - Nigeria
 - Mexico

- w81: As nuclear fuel is used to generate electricity, it becomes contaminated with radioactive byproducts. When it can no longer efficiently produce electricity, it is called spent nuclear fuel. To the best of your knowledge, what is currently being done with most of the spent nuclear fuel produced in the US? Is it: (random order)
 - stored above ground in special containers at power plants (correct)
 - shipped to Nevada and stored in a facility deep underground
 - chemically reprocessed and reused
 - shipped to regional storage sites

By assigning a score of one for each correct answer, we create a basic energy knowledge index for each respondent ranging from zero (no correct answers) to seven (all answered correctly). In Figure 4.1, we compare distributions of correct answers that have been combined to form our energy knowledge index.

Figure 4.1: General Energy Knowledge Index

(0 = no correct answers—7 = seven correct answers)



Based on these few factual knowledge indicators, our Internet respondents score significantly higher, on average, than phone participants, though all of the three response groups score around midscale on our index.

Next, using combined phone and Internet data from our three surveys in 2006 and 2007, we calculate a series of multiple regressions in which individual demographic characteristics of education, age, gender, racial/ethnic minority status, annual household income, political ideology, and scores on our energy knowledge index are used as independent variables to predict a wide range of beliefs about energy and environmental security. When demographic attributes and ideology are held constant, we find that our energy knowledge index scores are statistically significantly related to each of the issues shown in Table 4.10.

Table 4.10: Relating Factual Knowledge Scores to Beliefs About Energy and Environmental Security (after controlling for demographics and political ideology)

Issue / Belief	Coef.	p
w10: Confidence in adequacy of future energy supplies (0 = not at all confident—10 = extremely confident)	-0.101	.0018
w11: Satisfaction with current US energy policies overall (0 = not at all satisfied—10 = completely satisfied)	-0.249	<.0001
w29: Certainty that greenhouse gasses are causing global warming (0 = not at all certain—10 = completely certain)	0.131	<.0001
w32: Risks from fossil fuels (0 = no risk—10 = extreme risk)	0.124	<.0001
w33: Risks from nuclear power plants (0 = no risk—10 = extreme risk)	-0.253	<.0001
w34: Risks from renewable sources (0 = no risk—10 = extreme risk)	-0.415	<.0001
w42: Preferred percent of energy from fossil fuels in future	-1.483	<.0001
w44: Preferred percent of energy from renewables in future	1.091	.0008
w60: Prefer to emphasize energy conservation (1 = strongly disagree—7 = strongly agree)	-0.139	<.0001
w72: Support for additional nuclear reactors at existing sites (1 = strongly oppose—7 = strongly support)	0.103	<.0001
w73: Support for additional nuclear power plants at new locations (1 = strongly oppose—7 = strongly support)	0.077	.0012
w82: Support for storing SNF at existing nuclear power plants (1 = strongly oppose—7 = strongly support)	-0.062	.0021
w84: Support for temporarily storing SNF at private facilities (1 = strongly oppose—7 = strongly support)	-0.117	<.0001

While the relationships summarized in Table 4.10 are not a comprehensive listing of every question in our surveys to which factual knowledge about energy and environmental security may be related systematically, these results do provide some insight into the role of information and knowledge as it affects beliefs about energy and the environment. When we control for education, age, gender, race (minority vs. majority), income, and political ideology, we find that the following *decrease* with increasing factual knowledge:

- Confidence in the adequacy of future energy supplies
- Satisfaction with current US energy policies overall
- Assessments of risks associated with nuclear power plants and from renewable sources of energy
- The preferred proportion of total energy that should come from fossil fuels in the next 20 years
- Support for emphasizing energy conservation over energy development
- Support for continuing the current practice of storing spent nuclear fuel at the sites of specified nuclear power plants *or* opening privately managed facilities for temporarily storing spent nuclear fuel (Support for storing such materials in an underground centralized storage facility is not systematically related to energy knowledge scores after controlling for demographics and ideology.)

Conversely, we find that the following *increase* as factual knowledge scores increase:

- Certainty that greenhouse gasses are causing global warming
- Assessments of risks from burning fossil fuels
- The preferred proportion of total energy that should come from renewable sources in the next 20 years
- Support for additional nuclear generation capacity at existing sites *and* support for additional nuclear power plants at new locations

Short Answer

Q: Do public beliefs about energy and environmental security and preferences for associated policies vary systematically with levels of general knowledge about energy and the environment? If so, how?

Yes, our data show predictable and replicable relationships between varying levels of basic knowledge about energy and environmental issues and beliefs about current and future energy policies and related environmental concerns. We find that our respondents to Internet surveys conducted in 2006 and 2007 are significantly better informed than our phone respondents also surveyed in 2006. Using combined data from the two Internet surveys and the phone survey, and controlling for individual demographic characteristics and political ideology, we find that as levels of basic factual knowledge about energy and environmental security increase, certainty increases that greenhouse gasses are causally related to global climate change, perceptions of risks from burning fossil fuels increase, preferences are higher for increasing the proportion of total energy deriving from renewable sources, and greater support is reported for building additional nuclear generation capacities at existing *and* new sites. Our data also show that as factual knowledge increases, satisfaction with current US energy policies and confidence in our abilities to meet future energy requirements decline, assessments of risks associated with nuclear generation and risks associated with renewable sources of energy decrease, the preferred proportion of future energy needs provided by burning fossil fuels declines, support decreases for emphasizing energy conservation over energy development, and support declines for continuing present storage of spent nuclear fuel at designated nuclear power plants or for opening privately managed temporary storage facilities. Overall, the views and preferences of members of the public about energy are systematically related to how factually informed they are about energy security and associated environmental issues.

Section 4.5: Public Attitudes on Global Climate Change

In this section we report respondents' judgments about their own levels of attention and information regarding global climate change (GCC) and associated issues. We then measure respondents' factual understandings of scientific opinion about GCC, and compare self-assessments with objective

measurements. Next we examine respondent beliefs about global warming and their certainty in those beliefs, and what they think prospective changes may mean for people and the environment. We close with public assessments of the importance of reducing greenhouse gas emissions.

Subjective vs. Objective Knowledge About Global Climate Change

Examining factual knowledge levels among members of the public about global climate change is more problematic than analyzing factual knowledge about energy, because some of the science associated with climate change is either contested or rapidly evolving. Accordingly, our approach to investigating respondent knowledge involves two lines of inquiry. In the first, we ask participants to indicate their personal level of attention to global climate change issues, and subjectively to judge their own level of information about related issues. In the second approach, we inquire about public perceptions of what most scientists expect or believe regarding climate change. We begin with respondents' self-assessments.

Lead-in: As you may know, the issue of global climate change has been the subject of public discussion over the last few years.

- w14: On a scale from zero to ten, where zero means no attention and ten means close and constant attention, how much attention have you paid to the issue of global climate change?
- w15: On a scale from zero to ten, where zero means not at all informed and ten means completely informed, how well informed do you consider yourself to be about the issue of global climate change?

Both questions are introduced in our 2007 Internet survey, and participants indicate relatively high mean levels of attention (6.41) and information (6.35) regarding global climate change.

Next we ask our Internet participants in 2007 the following two series of questions for which the response options to each (except the final question) are “yes” or “no.” Correct responses are shown in parentheses.

Lead-in: Scientists who specialize in the study of the earth's climate have debated the possible effects of climate change. To the best of your knowledge, do most scientists expect any of the following changes in the global climate to take place?

- w17: Do most scientists expect temperature to rise? (yes)
- w18: Do most scientists expect ocean levels to drop? (no)
- w19: Do most scientists expect more frequent droughts? (yes)
- w20: Do most scientists expect fewer floods? (no)
- w21: Do most scientists expect more severe weather storms, like hurricanes and tornadoes? (yes)

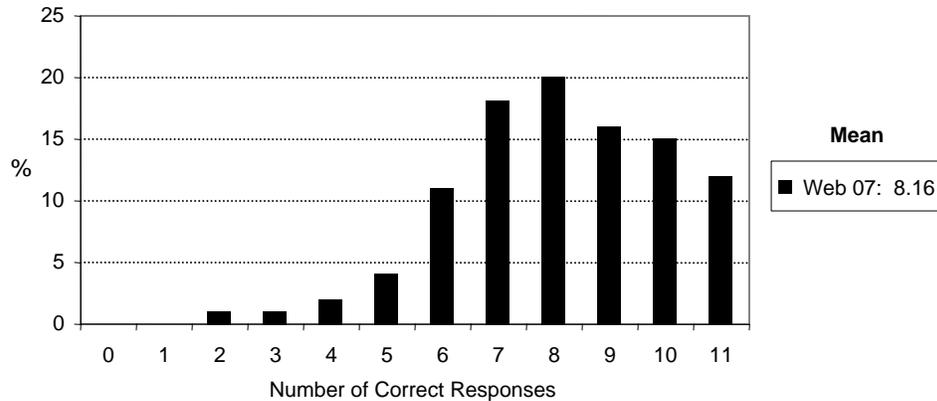
Lead-in: Many scientists have argued that global average temperatures have risen slightly and will continue to increase for many years as a result of human activities. To the best of your knowledge:

- w22: Do scientists believe exhausts from cars and trucks cause global temperatures to rise? (yes)
- w23: Do scientists believe radiation from nuclear power plants causes global temperatures to rise? (no)
- w24: Do scientists believe disposal of toxic chemicals in landfills causes global temperatures to rise? (no)
- w25: Do scientists believe coal powered electricity plants cause global temperatures to rise? (yes)
- w26: Do scientists believe the destruction of jungles and forests causes global temperatures to rise? (yes)
- w27: To the best of your knowledge, how much do scientists think the average global temperature will increase over the next 50 to 70 years?

1. 0–1 degree
2. 2–5 degrees (correct)
3. 6–9 degrees
4. 10 or more degrees

By assigning a score of one for each correct answer, we create an index reflecting each respondent's knowledge of current majority scientific opinion regarding climate change that ranges from zero (no correct answers) to 11 (all answered correctly). In Figure 4.2, we compare distributions of correct answers that have been combined to create our index of global climate change information.

Figure 4.2: Global Climate Change Information Index (Web 07)



Large majorities of respondents know that most scientists expect global temperatures to rise (90 percent), droughts to occur more frequently (83 percent), and increases in severe weather events (90 percent). Majorities also report knowing that ocean levels are not expected to drop (66 percent) and floods are not expected to occur less frequently (87 percent). While the percentages of correct responses to our second set of questions are somewhat smaller, a majority of respondents correctly answered most inquiries. The only two issues about which significant error is reported is question w24 that asks if experts believe toxic chemicals in landfills help cause temperatures to rise (55% answered incorrectly), and w27 where less than half (48%) of participants answered correctly that scientists expect average global temperatures to rise by two to five degrees.²

So how well do respondent self-assessments of attention to GCC and knowledge about related issues predict actual scores on our GCC Information Index? When we control for demographic characteristics (education, age, gender, racial/ethnic minority status, and household income) and political ideology, we find that the attention respondents say they pay to GCC issues is systematically related to Information Index scores (coefficient 0.141, $p < .0001$), but self-assessed knowledge is not related (coefficient – 0.037, $p = .1565$). In other words, as the level of attention respondents say they give to GCC issues increases one point, corresponding scores on our GCC Information Index increase 0.141 points. However, self-assessed

² Actually, the fact that nearly half our respondents were able correctly to choose the range of temperature increase expected by most scientists reflects a higher level of public knowledge than some might predict.

knowledge about GCC issues is not systematically predictive of GCC Information Index scores. Some respondents who think they know very little about GCC issues score relatively high on the index, and some who consider themselves to be well informed about GCC issues score relatively low on the index. The more reliable predictor of the two self-assessments we used is the level of attention respondents say they give to GCC debates.

Public Views on Greenhouse Gasses and Global Warming

While there are many issues related to global climate change (such as the nature of average temperature movements and possible causes), much of the debate centers around the degree to which greenhouse gasses resulting from human activities (such as burning fossil fuels) may be causing average global temperatures to rise. To test public sentiments about this specific issue, we first ask respondents to indicate whether they think greenhouse gasses are causing average global temperatures to increase, then we ask them to express the certainty with which they hold their view.

- w28: In your view, are greenhouse gases, such as those resulting from the combustion of coal, oil, natural gas, and other materials causing average global temperatures to rise? (are/are not)
- w29: On a scale from zero to ten, where zero means not at all certain and ten means completely certain, how certain are you that greenhouse gasses «are/are not» (from w28) causing average global temperatures to rise?

Approximately three out of four respondents to our phone and Internet surveys in 2006 and our Internet survey in 2007 agree that greenhouse gasses are causing average global temperature to rise. When those who hold this view are compared to those who do not believe a causal link exists, and each group is asked to express the certainty of their views, the distributional patterns shown in Figures 4.3 and 4.4 result.

Figure 4.3: Certainty Greenhouse Gasses ARE Causing Global Warming

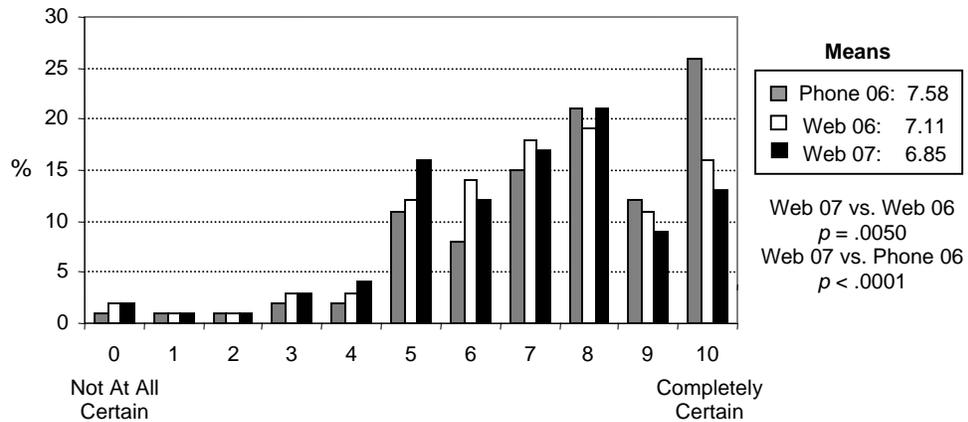
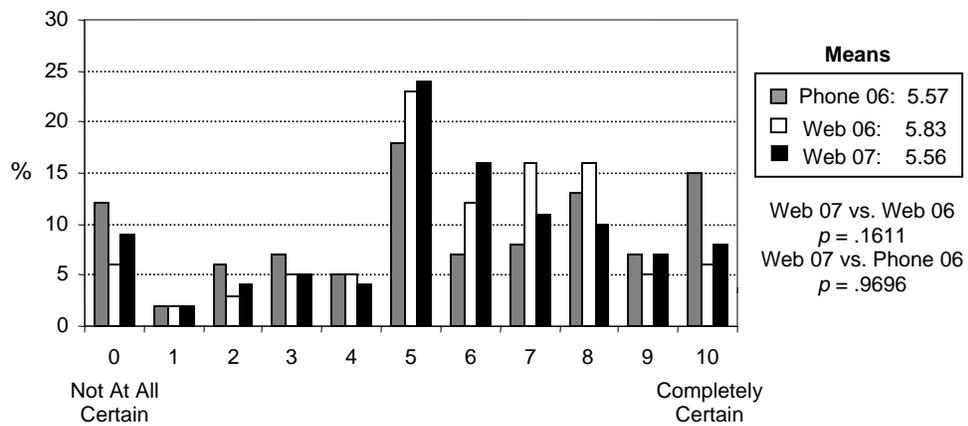


Figure 4.4: Certainty Greenhouse Gasses Are NOT Causing Global Warming



These patterns of distributions and means show that respondents who believe greenhouse gasses *are* causing global warming are substantively more certain of their views than are those participants who do not think greenhouse gasses and global warming are causally linked.

Next, we ask respondents to judge how much risk global warming poses for people and the environment, and we ask them to express the importance they attach to reducing greenhouse gas emissions.

- w30: On the scale from zero to ten, where zero means no risk and ten means extreme risk, how much risk to you think global warming poses for people and the environment?

- w31: On a scale from zero to ten, where zero means not at all important and ten means extremely important, how important do you think it is for the US to reduce greenhouse gas emissions?

In Table 4.11 we compare mean responses to each question.

Table 4.11: Mean Assessments of Global Warming and Greenhouse Gasses

Issue	Phone 2006	Web 2006	Web 2007
w30: Risk global warming poses for people and environment (0 = no risk—10 = extreme risk)	7.03	6.96	7.07
w31: Importance of reducing greenhouse gas emissions (0 = not at all important—10 = extremely important)	7.54	7.41	7.47

Note that mean responses to each question from all three surveys are at or above a value of seven. Differences in means across survey modes for each question are not statistically significant. These central tendencies indicate that there is a high degree of concurrence among our respondents that global warming poses significant risks to people and the environment (about 75 percent rate the risk above midscale) and that it is important to reduce the emissions of greenhouse gasses that may be contributing to global warming (about 80 percent rate the importance above midscale). When we control for demographics and political ideology, only two individual attributes significantly separate views on both questions. On average, men systematically rate the risks of global warming and the importance of reducing greenhouse gas emissions lower than do women, and respondents of both genders with politically conservative beliefs rate both questions lower, on average, than do respondents with more politically liberal orientations.

These kinds of directional indicators are not ambiguous; they constitute a substantive majority of public views, and they suggest that the process of the public “coming to judgment” about greenhouse gasses and global warming may be nearing maturity.

Short Answer

Q: How does the public view global climate change?

Two out of three Internet respondents in 2007 report paying substantial levels of attention to global climate change (GCC). When tested on their factual information about predominate scientific opinions, expectations, and predictions about the causes and prospects of GCC, results support the supposition that GCC is an important and relevant issue to most of our respondents. About three out of four participants believe greenhouse gasses are contributing to rising average global temperatures, and those who hold such views are more certain in their conclusions than are the minority of respondents who do not believe there is a causal link between greenhouse gasses and global warming. When asked to assess the risk to people and the environment posed by global warming, about 75 percent rate the risk above midscale, with mean ratings among all three respondent groups in 2006 and 2007 being at or above seven on a scale from zero (no risk) to ten (extreme risk). Similarly, about 80 percent of respondents from all three samples rate the importance of reducing greenhouse gas emissions above midscale, with means above seven on a zero (not at all important) to ten (extremely important) scale.

The directional implications of these findings are clear; the issue of global climate change may be complex and the science may be evolving, but a substantive majority of the public has concluded the following: (a) average global temperatures are increasing; (b) rising temperatures pose serious risks to people and the environment; (c) greenhouse gasses are causally linked to global warming; and (d) it is important for the world to reduce greenhouse gas emissions.

Section 4.6: Public Willingness to Pay for Energy R & D

As discussed in Section 4.3, our respondents express three specific preferences for improving energy security in the future. (a) They would like to reduce US dependence on foreign sources of energy. (b) They prefer a balanced approach that emphasizes both energy conservation and development of new energy resources. (c) They would like to change today's energy mix so as to reduce the proportion of US energy deriving from fossil fuels, while increasing the proportions provided by nuclear generation and renewable

sources. To achieve these kinds of evolutions in energy policy will require investments in research and development of new and existing technologies, methods, and sources. While public desires to create a more secure energy future are apparent, public willingness to commit the necessary resources to do so is less clear. Do Americans support expenditures of public money to create alternatives to fossil fuels, and, if so, how much are they willing to invest? Are individual families willing to forego other kinds of expenditures and investments to pay for the development of alternative energy sources?

One issue of continuing interest is whether the public support we find for increasing the proportion of US energy from nuclear generation extends to public willingness to invest in advanced nuclear technologies. To what degree do the fractious and politically controversial history of nuclear energy and unresolved issues about the disposition of spent nuclear fuel affect the value Americans place on further investing in nuclear energy options? One possibility is that including nuclear technologies as part of a major US initiative could result in reduced public willingness to pay for that initiative—a kind of “poison pill” that would undermine public support for a costly but important national investment. It is also possible that Americans perceive investing in nuclear technologies as equivalent in value to that of other technologies. Our research into this issue in 2006 suggests that the potential “poison pill” effect of including nuclear technologies in national energy development plans and investments may no longer be relevant. We continue to test that preliminary finding with results from our 2007 follow-on Internet survey.

In this section we report findings from an experiment in which contingent valuation (CV) methods are employed for estimating public willingness to pay for a hypothetical national initiative to invest in research and development of alternative energy sources. As described below, the CV approach provides a well-tested method for eliciting individuals’ willingness to pay for goods that are not readily traded in markets. Individual responses can be aggregated and used to estimate the median household willingness to pay (WTP) for that good. We incorporate an experiment that allows us to continue to monitor whether the specific inclusion of nuclear technologies, along with a baseline set of non-nuclear energy methods and sources, changes public willingness to pay for investments in alternative energy technologies.

Introduction to Contingent Valuation

Efforts to determine whether policy options and programs are in the public interest require that benefits to the public be compared with costs of the program. Indeed, since the presidency of Gerald Ford, the US government has required that all major policies be evaluated using benefit/cost analysis to determine whether benefits outweigh costs (Graham, Johansson, and Nakanishi 2004). While programmatic costs are relatively easy to measure, quantifying the benefits of goods that are not typically traded in markets is more problematic (Weimer and Vining 2005). In essence, what is required is to know what the public would be willing to pay to obtain the good in the absence of direct evidence about actual payments. In the case of an investment in energy technologies that reduce dependence on foreign sources of energy and reduce pollutants, the non-market attributes become an important part of the value being considered.

A number of techniques are available to measure public valuations of non-market goods. One class of methods, called hedonic pricing, relies on prices of commodities sold in markets that are affected by a non-market good. The effect of a potential hazard, such as a Superfund waste site, on residential property values can be used as the basis for estimating public willingness to pay to avoid living near such a hazard. Other methods include activity surveys, which measure people's behavior to infer values. But the technique most directly applicable for evaluating public willingness to invest in energy research and development is contingent valuation, which employs surveys of population samples to ask people directly what they would be willing to pay.

Contingent valuation (CV) surveys have been in use in the US since the 1950s (Mitchell and Carson 1989). The technique has been the focus of substantial research and validation by federal agencies (including the Environmental Protection Agency and the National Science Foundation), and has been widely employed in federal benefit/cost analyses of environmental resources and environmental policies. In part because the technique became central in the costly and controversial case of the Exxon-Valdez oil spill, the CV method has evolved over the past two decades in the midst of substantial scrutiny. Critics of the CV method have argued that it may be unreliable because it is necessarily hypothetical, leading participants to overstate value because they will not have to actually pay the stated price (Cummings and Taylor 1999). Others have been concerned about variability due to question

wording, unfamiliarity of the respondent with the good, or the hypothetical method of payment. These concerns led the National Oceanographic and Atmospheric Administration (NOAA) to commission a study, headed by Nobel-prize winning economists Kenneth Arrow and Robert Solow, to evaluate the applicability of CV methods in federal damage assessments and policy analysis (NOAA 1993). The panel surveyed the criticisms of contingent valuation methods and concluded that CV can make a valid contribution to policy analysis if analyses meet a set of important criteria. These include: (a) clear specification of the “good” to be valued; (b) use of appropriate methods for eliciting payments; (c) presenting the “price” in a “yes/no” dichotomous choice format; and (d) using “budget reminders” to assure that respondents are cognizant of the trade-offs implied in the exercise.

Perhaps the most serious criticism of CV concerns the calibration of the values provided by survey respondents (see, Fox et al. 1998; Blumenschein et al. 2006). Standard agency practice has been to deflate the estimated values by 50 percent, though more recent approaches account for the *level of certainty* of the respondent in providing their stated willingness to pay (see, e.g., Blumenschein et al. 2006). The most recent evidence indicates that using the respondents’ stated certainty that they would actually pay the stipulated price removes any upward bias associated with the hypothetical nature of the exercise.

Despite continuing scholarly debate, contingent valuation is widely regarded as a useful and important method for providing information about public valuations of benefits that cannot be readily measured in other ways. The advantages of contingent valuations are that they can be designed to directly measure the good in question; they can be presented in the form of clear trade-offs to other expenditures of value to the individual; and they can be designed to mirror the kind of market-like purchases that are familiar to most people. Moreover, we have no ready alternatives for measuring public valuations of investments to strengthen energy security and reduce environmental threats that are offered by alternative fuels. For these reasons, we use CV to provide a measure of willingness to pay for investment in energy alternatives to fossil fuels.

Contingent Valuation Questions

We employ the following introduction and series of three CV questions.

Lead-in: The federal government in Washington is now considering a substantial new investment in energy research and development that is intended to reduce US reliance on fossil fuels. The research effort would include different components.

Please rate how important you think it is for the US government to carry out research and development efforts on each of the following using a scale from zero to ten, where zero means not at all important and ten means extremely important. (random order)

- w46: How important is it that the US government carry out research and development of new nuclear reactor designs that are much safer, produce less radioactive waste, and do not produce radioactive materials that can be used to make nuclear bombs?
- w47: How important is it that the US government carry out research and development of methods for improving the production and delivery of crop-based fuels from corn, soybeans, and other plants?
- w48: How important is it that the US government carry out research and development of more efficient electricity generators based on renewable solar, wind, and biomass energy?

In order to determine the value of investments in alternative energy technologies, respondents are randomly assigned to either of two groups, one of which is asked the full series of three questions shown above, which includes R&D of *nuclear energy* technologies. The other group is asked only two of the three questions about investing in research on *crop-based* (w47) and *renewable* (w48) resources. Random assignment of participants to the two groups permits comparing the values placed on alternative energy research with and without the nuclear energy component. Each group is then read the following statement:

Over the next 20 years, it is expected that «**nuclear, crop-based and renewable resources /or/ crop-based and renewable resources**» could replace a substantial portion of fossil fuels used currently in the US. These changes would reduce dependence on unstable sources of oil, while also reducing emissions of greenhouse gasses and other pollutants. While the benefits of

such research and development efforts may take many years to significantly reduce reliance on fossil fuels, the investment in the research must be made much earlier.

The following question provides the contingent valuation setting for evaluating a hypothetical national Energy Research and Development Fund (ERDF). The cost of the ERDF is stipulated to be in the form of fees on fossil fuels that would result in higher prices for consumers. The question is framed as a referendum, and each respondent receives a randomly assigned cost for the ERDF ranging from a low of \$6 per household annually, to a high of \$2,400 annually.³ Respondents also are advised that voting for the ERDF would reduce money available for other expenditures. The wording is as follows:

These kinds of energy research and development would be expensive, requiring new sources of funding. Suppose that a national advisory vote or referendum was held today. You could vote to advise the federal government whether to develop a new National Energy Research and Development Fund from additional fees on fossil energy use. The fees would apply to purchases of electricity and products and services that rely on coal, oil, and natural gas. If you were confident that this new fund would help create new energy sources and reduce US dependence on foreign oil, even if creating this National Energy Research and Development Fund would cost your household **«randomly assigned cost»** per year in increased energy prices for such things as electricity and gasoline, would you vote for or against creating the National Energy Research and Development Fund? Keep in mind that the **«same randomly assigned cost»** per year that you spend on increased energy prices could not be spent on other things, such as other household expenses, charities, groceries, or car payments.

Of our Internet respondents in 2007 who receive the three question set that includes research on new nuclear reactor designs (w46), 71.5 percent indicate support for the ERDF at their stipulated price. Of those who receive the two question set that did not include research on new nuclear reactors, 69.4 percent indicate support at their designated price.

Finally, respondents are asked how certain they are about their willingness to pay the stipulated amount.

³ Actual cost categories are as follows (US \$): 6; 12; 24; 48; 72; 96; 120; 240; 360; 480; 600; 960; 1,200; 1,800; and 2,400.

Asking the same question in another way, suppose that a national advisory vote or referendum was held today, and you could vote to advise the federal government on whether to create a National Energy Research and Development Fund, but the fund would cost your household «**same randomly assigned cost**» per year in increased energy prices. Where would you place yourself on a scale from zero to 100, where zero means you are absolutely certain that you would vote *against* the creation of the Fund, and 100 means you are absolutely certain that you would vote *for* it?

Responses to the initial referendum question are adjusted using each respondent's level of certainty. In order to count as a "yes" vote in the referendum, we require that the respondent report certainty about voting "yes" at 80 percent or higher. Using that adjustment, among Internet respondents in 2007 who receive the three question set that includes research on new nuclear reactor designs, 44.0 percent support the ERDF (at a level of 80 percent or greater certainty) at their stipulated price. Again, using the 80 percent certainty adjustment, of those who receive the two question set that did not include research on new nuclear reactors, 41.5 percent support the ERDF at their designated price. Clearly, including the option for investing in new nuclear reactor designs does *not* serve as a "poison pill" that deters willingness to pay for a national energy research and development fund. In fact, support for the ERDF among respondents who receive the three question set (including nuclear reactor investments) is marginally higher, on average, than support for the ERDF among those who do not see that research option.

Calculating Median Household Willingness to Pay

Following Cameron and James (1987), the distribution of the probability of acceptance (No = 0; Yes = 1) rate, at the differing dollar payment amounts can be used as the basis for estimating a willingness to pay (WTP) function. The model assumes a latent WTP function of the following form:

$$WTP = x_i \beta_i + \sigma e$$

where x is a vector of independent variables, β is a vector of explanatory variables, σ is the scale parameter, and e is a mean zero error term.⁴

⁴ The subscript, i , indicating an individual, is omitted for simplicity.

The willingness to pay function typically controls for a variety of socioeconomic and attitudinal variables, such as income, age, gender, and political ideology. In this instance, we include measures of the degree of importance the respondent attaches to energy (w9) and environmental (w12) issues. We expect that increased importance to either will increase WTP for a national Energy Research and Development Fund.

In using the dichotomous choice (DC) data, we follow the censored threshold approach to directly estimate WTP functions (Cameron and James 1987). Given that WTP responses are not observed directly in the DC format, individuals are considered to say “yes” if their true willingness to pay is greater than or equal to the randomly assigned price or payment amount, A (\$). True WTP then must be inferred through a discrete indicator variable, W (W = 0 for No; W = 1 for Yes). The response probability can be represented as:

$$P(\text{yes}) = P(WTP > t) = 1 - G_w(t)$$

where $G(\cdot)$ is the distribution function. The log-likelihood function is given as:

$$\ln L = \sum W \ln(1 - G_w) + (1 - W) \ln(G_w)$$

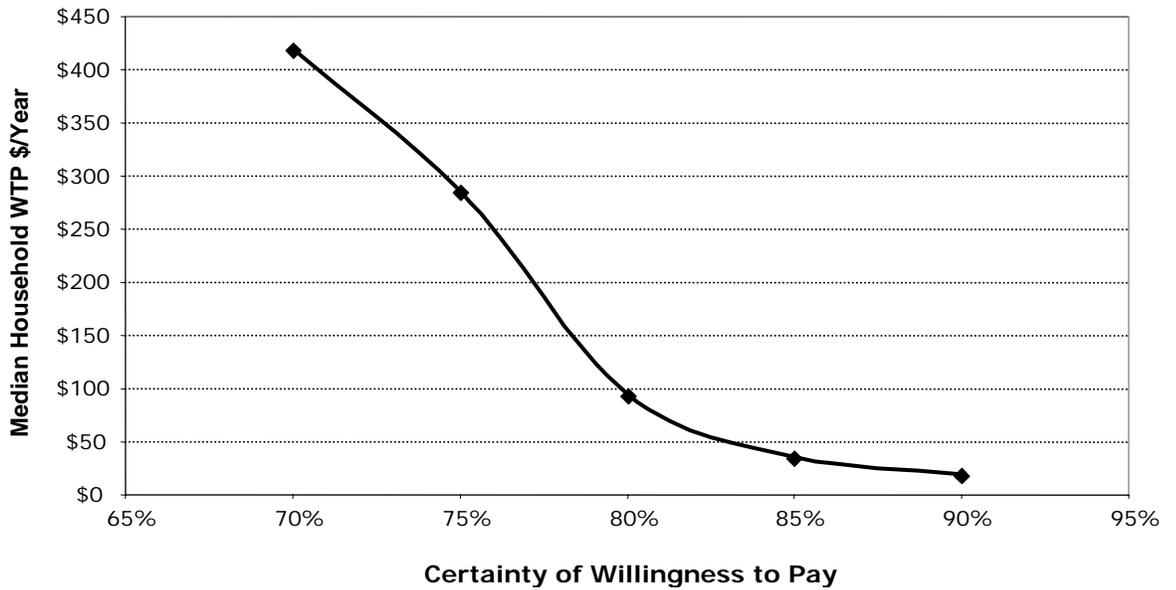
where the summation is over all individuals in the sample. For the WTP function in the standard DC-CV model (Cameron and James 1987), we consider the log-normal distributional assumption for G , which forces WTP to be positive ($WTP > 0$) and provides the median WTP for the sample.

Overall Model Results

The model results are calculated assuming that only those who vote “yes” to the referendum at the 80% certainty level will support the ERDF. The model results are consistent with theoretical expectations in that larger stipulated household costs, lower household incomes, female respondents, and less concern for the environment are all associated with less willingness vote for the ERDF program. The average calculated median annual willingness to pay for the entire sample—including both the nuclear and non-nuclear ERDF options—at the 80 percent certainty cut-off is \$94.48 per year. As expected, the estimated median WTP is sensitive to the threshold level of certainty used to

determine whether the vote should count as a “yes” in the ERDF referendum. As shown in Figure 4.5, when the level of certainty required to register a “yes” vote is varied, the estimated annual WTP ranges from \$419 (at 70 percent certainty) to \$20 (at the 90 percent level of certainty).

Figure 4.5: Willingness to Pay for Energy Research and Development Fund



Effect of Nuclear Research Option on Median Annual Willingness to Pay

As noted above, the research design in the Internet survey was structured to permit a comparison of median WTP for an ERDF that included, or excluded, nuclear energy research in the research and development effort. This element of the design was included because, in the 1990s, nuclear energy research was seen as so unpopular that its inclusion in energy research would diminish public support for the larger energy research effort.⁵ This appears not to be the case in 2007. The effect of including the nuclear energy research option was modest but positive. Estimated annual WTP with the nuclear energy option included is \$107.23; for the non-nuclear en-

⁵ For a snapshot of research funding woes in the mid 1990s, see Malcolm W. Browne, “Budget Cuts Seen by Science Group As Very Harmful for US Research” *New York Times*, August 29, 1995.

ergy options, average annual WTP is estimated to be \$81.67. This difference is consistent with our respondents' perceptions that the benefits of nuclear energy outweigh the risks, and their preference for expanded reliance on nuclear energy over the next 20 years.

Short Answer

Q: What are ordinary citizens willing to pay for research and development of new energy resources?

Using contingent valuation methods, our survey respondents are estimated to be willing to pay an average of about \$82 per year (per household) in the form of higher energy and product prices to fund research on alternatives to fossil fuels. When the options include research on nuclear energy the average annual WTP increases to about \$107 per year (per household).

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Appendix 1

Research Methodology

Section 1: Sampling

For the phone survey, a national sample frame of randomly selected and randomly ordered households having one or more telephones was purchased from Survey Sampling, International (SSI), of Fairfield, Connecticut. The sample frame was drawn from a random digit database, stratified by county, in which each telephone exchange and working block had a probability of selection equal to its share of listed telephone households. This was accomplished as follows. All blocks within a county were organized in ascending order by area code, exchange, and block number. After a proportional quota had been allocated to all counties in the frame, a sampling interval was calculated by summing the number of listed residential numbers in each eligible block within the county and dividing that sum by the number of sampling points assigned to the county. From a random start between zero and the sampling interval, blocks were systematically selected in proportion to their density of listed households. After a block was selected, a two-digit random number in the range 00–99 was appended to the exchange and block to form a ten digit telephone number. Known business numbers were eliminated.

The sample frame was loaded into a computer assisted telephone interviewing system at the Survey Research Center of the University of New Mexico's Institute for Public Policy that selected and dialed the individual numbers. Each household in each sample had an equal chance of being called. Probability sampling was extended within each household by interviewing only the member of the household over the age of 18 with the most recent birthday. Up to ten attempts were made to contact the individual selected for the sample. No substitutions were made.

The Internet sample does not have a precise frame that yields a representative sample of the US general population. Survey Sampling International maintains an Internet panel of people interested in participating in online research. The panel, titled SurveySpot, consists of volunteer members from many sources, including several thousand Web properties, multiple online recruit-

ment methods, and random digit dialing telephone recruitment. SurveySpot members are recruited exclusively using permission-based techniques. Unsolicited email is not employed. The membership of SurveySpot is continuously changing, but at the time of our sample, it consisted of approximately two million households with about five million household members. Only one member in each household can participate in the SurveySpot panel. SSI maintains a subpanel of approximately 400,000 members whose demographics are roughly proportioned to national census characteristics. Our sample was randomly drawn from the 400,000 census balanced subpanel. Each member of the sample received an email invitation to participate in the survey describing the general nature and subject matter of the study. As an incentive to participate, each respondent who completed the survey received a five dollar stipend and was entered into a drawing for a larger cash award.

Table A1.1 compares key national and regional population parameters to the demographic characteristics of survey respondents to the phone and Internet surveys on nuclear security and terrorism.

Table A1.1: Demographic Representativeness of Respondents

Demographic Category	US National Population (%)	Phone 2007 (%)	Internet 2007 (%)
Gender¹			
Men	48.2 ²	42.6	51.2
Women	51.8 ³	57.4	48.8
Age⁴			
18–24	13.1	5.6	14.4
25–49	46.0	38.8	43.3
50+	40.9	55.6	42.3

¹ U.S. Census Bureau 2000a.

² The proportion of men 18 years old and above is used for comparison, because by design we excluded individuals below the age of 18 from participating in our survey.

³ The proportion of women 18 years old and above is used for comparison, because by design we excluded individuals below the age of 18 from participating in our survey.

⁴ U.S. Census Bureau 2000b.

Table A1.1 (cont.): Demographic Representativeness of Respondents

Demographic Category	US National Population (%)	Phone 2007 (%)	Internet 2007 (%)
Education⁵			
H.S. Graduate or Higher	79.7 ⁶	94.1	98.2
Bachelor's or Higher	22.3 ⁷	41.4	44.3
Race / Ethnicity⁸			
White, non-Hispanic	71.2	82.4	85.0
Black	11.8	6.5	5.6
Hispanic (any race)	11.9	4.2	4.1
Am. Indian / AK Native	0.7	2.9	0.8
Asian / Pacific Islander	4.4	1.5	3.5
Other	NA	2.5	1.0
Household Income⁹			
\$0–49,999	53.2	39.2	50.4
\$50,000–99,999	29.5	38.7	36.8
\$100,000 and above	17.2	22.1	12.8
Region¹⁰			
Northeast ¹¹	18.7	18.9	19.1
Midwest ¹²	22.1	27.3	27.8
South ¹³	36.3	32.8	34.1
West ¹⁴	23.0	21.0	19.1

⁵ U.S. Census Bureau 2000c.

⁶ The proportion of the population 18 years of age and above having graduated high school (includes equivalency) or having attained higher levels of education is used for comparison, because by design we excluded individuals below the age of 18 from participating in our survey.

⁷ The proportion of the population 18 years of age and above having a Bachelor's degree or higher is used for comparison, because by design we excluded individuals below the age of 18 from participating in our survey.

⁸ U.S. Census Bureau 2000b.

⁹ U.S. Bureau of Labor Statistics and U.S. Census Bureau 2006.

¹⁰ U.S. Census Bureau 2005. Alaska, Hawaii, Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Palau, Puerto Rico, Midway Islands, and the Virgin Islands are not included in the phone sample frame. Regional population data include only 18 years of age and older.

¹¹ States included in the *Northeast* region included Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

¹² States included in the *Midwest* region included Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

¹³ States included in the *South* region included Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Section 2: Data Collection

For the protection of participants, survey questions and their applications were approved by the Institutional Review Boards of Texas A&M University and the University of New Mexico. The nationwide telephone survey was conducted by the University of New Mexico's Institute for Public Policy (IPP) between March 15 and May 30, 2007. Before data collection began, an extensive review of the survey instrument was conducted by the IPP's senior interviewing staff, survey research center supervisors, and the research design team. During this step the survey was checked for content that might be culturally insensitive or threatening to different socioeconomic or demographic groups. This process reduced the likelihood that the instrument would inadvertently induce respondents from different groups or classes to drop out before completing the survey. Also during this step, the skip patterns used were checked to ensure that the specified research parameters were met. Then a verbal protocol test was conducted with senior interviewers to identify any remaining problematic question wording or computer programming errors.

When the survey instrument was in final form, training was conducted with each of the interviewers and supervisors to ensure they were proficient in the standardized procedures and terminology. This process entailed oral reading of the survey instrument in group training sessions to make sure that proper and consistent emphasis was given to the various words and phrases specified in the survey, and to assure that respondents were interviewed using consistent phrasing, emphasis, and protocols during the data collection process. Data collection did not begin until each interviewer demonstrated thorough competence with the survey instructions and reading aloud the questions.

The interviews were conducted in the IPP Survey Research Center by experienced interviewers using a computer-assisted telephone interviewing system that recorded data in a centralized collection file. Rigorous supervision and quality control measures were applied throughout the data collection process. No interviews were conducted without the presence of a supervisor. A silent monitor was used by supervisors to evaluate individual interviewers and to ensure high quality and continuity in application of the

¹⁴ States included in the *West* region included Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. Alaska and Hawaii are included in the Internet sample, but are excluded from the phone sample.

survey protocols throughout the data collection phase. The quality of the data collected was continually monitored to assure that intended collection standards were maintained. These procedures included daily downloading and analysis of responses, and diagnostics such as the degree of “reluctance” of survey participants, the proportions of collections by region, and standardized recording of verbatim responses where appropriate.

The sample size and random selection procedures provide plus or minus 3.0 percent sampling error. Using calculation formulas in accordance with the American Association for Public Opinion Research guidelines, the cooperation rate was 55.6 percent.¹⁵

Data for the parallel Internet survey on nuclear security and terrorism was collected May 15–30, 2007. The Internet tracking survey on energy security and related environmental issues was conducted May 4–15, 2007. Both Internet surveys were self-administered and data were automatically compiled by SSI and downloaded by the Computer Services Department at the George H. W. Bush School of Government and Public Service, Texas A&M University. Comparable cooperation rates cannot be calculated for the Internet surveys.

¹⁵ The American Association for Public Opinion Research 2004. The formula for calculating the cooperation rate is as follows: Completes / Completes + Partial + Screened Refusals.

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Appendix Two

Nuclear Security and Terrorism Data Summaries

Phone: 15 March–31 May 2007 (*n* = 1,703)

Web: 15–30 May 2007 (*n* = 1,542)

p1_edu What is the highest level of education you have completed?

%	2007 web	2007 phone	2006 web	2005 web	2005 phone
< High school graduate	2	6	1	1	5
High school graduate	17	24	17	15	26
Some college/voca. school	37	28	37	41	29
College graduate	26	23	26	24	25
Some graduate work	6	3	6	7	3
Master's degree	10	13	10	9	9
Doctorate	2	3	3	2	3
Other degree	0	0	0	1	0

p2_age How old are you?

Means

	Means
07 web	45.0
07 phone	51.9
06 web	45.9
05 web	49.4
05 phone	48.7
03 phone	47.6
01 phone	45.0
99 phone	44.0
97 phone	44.3
95 phone	42.2
93 phone	42.3

p3_gend As part of the survey, I am required to ask: are you male or female?

%	Female	Male
07 web	48.8	51.2
07 phone	57.4	42.6
06 web	51.8	48.2
05 web	46.2	53.8
05 phone	58.6	41.4
03 phone	54.8	45.2
01 phone	55.2	44.8
99 phone	55.6	44.4
97 phone	54.6	45.4
95 phone	54.5	45.5
93 phone	50.8	49.2

Now I want to ask you some questions about today's security conditions.

p4_intnow Considering international security as a whole, using a scale from zero to ten, where zero means *not at all secure* and ten means *completely secure*, how do you rate international security today?

%	Not at All Secure										Completely Secure		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	3	2	8	13	12	21	17	15	6	1	1	4.92	
07 phone	4	2	4	9	11	28	15	15	9	2	2	5.19	
06 web	4	2	8	14	15	21	16	15	4	1	1	4.68	
05 web	5	3	8	13	13	23	13	13	6	1	1	4.64	
05 phone	4	1	4	8	10	26	15	18	11	2	2	5.37	

[07 phone vs. 05 phone: p = .0170] [07 web vs. 06 web: p = .0014] [07 phone vs. 07 web: p = .0002]

p5_Usnow Using the scale from zero to ten, where zero means *not at all secure* and ten means *completely secure*, how do you rate the security of the United States today?

%	Not at All Secure										Completely Secure		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	4	2	5	10	11	18	16	18	12	4	1	5.37	
07 phone	4	2	4	7	8	19	13	20	15	5	3	5.70	
06 web	3	4	6	11	12	18	17	16	10	3	0	5.07	
05 web	4	3	5	10	11	18	15	17	12	3	1	5.21	
05 phone	4	1	2	7	7	19	13	21	18	5	4	5.95	

[07 phone vs. 05 phone: p = .0021] [07 web vs. 06 web: p = .0002] [07 phone vs. 07 web: p < .0001]

p6_big Which of the following would you say poses the single, biggest threat to security in the United States today? Is it:

Cause (%)	Web 07	Phone 07	Web 06	Web 05	Phone 05
1. Poverty and economic inequality	9	12	10	10	15
2. Threats to the environment	3	5	2	2	5
3. Religious and political extremism	15	15	15	24	17
4. War between nations	8	8	7	6	5
5. Acts of terrorism	34	29	37	36	34
6. Crime and corruption	9	11	9	14	15
7. Illegal immigration	19	15	16	NA	NA
8. Something else	3	6	4	8	9

Now I want you to consider the different arguments that people make about the effect of the conflict in Iraq on US security.

p7_Iraq Using a scale from one to seven, where one means the ongoing conflict in Iraq is *greatly decreasing* US security and seven means it is *greatly increasing* US security, what kind of effect do you think the conflict in Iraq is having on US security?

%	Greatly Decreasing US Security						Greatly Increasing US Security		Mean
	1	2	3	4	5	6	7		
07 web	3	9	15	24	20	10	9	3.94	
07 phone	17	9	13	14	19	11	17	4.13	
06 web	10	10	18	25	21	8	7	3.90	
05 web	15	9	17	25	18	9	7	3.78	
05 phone	15	9	15	11	20	12	18	4.21	

[07 phone vs. 05 phone: p = .2892] [07 web vs. 06 web: p = .5880] [07 phone vs. 07 web: p = .0045]

The following questions ask you to assess the risk of the US being involved in a nuclear war with different countries in the next ten years. Please consider both the likelihood and potential consequences of such conflicts when evaluating the level of risk on a scale from zero to ten, where zero means *no risk* and ten means *extreme risk*.

p8_China How do you rate the risk of the US being involved in a nuclear war with China in the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	4	9	12	14	10	18	9	10	6	2	5	4.46
07 phone	4	8	12	12	9	14	8	8	6	2	6	4.09
06 web	7	8	15	12	9	16	11	10	5	2	4	4.32
05 web	5	9	15	14	8	17	11	11	5	2	4	4.32
05 phone	13	8	12	13	11	14	7	7	7	1	6	4.09

[07 phone vs. 05 phone: p = .9895] [07 web vs. 06 web: p = .1527] [07 phone vs. 07 web: p = .0185]

p9_Rus How do you rate the risk of the US being involved in a nuclear war with Russia in the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	11	16	17	15	11	14	6	3	2	1	3	3.21
07 phone	24	13	15	13	7	11	4	4	3	1	4	2.98
06 web	14	17	18	16	9	13	6	3	2	1	2	3.02
05 web	16	19	18	15	11	11	4	3	2	0	2	2.76
05 phone	24	14	16	12	9	9	4	3	3	0	5	2.84

[07 phone vs. 05 phone: p = .1738] [07 web vs. 06 web: p = .0228] [07 phone vs. 07 web: p = .0112]

p10_nucter Now I want you to assess the risk of nuclear terrorism. Again, using the same scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of terrorists using nuclear weapons against us, including so-called dirty bombs, within the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	0	1	2	5	7	13	16	19	16	9	11	6.66
07 phone	2	2	3	6	6	14	10	15	16	8	18	6.62
06 web	1	1	3	5	6	12	16	21	18	7	11	6.62
05 web	1	1	3	5	6	13	15	20	16	6	13	6.60
05 phone	2	2	3	6	7	15	10	16	16	7	15	6.46

[07 phone vs. 05 phone: p = .0763] [07 web vs. 06 web: p = .6102] [07 phone vs. 07 web: p = .6288]

p11_chembio On the same scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk that terrorists will use chemical or biological weapons against us within the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	0	1	1	4	5	11	13	20	19	11	14	7.04
07 phone	1	1	3	4	5	13	11	15	17	9	21	7.00
06 web	1	1	2	3	6	9	13	21	21	10	14	7.09
05 web	0	1	2	3	4	12	12	20	20	11	16	7.12
05 phone	2	1	3	5	5	14	9	15	19	9	19	6.90

[07 phone vs. 05 phone: p = .2817] [07 web vs. 06 web: p = .4974] [07 phone vs. 07 web: p = .6524]

Now I want you to consider that eight countries are currently known to possess nuclear weapons. They are the United States, Russia, China, Great Britain, France, India, Pakistan, and Israel.

p12_prolif Using the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk that nuclear weapons will spread to other countries within the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07web	0	1	1	3	5	11	11	17	17	11	24	7.39
07 phone	1	1	3	3	3	11	9	13	20	8	28	7.40
06 web	0	1	1	2	4	10	10	16	18	13	24	7.56
05 web	0	0	1	4	2	10	10	16	18	12	26	7.61
05 phone	1	1	2	4	5	13	9	13	17	10	25	7.21

[07 phone vs. 05 phone: $p = .0362$] [07 web vs. 06 web: $p = .0286$] [07 phone vs. 07 web: $p = .9152$]

p13_NKrisk For this question, I want you to assume that North Korea possesses nuclear weapons. On the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of the US being involved in a nuclear war with North Korea within the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	2	2	6	9	8	17	14	15	11	6	9	5.89
07 phone	7	3	7	8	8	17	11	12	14	4	8	5.40
06 web	2	3	6	9	9	20	16	15	9	5	6	5.54
05 web	2	3	6	8	9	14	13	16	13	8	9	5.99
05 phone	7	4	7	10	9	17	9	12	12	6	8	5.37

[07 phone vs. 05 phone: $p = .7595$] [07 web vs. 06 web: $p < .0001$] [07 phone vs. 07 web: $p < .0001$]

p14_NKprolif Again, assuming that North Korea possesses nuclear weapons and using the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of North Korea providing nuclear weapons or nuclear materials to terrorists?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	1	1	2	4	6	13	10	18	17	10	17	6.92
07 phone	3	2	4	6	5	11	10	14	17	9	20	6.73
06 web	1	1	3	4	6	16	14	17	15	9	14	6.68
05 web	1	1	3	4	4	13	12	16	17	11	19	7.04
05 phone	2	1	4	5	6	14	9	14	17	10	17	6.69

[07 phone vs. 05 phone: $p = .6183$] [07 web vs. 06 web: $p = .0026$] [07 phone vs. 07 web: $p = .0320$]

p15_NKUN On a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how would you feel about using US military forces, as part of a United Nations military coalition, to compel North Korea to abandon its nuclear weapons program if diplomacy and economic sanctions fail to achieve this goal?

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	9	8	11	23	19	12	19	4.49	
07 phone	19	7	9	11	18	10	26	4.37	
06 web	9	9	11	22	21	11	17	4.39	

[07 web vs. 06 web: $p = .1556$] [07 phone vs. 07 web: $p = .1107$]

p16_NKUS Again on a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how would you feel about using US military forces, acting alone if necessary, to compel North Korea to abandon its nuclear weapons program if diplomatic efforts fail and the United Nations declines to take such action?

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	21	14	13	19	14	7	12	3.59	
07 phone	34	12	9	9	12	6	17	3.39	
06 web	24	15	13	18	13	6	10	3.42	

[07 web vs. 06 web: p = .0167] [07 phone vs. 07 web: p = .0085]

p17_IRrsk For this question, assume that Iran possesses nuclear weapons. On the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of the US being involved in a nuclear war with Iran within the next ten years?

%	<u>No Risk</u>										<u>Extreme Risk</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	2	2	6	7	7	16	14	13	14	8	11	6.14	
07 phone	7	5	6	8	8	13	10	14	11	5	14	5.64	
06 web	1	3	4	8	8	13	13	16	13	8	13	6.27	
05 web	3	5	8	9	9	16	14	14	10	5	8	5.46	
05 phone	9	5	9	11	11	15	10	11	8	3	9	4.88	

[07 phone vs. 05 phone: p < .0001] [07 web vs. 06 web: p = .1373] [07 phone vs. 07 web: p < .0001]

p18_IRprolif Again, assuming that Iran possess nuclear weapons and using the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how do you rate the risk of Iran providing nuclear weapons or nuclear materials to terrorists?

%	<u>No Risk</u>										<u>Extreme Risk</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	1	1	1	3	4	10	10	13	15	12	30	7.59	
07 phone	2	2	2	3	4	8	9	12	16	10	32	7.48	
06 web	1	1	2	3	4	8	9	12	17	15	29	7.66	
05 web	1	1	2	4	4	10	10	16	17	12	23	7.25	
05 phone	2	1	2	5	6	11	9	16	16	9	23	6.99	

[07 phone vs. 05 phone: p < .0001] [07 web vs. 06 web: p = .3934] [07 phone vs. 07 web: p = .2026]

p19_IRUN On a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how would you feel about using US military forces, as part of a United Nations military coalition, to compel Iran to abandon its nuclear weapons program if diplomacy and economic sanctions fail to achieve this goal?

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	8	7	10	20	20	13	22	4.67	
07 phone	17	7	8	9	15	14	31	4.62	
06 web	8	6	10	18	21	15	22	4.71	

[07 web vs. 06 web: p = .5310] [07 phone vs. 07 web: p = .4708]

p20_IRUS Again on a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how would you feel about using US military forces, acting alone if necessary, to compel Iran to abandon its nuclear weapons program if diplomatic efforts fail and the United Nations declines to take such action?

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	20	12	13	18	14	9	14	3.77	
07 phone	32	11	9	7	12	9	20	3.62	
06 web	22	14	11	16	14	9	14	3.70	

[07 web vs. 06 web: p = .3556] [07 phone vs. 07 web: p = .0672]

p21_detnuc Now, using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important do you believe US nuclear weapons are for preventing other countries from using nuclear weapons against us today?

%	<u>Not At All Important</u>										<u>Extremely Important</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	2	1	2	4	5	14	9	12	13	10	27	7.12	
07 phone	4	2	4	4	3	12	6	10	13	7	36	7.22	
06 web	3	1	2	5	5	11	9	13	14	9	28	7.13	
05 web	3	1	3	4	5	11	7	10	14	10	33	7.28	
05 phone	5	3	3	4	4	12	6	10	13	7	34	7.03	
03 phone	2	1	3	3	3	10	8	11	18	9	31	7.47	
01 phone	2	1	2	2	5	8	8	12	16	11	33	7.62	
99 phone	1	1	2	3	4	10	7	12	19	11	31	7.66	
97 phone	2	1	2	3	4	11	9	11	18	11	29	7.41	
95 phone	2	1	2	3	3	10	8	13	16	8	34	7.60	

[07 phone vs. 05 phone: p = .0790] [07 web vs. 06 web: p = .9217] [07 phone vs. 07 web: p = .3393]

p22_detprolif On the same scale from zero to ten, how important are US nuclear weapons for preventing other countries from providing nuclear weapons or nuclear materials to terrorists today?

%	<u>Not At All Important</u>										<u>Extremely Important</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	6	3	4	8	6	16	10	12	12	7	16	5.97	
07 phone	7	5	7	7	4	14	7	10	12	4	22	5.97	
06 web	8	4	6	7	7	14	12	12	10	5	16	5.72	
05 web	7	4	6	6	6	14	9	12	11	6	20	6.03	
05 phone	7	6	5	7	6	14	6	11	12	5	22	6.04	

[07 phone vs. 05 phone: p = .5325] [07 web vs. 06 web: p = .0197] [07 phone vs. 07 web: p = .9392]

p23_detch How important are US nuclear weapons for preventing other countries from using chemical or biological weapons against us today?

%	Not At All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	5	3	5	6	6	14	10	14	13	8	17	6.22
07 phone	6	5	6	6	5	13	7	11	13	5	24	6.20
06 web	6	3	5	7	6	13	10	13	11	7	18	6.13
05 web	7	3	6	7	7	12	8	12	11	7	20	6.07
05 phone	7	5	5	6	6	12	6	11	13	6	24	6.20
03 phone	7	4	6	7	6	12	8	10	14	6	21	6.08
01 phone	8	4	7	8	5	11	6	11	12	6	22	6.03
99 phone	5	2	5	6	5	11	9	11	15	9	22	6.57

[07 phone vs. 05 phone: p = .9661] [07 web vs. 06 web: p = .3584] [07 phone vs. 07 web: p = .8168]

p24_USstat How important are nuclear weapons for maintaining US influence and status as a world leader?

%	Not At All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	4	2	3	5	4	13	11	12	14	10	22	6.78
07 phone	5	3	4	5	5	14	7	11	13	7	27	6.71
06 web	4	2	3	4	4	12	10	12	15	8	25	6.88
05 web	5	2	4	5	4	12	7	12	15	10	24	6.76
05 phone	5	4	3	5	5	13	7	11	14	6	28	6.71

[07 phone vs. 05 phone: p = .9925] [07 web vs. 06 web: p = .3298] [07 phone vs. 07 web: p = .4765]

p25_USsup How important are nuclear weapons for maintaining US military superiority?

%	Not At All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	3	2	3	3	4	13	10	12	14	11	25	7.07
07 phone	4	2	4	4	4	11	6	10	14	8	32	7.07
06 web	4	1	2	4	4	11	9	12	14	11	27	7.13
05 web	4	2	3	4	3	10	8	12	15	10	29	7.11
05 phone	4	3	3	4	3	11	7	13	14	7	31	7.05

[07 phone vs. 05 phone: p = .8470] [07 web vs. 06 web: p = .5587] [07 phone vs. 07 web: p = .9871]

Now, using a scale from one to seven where one means you *strongly disagree* and seven means you *strongly agree*, please respond to the following two statements.

p26_feas It is *feasible* to eliminate all nuclear weapons worldwide within the next 25 years.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7		
07 web	25	16	15	15	11	7	11	3.36	
07 phone	37	10	9	7	10	5	23	3.48	
06 web	26	16	14	13	12	7	12	3.36	
05 web	30	15	12	13	11	7	13	3.31	
05 phone	36	11	8	5	10	4	25	3.56	
03 phone	35	10	9	7	9	7	24	3.62	
01 phone	37	10	9	7	10	6	22	3.48	
99 phone	33	10	9	8	12	5	23	3.64	
97 phone	31	11	9	6	11	6	26	3.76	
95 phone	26	9	10	9	13	8	24	3.95	
93 phone	29	14	8	6	11	7	25	3.78	

[07 phone vs. 05 phone: p = .3516] [07 web vs. 06 web: p = .9220] [07 phone vs. 07 web: p = .1380]

p27_desire It is *desirable* to eliminate all nuclear weapons worldwide within the next 25 years.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7		
07 web	5	3	5	12	14	16	45	5.54	
07 phone	13	4	3	3	7	8	61	5.60	
06 web	5	4	5	9	12	17	49	5.63	
05 web	5	4	4	9	11	13	55	5.75	
05 phone	10	3	4	3	7	8	65	5.76	

[07 phone vs. 05 phone: p = .0314] [07 web vs. 06 web: p = .1382] [07 phone vs. 07 web: p = .4259]

p28_retain Using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important is it for the US to retain nuclear weapons today?

%	<u>Not at All Important</u>										<u>Extremely Important</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	2	1	1	4	5	11	8	12	14	10	31	7.41	
07 phone	3	3	3	3	2	12	6	14	10	5	39	7.38	
06 web	3	1	2	3	4	11	8	12	14	9	33	7.45	
05 web	3	1	2	3	3	10	8	11	12	10	38	7.56	
05 phone	4	2	2	3	3	11	7	12	13	6	37	7.33	
03 phone	3	2	2	3	3	11	9	15	14	7	32	7.30	
01 phone	1	1	1	2	3	10	7	17	12	6	39	7.75	
99 phone	2	2	1	3	3	9	9	14	15	7	34	7.50	
97 phone	3	1	2	3	4	14	7	18	13	5	30	7.19	
95 phone	7	0	6	10	0	11	0	18	12	0	36	6.78	
93 phone	6	6	0	11	0	14	20	0	13	0	30	6.59	

[07 phone vs. 05 phone: p = .6635] [07 web vs. 06 web: p = .6430] [07 phone vs. 07 web: p = .7704]

p29_CTBT Using a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about the US participating in a treaty that bans all nuclear test explosions?

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	3	2	4	16	18	20	37	5.55	
07 phone	8	3	3	3	11	11	61	5.84	
03 phone	12	5	8	7	11	12	44	5.14	
01 phone	12	6	9	8	12	12	41	4.99	
99 phone	13	3	5	6	11	13	49	5.34	
97 phone	12	4	5	7	10	11	52	5.39	
95 phone*	6	5	3	15	13	11	46	5.43	

(* 0–10 scale converted to 1–7)

[07 phone vs. 03 phone: $p < .0001$] [07 phone vs. 07 web: $p < .0001$]

Now I want to shift the focus to the US nuclear stockpile. The kinds of weapons in the US nuclear stockpile are large weapons designed during the Cold War to attack hardened targets such as missile silos. However, evolving security threats have led to a debate about whether the mix of US nuclear weapons should be changed. One option is to develop new smaller-yield nuclear weapons.

Those who support the development of smaller-yield nuclear weapons argue that existing weapons are too large, and are not effective in regional conflicts. Supporters also argue that these new small weapons will serve as effective deterrents to other countries seeking to develop nuclear weapons.

Those who oppose development of smaller-yield nuclear weapons argue that these new weapons will encourage other countries to develop new nuclear weapons, or those without them will attempt to acquire such weapons. Opponents also argue that these new small weapons are more likely to be used in combat, which could increase the chance of widespread nuclear war.

[NOTE: The order of the pro and con arguments in the above lead-in was rotated so that approximately one-half of respondents heard the “con” argument first, and approximately one-half heard the “pro” argument first.]

With these arguments in mind, please tell me how you feel about each of the following using a scale from one to seven, where one means you *strongly disagree* with the statement and seven means you *strongly agree* with it.

p30_smallnuc1 New, smaller-yield US nuclear weapons would increase the danger of widespread nuclear war.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7		
07 web	4	5	9	24	22	17	18	4.79	
06 web	5	5	8	22	20	20	20	4.86	
05 web	8	7	8	20	19	16	22	4.70	
05 phone	15	6	8	8	13	13	37	4.84	

[web 07 vs. web 06: $p = .2380$]

p31_smallnuc2 New, smaller-yield US nuclear weapons would stimulate a new nuclear arms race.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	7	8	11	22	20	16	17	4.57
06 web	6	7	11	23	19	18	17	4.62
05 web	10	9	9	21	18	15	18	4.45
05 phone	11	6	8	8	14	13	41	5.10

[web 07 vs. web 06: p = .4314]

p32_smallnuc3 New, smaller-yield nuclear weapons would increase the capability of the US military to destroy deeply buried targets, such as command bunkers and facilities associated with weapons of mass destruction.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	5	6	10	24	21	17	17	4.69
06 web	3	6	10	22	22	18	19	4.84
05 web	6	9	9	21	19	15	20	4.64
05 phone	19	6	10	8	14	14	30	4.53

[web 07 vs. web 06: p = .0079]

p33_smallnuc4 New, smaller-yield US nuclear weapons would increase our ability to deter terrorists from using weapons of mass destruction against us; these include nuclear, chemical, or biological weapons.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	10	10	12	23	18	13	13	4.19
06 web	11	11	11	23	18	14	13	4.18
05 web	16	12	10	20	15	12	16	4.06
05 phone	30	10	10	10	12	8	21	3.72

[web 07 vs. web 06: p = .9069]

p34_newnuc On a scale from one to seven where one means the US *definitely should not* develop new smaller-yield nuclear weapons, and seven means the US *definitely should* develop such weapons, what is your view?

%	<u>Definitely Should Not</u>						<u>Definitely Should</u>	Mean
	1	2	3	4	5	6	7	
07 web	11	8	10	25	19	13	14	4.27
06 web	10	8	10	25	21	11	15	4.32
05 web	13	8	8	22	20	12	17	4.30
05 phone	32	7	9	10	12	8	22	3.75

[web 07 vs. web 06: p = .4004]

Now, consider that the US has not conducted a nuclear test explosion since 1992, but if we develop new smaller-yield nuclear weapons, a limited number of underground nuclear tests might be required.

p35_newtest Using a scale from one to seven, where one means the US *definitely should not* develop new smaller-yield nuclear weapons if underground nuclear tests are required, and seven means the US *definitely should*, what is your view?

%	Definitely Should Not						Definitely Should	Mean
	1	2	3	4	5	6	7	
07 web	16	10	12	23	18	9	11	3.86
06 web	17	10	13	22	17	8	14	3.89
05 web	20	11	10	20	14	9	15	3.84
05 phone	40	9	10	8	10	6	17	3.26

[web 07 vs. web 06: p = .7272]

Turning to another issue, at the peak of the Cold war, the United States and Russia maintained stockpiles with tens of thousands of nuclear weapons. However, since the end of the Cold War the US and Russia have been decreasing the size of their nuclear stockpiles and are working toward an agreed level of between 1,700 and 2,200 nuclear weapons in each country. China has not made any agreements with the US about nuclear weapons and is currently modernizing its nuclear forces.

With this in mind, please respond to each of the following using a scale from one to seven, where one means you *strongly disagree* and seven means you *strongly agree*.

p36_stockpile1 The US should reduce the number of operational nuclear weapons in its stockpile to between 1,700 and 2,200, as agreed with Russia, regardless of what China is doing.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	10	10	12	25	17	13	12	4.15
07 phone	19	8	9	8	13	9	34	4.52
06 web	10	10	11	23	17	15	14	4.29
05 web	13	10	12	19	16	12	18	4.22
05 phone	18	8	8	10	14	12	31	4.53

[07 phone vs. 05 phone: p = .8769] [07 web vs. 06 web: p = .0308] [07 phone vs. 07 web: p < .0001]

p37_stockpile2 The US should make decisions about its nuclear weapons stockpile based on actions taken by both Russia and China.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	8	6	10	24	20	14	18	4.57
07 phone	13	5	6	8	15	13	40	5.07
06 web	8	7	10	20	18	17	20	4.66
05 web	11	7	8	19	18	15	23	4.60
05 phone	17	5	8	9	15	13	34	4.75

[07 phone vs. 05 phone: p = .0001] [07 web vs. 06 web: p = .2127] [07 phone vs. 07 web: p < .0001]

p38_stockpile3 The US should modernize its nuclear stockpile by designing new nuclear weapons that meet the requirements of the new security environment regardless of what Russia and China are doing.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	8	9	10	24	20	14	16	4.42
07 phone	16	7	7	10	15	11	35	4.75
06 web	8	8	10	22	18	15	19	4.56
05 web	10	8	8	20	18	13	22	4.55
05 phone	22	8	8	9	15	10	29	4.32

[07 phone vs. 05 phone: $p < .0001$] [07 web vs. 06 web: $p = .0232$] [07 phone vs. 07 web: $p = < .0001$]

p39_stockpile4 The US should reduce its nuclear weapons below 1,700 in the hope that Russia and China will make similar reductions in their nuclear weapons.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	22	15	14	22	13	7	7	3.38
07 phone	34	11	8	7	10	7	22	3.56
06 web	23	16	12	21	12	7	8	3.37
05 web	28	16	12	18	9	7	10	3.21
05 phone	30	10	9	8	11	8	24	3.80

[07 phone vs. 05 phone: $p = .0105$] [07 web vs. 06 web: $p = .9228$] [07 phone vs. 07 web: $p = .0159$]

Next we want your views about investment priorities. Please indicate how you think government spending should change for each of the following using a scale from one to seven, where one means spending should *substantially decrease* and seven means spending should *substantially increase*.

p40_spend1 How should government spending change for developing and testing new nuclear weapons?

%	<u>Substantially Decrease</u>					<u>Substantially Increase</u>		Mean
	1	2	3	4	5	6	7	
07 web	10	9	15	36	18	6	5	3.83
07 phone	18	11	15	16	20	6	14	3.81
06 web	8	9	14	33	22	8	7	4.06
05 web	11	9	16	31	19	7	7	3.86
05 phone	24	13	15	15	16	6	11	3.45
03 phone	19	13	21	19	16	6	7	3.42
01 phone	13	13	19	19	19	6	11	3.79
99 phone	18	14	19	19	18	5	7	3.45
97 phone	25	16	20	15	13	3	7	3.13
95 phone	44	14	14	10	9	2	7	2.61
93 phone	40	16	12	9	11	3	8	2.77

[07 phone vs. 05 phone: $p < .0001$] [07 web vs. 06 web: $p < .0001$] [07 phone vs. 07 web: $p = .7401$]

p41_spend2 How should government spending change for preventing weapons of mass destruction from entering through US ports?

%	Substantially Decrease						Substantially Increase	Mean
	1	2	3	4	5	6	7	
07 web	1	2	4	20	20	21	32	5.47
07 phone	5	2	5	7	13	15	54	5.83
06 web	1	1	3	16	20	27	33	5.65
05 web	2	2	3	16	20	23	35	5.60
05 phone	5	2	5	8	14	17	50	5.73

[07 phone vs. 05 phone: p = .1260] [07 web vs. 06 web: p = .0002] [07 phone vs. 07 web: p < .0001]

p42_spend3 How should government spending change for maintaining the ability to develop and improve US nuclear weapons in the future?

%	Substantially Decrease						Substantially Increase	Mean
	1	2	3	4	5	6	7	
07 web	6	8	12	37	20	9	8	4.16
07 phone	13	9	14	17	22	8	17	4.19
06 web	5	6	12	32	25	11	9	4.33
05 web	8	7	14	33	19	9	10	4.15
05 phone	17	10	17	15	18	8	16	3.94
03 phone	13	8	11	14	19	15	21	4.47
01 phone	7	7	8	10	21	14	32	5.02
99 phone	10	7	9	13	20	13	28	4.78
97 phone	13	9	12	13	19	10	24	4.45
95 phone	23	8	11	12	16	8	22	4.00
93 phone	23	12	16	12	14	8	16	3.68

[07 phone vs. 05 phone: p = .0010] [07 web vs. 06 web: p = .0020] [07 phone vs. 07 web: p = .6217]

p43_spend4 How should government spending change for improving US border security?

%	Substantially Decrease						Substantially Increase	Mean
	1	2	3	4	5	6	7	
07 web	1	2	5	18	20	20	34	5.47
07 phone	5	3	7	8	15	13	49	5.58
06 web	1	2	4	16	18	25	33	5.57
05 web	1	1	4	15	18	20	40	5.68
05 phone	4	3	5	9	16	17	47	5.68

[07 phone vs. 05 phone: p = .1333] [07 web vs. 06 web: p = .0365] [07 phone vs. 07 web: p = .0714]

p44_spend5 How should government spending change for improving our capabilities for responding to large-scale acts of terrorism in the US?

%	Substantially Decrease						Substantially Increase	Mean
	1	2	3	4	5	6	7	
07 web	2	1	6	21	24	22	24	5.28
07 phone	3	2	6	9	17	16	47	5.70
06 web	1	1	3	18	23	27	27	5.49
05 web	2	2	5	20	24	21	27	5.32
05 phone	4	3	6	12	19	14	41	5.48

[07 phone vs. 05 phone: p = .0004] [07 web vs. 06 web: p < .0001] [07 phone vs. 07 web: p < .0001]

p45_spend6 How should government spending change for helping Russia secure its nuclear weapons and materials?

%	Substantially Decrease					Substantially Increase		Mean
	1	2	3	4	5	6	7	
07 web	8	9	17	35	18	6	6	3.88
07 phone	19	12	13	17	17	6	15	3.81
06 web	9	9	13	34	20	7	7	3.98
05 web	11	11	14	30	19	7	8	3.89
05 phone	21	12	14	15	18	8	13	3.74

[07 phone vs. 05 phone: p = .3917] [07 web vs. 06 web: p = .0812] [07 phone vs. 07 web: p = .2649]

p46_spend7 How should government spending change for research and development that helps Russia reduce its nuclear stockpile more quickly and safely?

%	Substantially Decrease					Substantially Increase		Mean
	1	2	3	4	5	6	7	
07 web	5	7	14	36	23	9	7	4.17
07 phone	11	8	12	18	20	10	20	4.40
06 web	5	5	13	33	25	12	8	4.35
05 web	6	7	13	31	22	11	10	4.27
05 phone	12	8	14	15	21	11	20	4.40

[07 phone vs. 05 phone: p = .9212] [07 web vs. 06 web: p = .0006] [07 phone vs. 07 web: p = .0002]

Now lets focus more specifically on the issue of terrorism.

p47_terror Considering both foreign and domestic sources of terrorism, and both the likelihood of terrorism and its potential consequences, how do you rate today's threat from all kinds of terrorism in the US on a scale from zero to ten, where zero means *no threat* and ten means *extreme threat*?

%	No Threat					Extreme Threat						Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	0	1	2	4	11	13	21	21	11	15	7.20
07 phone	1	1	2	5	4	14	12	18	20	5	18	6.87
06 web	0	1	1	3	4	9	13	22	20	12	16	7.30
03 phone	1	1	3	4	4	10	10	15	22	8	21	7.20
01 phone	1	0	1	2	1	4	4	11	14	10	51	8.57
97 phone	1	2	4	8	7	17	12	15	13	5	16	6.34

[07 phone vs. 03 phone: p < .0001] [07 web vs. 06 web: p = .1656] [07 phone vs. 07 web: p < .0001]

p48_winwot Using a scale from zero to ten, where zero means *not at all confident* and ten means *extremely confident*, how confident are you that we will eventually win the war on terrorism?

%	Not At All Confident					Extremely Confident						Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	13	5	9	11	9	14	10	11	8	4	6	4.56
07 phone	10	7	9	9	7	20	9	9	9	3	8	4.78
06 web	13	5	9	11	7	14	10	11	9	4	7	4.70
05 web	15	5	10	9	7	11	9	13	10	5	7	4.71
05 phone	10	9	9	8	7	15	8	12	9	4	10	4.85
03 phone	7	5	7	7	8	17	10	11	11	5	12	5.49

[07 phone vs. 05 phone: p = .5238] [07 web vs. 06 web: p = .1934] [07 phone vs. 07 web: p = .0410]

The terrorist attacks in New York and Washington, DC on September 11, 2001 have raised questions about what can be done to stop terrorism in the US. Using a scale from one to seven, where one means *strongly disagree* and seven means *strongly agree*, please respond to the following statements:

p49_stopter1 There is nothing the government can do to stop determined terrorists.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	15	14	13	15	19	12	11	3.90
07 phone	28	14	10	7	15	9	17	3.64
06 web	18	14	14	12	18	13	10	3.80
05 web	18	15	10	12	17	14	13	3.91
05 phone	28	12	8	8	15	11	18	3.75
03 phone	26	14	11	7	13	13	16	3.70
01 phone	41	12	7	5	9	9	16	3.22
95 phone	31	11	10	6	13	8	20	3.65

[07 phone vs. 05 phone: p = .1783] [07 web vs. 06 web: p = .1447] [07 phone vs. 07 web: p = .0006]

p50_stopter2 The government could stop terrorists, but only with unacceptable intrusions on people's rights and privacy.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	14	12	13	22	18	10	10	3.88
07 phone	24	12	11	9	16	10	18	3.83
06 web	16	14	14	19	16	12	9	3.77
05 web	17	12	12	19	15	12	13	3.90
05 phone	22	11	10	8	15	12	21	4.05
03 phone	21	12	14	7	14	12	21	4.02
01 phone	20	11	12	9	15	11	21	4.07
95 phone	16	10	8	9	17	12	28	4.48

[07 phone vs. 05 phone: p = .0096] [07 web vs. 06 web: p = .1067] [07 phone vs. 07 web: p = .4790]

p51_stopter3 The government must try to stop terrorists, even if it intrudes on some people's rights and privacy.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	11	7	9	18	17	17	21	4.60
07 phone	17	10	10	9	14	12	29	4.45
06 web	11	9	10	15	15	17	24	4.58
05 web	15	9	8	15	16	14	24	4.43
05 phone	17	9	8	10	14	13	29	4.50
03 phone	16	8	9	10	14	12	30	4.55
01 phone	8	4	6	7	13	16	47	5.49
95 phone	10	5	8	8	17	15	38	5.12

[07 phone vs. 05 phone: p = .5458] [07 web vs. 06 web: p = .8347] [07 phone vs. 07 web: p = .0495]

Increasing security for Americans sometimes requires reducing liberties, and finding the right mix of security and liberty is a matter for public debate.

p52_marb1 For this question, assume that *black* marbles represent the level of emphasis placed on the *security* of Americans and *white* marbles represent the level of emphasis placed on *liberties* of Americans. How many of each color would you place in a total combined mix of 100 marbles?

%	Black (Security)	White (Liberties)
07 web	46.8	53.2
07 phone	47.9	52.0
06 web	46.4	53.6

[07 web vs. 06 web: (black) p = .6283; (white) p = .6089] [07 phone vs. 07 web (black): p = .1216; (white) p = 1004]

p53_marb2 Again, using the marbles example where *black* marbles represent the level of emphasis placed on the *security* of Americans, and *white* marbles represent the level of emphasis placed on *liberties* of Americans, how many of each color do you think represents the way the US government is balancing considerations of security and liberties today?

%	Black (Security)	White (Liberties)
07 web	50.1	49.9
07 phone	54.3	45.7

[07 phone vs. 07 web: (black) p < .0001; (white) p < .0001]

Using a scale where one means *strongly oppose* and seven means *strongly support*, how would you feel about the following measures for preventing terrorism in the US?

p54_intrude1 Requiring national identification cards for all US citizens.

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	9	5	6	16	15	15	33	5.00	
07 phone	17	6	5	6	10	10	45	4.97	
06 web	10	5	5	14	15	17	34	5.05	
05 web	15	6	6	13	13	14	34	4.80	
05 phone	19	6	7	6	11	10	41	4.78	
03 phone	24	7	5	7	11	11	34	4.46	
01 phone	14	7	6	7	13	11	43	5.04	
95 phone	27	6	7	8	13	7	32	4.23	

[07 phone vs. 05 phone: p = .0369] [07 web vs. 06 web: p = .4421] [07 phone vs. 07 web: p = .7477]

p55_intrude2 Restricting immigration into the US to prevent terrorism.

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	4	5	6	13	14	16	42	5.43	
07 phone	10	6	6	8	13	14	43	5.19	
06 web	4	4	8	13	12	17	42	5.43	
05 web	6	4	6	12	13	16	43	5.43	
05 phone	10	6	9	7	13	14	42	5.18	
03 phone	12	6	8	8	13	13	40	5.03	
01 phone	8	5	7	8	14	12	45	5.33	

[07 phone vs. 05 phone: p = .8991] [07 web vs. 06 web: p = .9361] [07 phone vs. 07 web: p = .0007]

p56_intrude3 Permitting government officials to hold and interrogate suspected terrorists within the US for a period of one year without charging the suspects with a crime.

%	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7	
07 web	17	11	11	18	14	11	18	4.08
07 phone	27	10	9	8	13	9	25	3.94
06 web	15	10	10	18	14	12	21	4.28
05 web	21	10	9	15	12	11	22	4.06
05 phone	28	11	9	8	12	8	24	3.83

[07 phone vs. 05 phone: p = .2354] [07 web vs. 06 web: p = .0095] [07 phone vs. 07 web: p = .0878]

p57_intrude4 Permitting government officials to monitor the phone conversations of American citizens who are suspected of involvement in terrorism without requiring a warrant from a court of law.

%	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7	
07 web	16	8	10	16	13	13	24	4.37
06 web	17	8	8	14	14	14	26	4.48

[07 web vs. 06 web: p = .1672]

Responding to terrorist attacks against the US poses difficult choices involving a range of options. If our government determines to a high degree of certainty that another country actively supported acts of terrorism in the US by providing personnel or training for terrorists, and it resulted in <randomly insert one of three following options> deaths, please tell me if you would support the following responses by the US. Use a scale from one to seven, where one means you *strongly oppose* such actions and seven means you *strongly support* them.

- a. 10 b. 1,000 c. 10,000

p58_dip First, how do you feel about applying strong diplomatic and political pressures against that country?

	Deaths	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
		1	2	3	4	5	6	7	
07 web	10	2	1	4	16	18	15	44	5.69
07 phone	10	5	1	2	3	10	11	69	6.20
06 web	10	0	1	2	10	17	20	51	6.04
05 web	10	2	2	1	8	11	18	59	6.12
05 phone	10	4	2	3	3	7	14	67	6.17
[07 phone vs. 05 phone: p = .8069] [07 web vs. 06 web: p < .0001] [07 phone vs. 07 web: p < .0001]									
07 web	1,000	1	1	3	15	15	19	46	5.83
07 phone	1,000	4	1	2	3	6	10	73	6.27
06 web	1,000	2	1	2	12	15	16	52	5.94
05 web	1,000	1	0	1	7	12	14	65	6.31
05 phone	1,000	5	2	2	3	7	9	73	6.25
[07 phone vs. 05 phone: p = .8294] [07 web vs. 06 web: p = .1929] [07 phone vs. 07 web: p < .0001]									
07 web	10,000	2	1	3	12	14	17	52	5.93
07 phone	10,000	5	2	2	3	7	10	71	6.19
06 web	10,000	2	1	2	15	13	20	48	5.89
05 web	10,000	2	0	3	9	12	13	62	6.15
05 phone	10,000	4	2	3	3	8	10	70	6.20

[07 phone vs. 05 phone: p = .9439] [07 web vs. 06 web: p = .6249] [07 phone vs. 07 web: p = .0107]

p59_econ How do you feel about applying strong economic and trade sanctions against that country?

	Deaths	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
		1	2	3	4	5	6	7	
07 web	10	2	1	4	12	16	17	48	5.85
07 phone	10	5	2	4	4	12	12	60	5.95
06 web	10	1	1	3	8	17	19	51	6.03
05 web	10	2	1	2	8	12	17	58	6.12
05 phone	10	4	3	3	5	11	13	60	5.96
[07 phone vs. 05 phone: p = .9774] [07 web vs. 06 web: p = .0241] [07 phone vs. 07 web: p = .2935]									
07 web	1,000	1	1	3	13	15	17	50	5.92
07 phone	1,000	4	2	2	4	8	12	68	6.16
06 web	1,000	1	1	1	9	18	17	53	6.02
05 web	1,000	1	1	0	6	11	15	66	6.35
05 phone	1,000	3	2	2	6	8	12	68	6.18
[07 phone vs. 05 phone: p = .8947] [07 web vs. 06 web: p = .2159] [07 phone vs. 07 web: p = .0082]									
07 web	10,000	1	1	3	11	14	17	53	5.98
07 phone	10,000	5	2	3	3	9	9	69	6.11
06 web	10,000	2	1	1	11	16	21	48	5.97
05 web	10,000	2	1	1	7	11	18	60	6.21
05 phone	10,000	4	3	4	2	11	12	64	6.06
[07 phone vs. 05 phone: p = .6219] [07 web vs. 06 web: p = .8275] [07 phone vs. 07 web: p = .1868]									

p60_bomb How do you feel about conducting air strikes against that country using conventionally armed weapons, such as bombs and cruise missiles?

	Deaths	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
		1	2	3	4	5	6	7	
07 web	10	11	10	11	25	17	10	17	4.23
07 phone	10	23	10	12	11	16	6	21	3.91
06 web	10	9	8	12	20	20	9	21	4.48
05 web	10	13	6	10	18	17	9	28	4.58
05 phone	10	23	9	11	14	15	4	23	3.94
[07 phone vs. 05 phone: p = .8212] [07 web vs. 06 web: p = .0298] [07 phone vs. 07 web: p = .0144]									
07 web	1,000	8	10	11	19	21	11	20	4.50
07 phone	1,000	17	10	10	10	15	9	29	4.41
06 web	1,000	9	8	13	18	18	10	25	4.55
05 web	1,000	10	6	8	16	22	10	28	4.74
05 phone	1,000	18	11	10	12	15	6	29	4.29
[07 phone vs. 05 phone: p = .4339] [07 web vs. 06 web: p = .6295] [07 phone vs. 07 web: p = .4927]									
07 web	10,000	9	7	11	23	16	10	24	4.55
07 phone	10,000	14	8	9	12	18	7	32	4.61
06 web	10,000	8	9	12	21	19	9	22	4.49
05 web	10,000	10	5	10	20	15	13	28	4.77
05 phone	10,000	12	12	8	11	14	8	35	4.70
[07 phone vs. 05 phone: p = .5289] [07 web vs. 06 web: p = .5833] [07 phone vs. 07 web: p = .6848]									

p61_inva How do you feel about using US military forces to invade that country?

	Deaths	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
		1	2	3	4	5	6	7	
07 web	10	18	13	16	22	13	8	11	3.62
07 phone	10	32	11	11	12	13	5	16	3.41
06 web	10	17	12	12	20	18	11	10	3.83
05 web	10	20	10	13	18	15	8	17	3.88
05 phone	10	31	13	11	10	14	5	16	3.43
[07 phone vs. 05 phone: p = .9087] [07 web vs. 06 web: p = .0734] [07 phone vs. 07 web: p = .1083]									
07 web	1,000	16	11	14	19	19	8	12	3.89
07 phone	1,000	28	12	7	11	13	9	19	3.72
06 web	1,000	17	9	14	19	15	10	16	4.00
05 web	1,000	16	10	10	21	18	7	18	4.10
05 phone	1,000	26	13	9	11	15	6	21	3.78
[07 phone vs. 05 phone: p = .6950] [07 web vs. 06 web: p = .3638] [07 phone vs. 07 web: p = .1940]									
07 web	10,000	17	12	15	20	14	7	16	3.85
07 phone	10,000	20	13	13	13	14	6	21	3.90
06 web	10,000	13	12	12	24	18	7	14	3.96
05 web	10,000	14	8	13	18	16	12	18	4.25
05 phone	10,000	20	12	10	8	18	7	25	4.12
[07 phone vs. 05 phone: p = .1537] [07 web vs. 06 web: p = .3738] [07 phone vs. 07 web: p = .7236]									

p62_nuke How do you feel about attacking that country using US *nuclear* weapons?

	Deaths	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
		1	2	3	4	5	6	7	
07 web	10	41	15	12	14	9	3	6	2.67
07 phone	10	62	13	8	5	4	2	7	2.09
06 web	10	42	15	11	13	10	3	6	2.68
05 web	10	42	16	10	13	8	4	8	2.69
05 phone	10	63	13	8	6	3	1	7	2.05
[07 phone vs. 05 phone: p = .7602] [07 web vs. 06 web: p = .8971] [07 phone vs. 07 web: p < .0001]									
07 web	1,000	37	17	11	15	9	4	8	2.85
07 phone	1,000	55	11	8	8	6	3	10	2.45
06 web	1,000	38	15	12	16	7	4	8	2.83
05 web	1,000	38	16	10	16	10	3	7	2.82
05 phone	1,000	55	11	10	8	6	2	8	2.35
[07 phone vs. 05 phone: p = .4716] [07 web vs. 06 web: p = .8736] [07 phone vs. 07 web: p = .0012]									
07 web	10,000	35	14	12	19	8	4	9	2.99
07 phone	10,000	55	14	5	7	7	3	10	2.44
06 web	10,000	36	14	14	14	10	3	10	2.96
05 web	10,000	39	16	11	15	8	4	8	2.79
05 phone	10,000	51	12	8	9	7	3	10	2.59
[07 phone vs. 05 phone: p = .2882] [07 web vs. 06 web: p = .8066] [07 phone vs. 07 web: p < .0001]									

p63_WOT Now, on a scale from zero to ten, where zero means *not at all effective* and ten means *extremely effective*, how effective, overall, do you believe US efforts in the war on terrorism have been thus far?

%	Not At All Effective										Extremely Effective		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	9	5	12	13	11	15	13	12	7	1	2	4.42	
07 phone	7	6	7	10	10	18	14	14	9	2	4	4.87	
06 web	8	6	9	11	10	14	15	15	8	2	3	4.65	
05 web	9	5	9	12	8	15	13	14	9	3	4	4.73	
05 phone	5	5	7	9	10	18	13	15	11	2	4	5.05	
03 phone	3	3	5	8	9	18	14	18	12	3	6	5.60	

[07 phone vs. 05 phone: $p = .0814$] [07 web vs. 06 web: $p = .0116$] [07 phone vs. 07 web: $p < .0001$]

p64_borders1 How effective have efforts been to improve security at US borders?

%	Not At All Effective										Extremely Effective		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	12	8	11	12	11	17	12	10	5	1	2	4.00	
07 phone	7	10	13	14	14	18	9	8	4	1	3	3.98	
06 web	16	9	12	13	11	15	11	7	4	1	1	3.53	
05 web	15	10	12	12	9	15	11	8	5	2	1	3.71	
05 phone	7	10	12	14	12	17	11	8	6	1	3	4.09	

[07 phone vs. 05 phone: $p = .2868$] [07 web vs. 06 web: $p < .0001$] [07 phone vs. 07 web: $p = .8180$]

p65_borders2 How effective have efforts been to improve security at US seaports and harbors?

%	Not At All Effective										Extremely Effective		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	8	6	9	10	9	19	14	14	7	2	2	4.69	
07 phone	7	9	11	12	12	18	11	9	6	1	4	4.34	
06 web	9	8	10	11	10	18	14	10	5	2	2	4.22	
05 web	10	8	11	11	10	17	12	11	7	2	2	4.27	
05 phone	5	9	10	13	11	20	13	11	5	1	3	4.46	

[07 phone vs. 05 phone: $p = .2303$] [07 web vs. 06 web: $p < .0001$] [07 phone vs. 07 web: $p = .0003$]

p66_borders3 How effective have efforts been to improve security at US airports?

%	Not At All Effective										Extremely Effective		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	3	2	5	5	8	14	14	19	16	8	6	6.02	
07 phone	2	2	4	8	7	15	15	17	16	6	8	6.02	
06 web	3	3	5	7	9	15	14	18	16	7	3	5.72	
05 web	5	5	6	8	8	13	15	17	13	6	4	5.46	
05 phone	2	4	6	8	9	15	13	18	14	5	7	5.77	
03 phone	4	3	6	8	10	22	13	16	10	2	5	5.40	

[07 phone vs. 05 phone: $p = .0083$] [07 web vs. 06 web: $p = .0004$] [07 phone vs. 07 web: $p = .9778$]

On a scale from zero to ten, where zero means *not at all confident* and ten means *completely confident*, how confident are you that the US can achieve each of the following in the next ten years?

p67_USlarge How confident are you that the US can prevent large-scale terrorist attacks that injure or kill thousands of people from occurring in the US in the next ten years?

%	Not At All Confident										Completely Confident	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	9	5	8	12	9	19	13	14	8	2	3	4.71
07 phone	4	4	6	8	10	19	14	15	10	3	6	5.28
06 web	8	5	8	13	9	18	13	13	7	2	3	4.63
05 web	13	4	10	11	9	13	12	14	9	3	3	4.53
05 phone	5	6	5	9	10	18	11	15	12	3	6	5.26

[07 phone vs. 05 phone: p = .7987] [07 web vs. 06 web: p = .3745] [07 phone vs. 07 web: p < .0001]

p68_USsmall How confident are you that the US can prevent small-scale terrorist attacks that injure or kill a few people from occurring in the US in the next ten years?

%	Not At All Confident										Completely Confident	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	13	6	9	12	9	16	11	11	7	3	3	4.33
07 phone	6	8	10	12	11	18	10	11	6	2	6	4.57
06 web	15	7	10	12	10	14	10	9	7	3	3	4.08
05 web	18	7	10	10	9	14	8	10	8	3	3	4.04
05 phone	10	11	9	12	10	16	8	10	7	3	5	4.27

[07 phone vs. 05 phone: p = .0042] [07 web vs. 06 web: p = .0138] [07 phone vs. 07 web: p = .0132]

p69_water How confident are you that the US can prevent terrorist attacks that destroy critical US infrastructures, like water and power plants in the next ten years?

%	Not At All Confident										Completely Confident	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	9	4	8	12	12	18	12	12	9	3	2	4.68
07 phone	5	6	7	9	12	20	13	13	9	2	5	5.00
06 web	10	5	9	12	11	16	13	12	7	2	3	4.46
05 web	14	5	10	11	10	15	10	12	8	3	2	4.33
05 phone	6	6	8	11	11	20	12	11	9	2	4	4.80

[07 phone vs. 05 phone: p = .0406] [07 web vs. 06 web: p = .0212] [07 phone vs. 07 web: p = .0005]

Efforts to prevent terrorism are causing debate about whether we should limit privacy and personal liberties in an effort to improve national security.

On a scale from one to seven where one means *strongly oppose* and seven means *strongly support*, how do you feel about the government taking the following measures in an effort to help prevent terrorism?

p70_bigbro1 Collecting personal information about you, such as your name, address, phone number, income, and social security number.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	18	10	11	21	17	11	13	3.93
07 phone	27	9	7	9	14	11	23	3.98
06 web	20	11	11	17	15	12	14	3.89
05 web	24	11	9	17	14	10	14	3.75
05 phone	29	8	8	8	14	9	23	3.89

[07 phone vs. 05 phone: p = .3307] [07 web vs. 06 web: p = .5809] [07 phone vs. 07 web: p = .5658]

p71_bigbro2 Collecting information about your behavior, such as where you shop, what you buy, what organizations you belong to, and where you travel.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	27	14	12	18	14	7	9	3.32
07 phone	42	11	9	9	10	6	13	3.04
06 web	30	14	12	16	12	7	8	3.19
05 web	38	14	11	14	11	5	7	2.88
05 phone	45	12	9	7	11	5	11	2.86

[07 phone vs. 05 phone: p = .0323] [07 web vs. 06 web: p = .0707] [07 phone vs. 07 web: p = .0623]

p72_bigbro3 Conducting pat-down searches of your clothing and inspections of your belongings.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	17	11	11	20	16	12	12	3.91
07 phone	36	10	10	8	11	8	17	3.40
06 web	21	10	11	19	15	11	12	3.79
05 web	23	10	10	18	15	10	14	3.79
05 phone	37	11	9	7	13	7	16	3.34

[07 phone vs. 05 phone: p = .5225] [07 web vs. 06 web: p = .0935] [07 phone vs. 07 web: p < .0001]

p73_bigbro4 Taking photographic images of you without your knowledge.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	29	13	11	18	13	8	8	3.28
07 phone	48	10	7	7	9	6	12	2.85
06 web	30	13	11	17	12	7	10	3.28
05 web	38	14	9	15	11	5	8	2.93
05 phone	51	11	7	7	9	4	10	2.65

[07 phone vs. 05 phone: p = .0190] [07 web vs. 06 web: p = .9556] [07 phone vs. 07 web: p < .0001]

p74_bigbro5 Taking harmless electronic scans of your hands and face.

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	16	8	9	19	19	13	16	4.19	
07 phone	34	8	8	8	13	9	21	3.69	
06 web	18	9	9	17	16	14	17	4.12	
05 web	21	8	8	16	17	13	18	4.10	
05 phone	35	9	8	5	14	9	20	3.60	

[07 phone vs. 05 phone: p = .3567] [07 web vs. 06 web: p = .3847] [07 phone vs. 07 web: p < .0001]

p75_bigbro6 Taking a sample of your DNA.

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	27	12	8	17	14	10	12	3.57	
07 phone	46	9	7	6	9	6	18	3.12	
06 web	30	11	10	15	11	10	13	3.46	
05 web	34	9	8	15	12	9	14	3.45	
05 phone	46	9	6	6	9	7	17	3.13	

[07 phone vs. 05 phone: p = .9535] [07 web vs. 06 web: p = .1604] [07 phone vs. 07 web: p < .0001]

In this next series of questions, I would like to ask about your views on the government in Washington. I am not asking about Democrats or Republicans in particular, just the government, in general.

p76_doright First, on a scale from zero to ten, where zero means *none of the time* and ten means *all of the time*, how much of the time do you trust the government in Washington to do what is right for the American people?

%	<u>None of the Time</u>								<u>All of the Time</u>			Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	8	7	13	16	10	19	12	8	5	1	1	4.04
07 phone	8	7	10	13	12	23	9	10	4	1	3	4.21
06 web	9	9	15	14	11	15	10	10	5	1	2	3.98
05 web	9	10	13	13	10	15	10	11	6	2	1	4.05
05 phone	6	8	8	12	10	23	12	10	7	2	3	4.58

[07 phone vs. 05 phone: p = .0001] [07 web vs. 06 web: p = .4762] [07 phone vs. 07 web: p = .0603]

p77_USest Now, using a scale from zero to ten, where zero means you have *no confidence* and ten means you have *complete confidence*, how much confidence do you have in our government's ability to accurately assess the threat of terrorism occurring in the US?

%	<u>No Confidence</u>										<u>Complete Confidence</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	7	5	9	12	11	18	14	13	7	2	2	4.66	
07 phone	6	5	7	10	10	19	15	14	10	2	3	5.01	
06 web	8	5	10	12	12	16	13	12	7	3	2	4.53	
05 web	9	5	10	12	10	17	12	12	9	3	2	4.49	
05 phone	5	4	7	10	10	18	13	15	12	3	4	5.18	

[07 phone vs. 05 phone: p = .0756] [07 web vs. 06 web: p = .1589] [07 phone vs. 07 web: p = .0001]

p78_wrldest Again, using the same scale from zero to ten, where zero means *no confidence* and ten means *complete confidence*, how much confidence do you have in the US government's ability to accurately assess the threat of terrorism occurring elsewhere in the world?

%	No Confidence										Complete Confidence		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	8	5	9	13	14	20	13	11	5	1	1	4.32	
07 phone	7	6	11	12	14	21	11	10	5	1	3	4.33	
06 web	9	7	11	13	12	18	13	10	4	2	2	4.18	
05 web	13	9	12	14	11	17	10	7	4	1	1	3.67	
05 phone	7	7	12	15	17	19	9	7	4	1	2	4.07	

[07 phone vs. 05 phone: $p = .0047$] [07 web vs. 06 web: $p = .1065$] [07 phone vs. 07 web: $p = .8711$]

Now I want to know about the level of confidence you have in different agencies to respond to terrorist attacks that cause mass casualties like 9/11. Please use a scale from zero to ten, where zero means *not at all confident* and ten means *extremely confident* when considering each of the following.

p79_respond1 How confident are you in the ability of the US Department of Homeland Security to respond to large-scale terrorist attacks in the US?

%	Not At All Confident										Extremely Confident		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	9	6	8	9	10	18	12	12	9	4	3	4.78	
07 phone	6	6	8	10	11	16	13	13	11	3	4	4.96	
06 web	11	8	9	10	10	15	12	11	8	3	3	4.38	
05 web	10	6	8	8	9	14	12	14	10	5	4	4.87	
05 phone	5	4	5	8	8	17	12	16	15	4	7	5.62	

[07 phone vs. 05 phone: $p < .0001$] [07 web vs. 06 web: $p < .0001$] [07 phone vs. 07 web: $p = .0709$]

p80_respond2 How confident are you in the ability of the US Department of Defense, including active, reserve, and National Guard forces, to respond to large-scale terrorist attacks in the US?

%	Not At All Confident										Extremely Confident		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	5	4	5	7	8	16	14	14	13	8	7	5.78	
07 phone	3	2	4	8	8	14	14	18	15	5	8	5.95	
06 web	3	4	6	9	8	15	13	14	14	7	8	5.77	
05 web	5	3	5	7	8	14	9	16	15	8	11	5.99	
05 phone	2	2	3	4	6	12	11	17	21	8	14	6.73	

[07 phone vs. 05 phone: $p < .0001$] [07 web vs. 06 web: $p = .9205$] [07 phone vs. 07 web: $p = .0621$]

p81_respond3 How confident are you in the ability of your state government to respond to large-scale terrorist attacks in the US?

%	Not At All Confident										Extremely Confident		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	7	6	9	10	11	19	13	10	8	3	3	4.63	
07 phone	6	4	8	10	13	19	12	12	8	3	5	4.90	
06 web	8	6	10	12	12	19	12	10	6	2	2	4.37	
05 web	10	7	11	11	11	17	12	10	6	3	3	4.36	
05 phone	5	5	7	10	10	20	12	13	10	2	6	5.14	

[07 phone vs. 05 phone: $p = .0203$] [07 web vs. 06 web: $p = .0040$] [07 phone vs. 07 web: $p = .0034$]

p82_respond4 How confident are you in the ability of your city and county government to respond to large-scale terrorist attacks in the US?

%	Not At All Confident										Extremely Confident		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	10	9	10	11	11	18	11	8	6	3	3	4.22	
07 phone	7	7	10	13	13	17	9	12	6	2	4	4.44	
06 web	12	10	12	12	11	16	10	8	5	2	2	3.94	
05 web	14	9	12	11	10	16	10	8	5	3	3	3.84	
05 phone	7	8	10	11	11	19	10	11	7	2	5	4.58	

[07 phone vs. 05 phone: p = .1815] [07 web vs. 06 web: p = .0028] [07 phone vs. 07 web: p = .0176]

p83_suic Using a scale from zero to ten, where zero means *not at all likely* and ten means *extremely likely*, what is your assessment of the likelihood of terrorist suicide bombings occurring in the U.S in the next five years?

%	Not At All Likely										Extremely Likely		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	1	1	3	4	7	15	14	18	15	7	15	6.62	
07 phone	2	3	5	7	8	17	11	15	14	4	14	6.08	
06 web	1	1	3	5	6	13	15	16	16	8	17	6.78	

[07 web vs. 06 web: p = .0566] [07 phone vs. 07 web: p < .0001]

In countries where religious freedoms are protected, preventing some religious extremists from promoting terrorism can conflict with individual rights, posing difficult tradeoffs among legal protections, moral beliefs, and requirements to provide security for citizens.

Please respond to each of the following statements on a scale from one to seven where one means *strongly disagree* and seven means *strongly agree*.

p84_extrm1 If someone *advocates* terrorism, but they do not actively participate in terrorist acts, they should be arrested and tried in a court of law, even if they are a religious leader or teacher.

%	Strongly Disagree						Strongly Agree		Mean
	1	2	3	4	5	6	7		
07 web	7	9	11	20	18	13	21	4.59	
06 web	7	9	9	22	16	14	24	4.67	
05 web (P)	7	6	10	18	17	15	27	4.82	

[07 web vs. 06 web: p = .2018]

p85_extrm2 If someone *actively supports* terrorism, they should be arrested and tried in a court of law, even if they are a religious leader or teacher.

%	Strongly Disagree						Strongly Agree		Mean
	1	2	3	4	5	6	7		
07 web	2	4	5	15	13	18	44	5.60	
06 web	2	2	4	12	14	19	46	5.75	
05 web (P)	3	2	4	9	11	21	50	5.85	

[07 web vs. 06 web: p = .0098]

p86_extrm3 Government law enforcement agencies should never infiltrate or spy on religious groups, even if they are suspected of advocating or supporting terrorism.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	41	21	13	14	6	3	3	2.42
06 web	41	21	12	13	6	3	3	2.44
05 web (P)	42	20	13	13	5	3	5	2.48

[07 web vs. 06 web: p = .8286]

p87_extrm4 If a particular religious sect or group is found to be advocating or promoting terrorism, that organization should be shut down by the government.

%	<u>Strongly Disagree</u>					<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7	
07 web	4	4	7	15	15	17	37	5.32
06 web	4	4	6	14	13	18	40	5.44
05 web (P)	5	4	6	12	15	16	42	5.44

[07 web vs. 06 web: p = .0526]

Some people are concerned that terrorists may illegally enter the US using methods that most illegal immigrants use to seek work. Others think that is highly unlikely. Please respond to the following statements about illegal immigration using a scale from one to seven where one means *strongly disagree* and seven means *strongly agree*.

p88_illeg1 Illegal immigration poses a significant threat of terrorism to the United States.

%	<u>Strongly Disagree</u>					<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7	
07 web	4	6	9	16	17	15	34	5.15
06 web	4	6	8	13	18	18	33	5.19
05 web (P)	3	4	8	13	17	18	37	5.38

[07 web vs. 06 web: p = .5142]

p89_illeg2 Because the issue of illegal immigration is so complicated, there is little we can do to prevent terrorists from illegally entering the United States.

%	<u>Strongly Disagree</u>					<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7	
07 web	25	15	13	15	16	9	9	3.51
06 web	21	15	11	16	17	10	10	3.61
05 web (P)	24	15	13	14	14	10	9	3.48

[07 web vs. 06 web: p = .1529]

p90_illeg3 The US must do more to stop illegal immigrants, regardless of their objectives.

%	<u>Strongly Disagree</u>					<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7	
07 web	4	4	7	13	14	15	43	5.48
06 web	4	4	6	13	13	17	44	5.52
05 web (P)	3	3	6	10	11	19	48	5.70

[07 web vs. 06 web: p = .4833]

p91_illeg4 The United States is dependent on immigration, and even when people enter the country illegally, they do more good than harm.

%	<u>Strongly Disagree</u>				<u>Strongly Agree</u>			Mean
	1	2	3	4	5	6	7	
07 web	27	13	14	21	12	7	5	3.20
06 web	25	15	13	19	13	8	7	3.30
05 web (P)	28	17	14	19	10	5	6	3.05

[07 web vs. 06 web: p = .1317]

In recent years, the US has taken a number of measures to increase the security of airline travel, to include more stringent screening and searches of passengers, carry-on items, and checked luggage. Less comprehensive measures have been taken to increase security of other modes of public transportation such as passenger trains and subways.

Please rate each of the following options for improving the security of US passenger trains and subways on a scale from one to seven where one means you *strongly oppose* the measure and seven means you *strongly support* it.

p92_sub1 Require all persons to pass through metal detectors before entering terminals.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	1	1	2	9	11	18	58	6.12
06 web	1	1	3	7	10	18	61	6.22
05 web (P)	1	2	2	7	10	17	60	6.14

[07 web vs. 06 web: p = .0379]

p93_sub2 Require all passengers to show identification before entering boarding areas.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	2	1	3	9	10	17	57	6.04
06 web	1	1	2	8	11	16	60	6.15
05 web (P)	2	3	3	8	10	16	59	6.06

[07 web vs. 06 web: p = .0220]

p94_sub3 Require all hand-carried items to be x-rayed.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	2	1	3	11	12	19	53	5.97
06 web	1	1	3	9	11	18	57	6.11
05 web (P)	1	1	3	8	10	15	61	6.12

[07 web vs. 06 web: p = .0042]

p95_sub4 Install video cameras that take images of all persons entering and leaving terminals.

%	<u>Strongly Oppose</u>				<u>Strongly Support</u>			Mean
	1	2	3	4	5	6	7	
07 web	2	2	3	11	13	20	50	5.90
06 web	1	1	3	10	11	19	54	6.03
05 web (P)	2	1	1	7	10	17	62	6.22

[07 web vs. 06 web: p = .0119]

p96_sub5 Require all checked luggage to be x-rayed.

%	<u>Strongly Oppose</u>						<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7		
07 web	2	1	2	9	12	19	55	6.05	
06 web	1	1	2	9	11	18	58	6.16	
05 web (P)	1	1	1	7	10	16	65	6.33	

[07 web vs. 06 web: p = .0224]

p97_sub6 Use biometric measures such as facial features to help identify suspected terrorists.

%	<u>Strongly Oppose</u>					<u>Strongly Support</u>		Mean
	1	2	3	4	5	6	7	
07 web	4	3	5	15	16	16	41	5.46
06 web	3	4	5	14	16	16	42	5.52
05 web (P)	4	3	4	11	13	16	50	5.75

[07 web vs. 06 web: p = .2692]

The next few questions are about your beliefs concerning a variety of issues.

p98_nature First, on a scale where zero means nature is *robust and not easily damaged* and ten means nature is *fragile and easily damaged*, how do you view nature?

%	<u>Robust and Not Easily Damaged</u>							<u>Fragile and Is Easily Damaged</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	3	2	4	7	7	16	10	16	16	6	13	6.24
07 phone	3	3	3	7	4	17	8	13	14	6	22	6.56
06 web	3	1	4	6	9	16	11	15	15	7	13	6.28
05 web	3	2	6	8	8	16	9	14	15	5	15	6.13
05 phone	3	3	3	5	5	15	7	12	15	5	27	6.85
02(E) phone	2	2	3	3	4	13	7	11	17	7	33	7.36

[07 phone vs. 05 phone: p = .0091] [07 web vs. 06 web: p = .6300] [07 phone vs. 07 web: p = .0014]

p99_env On a scale where zero means the natural environment is *not at all threatened* and ten means the natural environment is on the *brink of disaster*, how do you assess the current state of the natural environment?

%	<u>Not at All Threatened</u>						<u>Brink of Disaster</u>				Mean	
	0	1	2	3	4	5	6	7	8	9		10
07 web	2	2	3	5	8	17	18	19	14	5	8	6.11
07 phone	2	3	4	7	8	17	13	17	14	6	10	6.06
06 web	1	1	3	6	7	20	19	19	12	5	7	6.07
05 web	2	2	5	8	8	20	16	18	12	5	6	5.83
05 phone	2	2	3	8	8	18	15	16	12	4	11	6.03
02(E) phone	1	1	3	5	6	19	16	18	14	6	11	6.40
01 phone	1	2	3	7	9	18	16	17	14	5	10	6.22
97 phone	1	3	4	8	10	17	14	19	11	4	9	5.95

[07 phone vs. 05 phone: p = .7179] [07 web vs. 06 web: p = .6942] [07 phone vs. 07 web: p = .6043]

Please respond to each of the following statements using a scale from one to seven, where one means *strongly disagree* and seven means *strongly agree*.

p100_belf1 Unless directly attacked, we should not use US military force without authorization from the United Nations.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	17	8	10	18	17	14	16	4.15
07 phone	27	9	8	7	11	11	26	4.04
06 web	17	8	9	19	16	15	15	4.16

[07 web vs. 06 web: p = .8282] [07 phone vs. 07 web: p = .1716]

p101_belf2 Like the citizens of many other countries, officials and citizens of the United States, including members of the military, should be subject to criminal proceedings under the *International Criminal Court* in Europe.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	13	6	10	28	17	11	14	4.19
07 phone	24	8	7	8	16	14	22	4.18
06 web	14	6	8	25	18	12	17	4.29

[07 web vs. 06 web: p = .1485] [07 phone vs. 07 web: p = .8254]

p102_belf3 We should agree to accept internationally established limits on US production of carbon dioxide and other greenhouse gases thought to cause global warming.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	8	4	7	20	20	15	26	4.86
07 phone	14	5	7	7	14	15	39	5.02
06 web	7	4	5	21	19	19	25	4.98

[07 web vs. 06 web: p = .0725] [07 phone vs. 07 web: p = .0327]

p103_belf4 The US can never entrust its security to international organizations such as the United Nations.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>	Mean
	1	2	3	4	5	6	7	
07 web	5	6	12	22	17	12	26	4.80
07 phone	12	7	8	10	17	10	35	4.83
06 web	4	6	10	22	16	13	29	4.97
05 web	7	6	8	18	14	14	33	5.01
05 phone	13	8	9	11	15	10	34	4.71

[07 phone vs. 05 phone: p = .1745] [07 web vs. 06 web: p = .0089] [07 phone vs. 07 web: p = .7225]

p104_belf5 Even though allies are important, the US must be willing to act alone to protect American interests.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	3	4	6	19	21	17	29	5.18
07 phone	8	5	6	9	15	16	42	5.34
06 web	4	4	6	16	19	20	31	5.23
05 web	6	6	6	13	16	17	36	5.24
05 phone	8	6	6	7	16	14	43	5.31

[07 phone vs. 05 phone: p = .7861] [07 web vs. 06 web: p = .4471] [07 phone vs. 07 web: p = .0212]

p105_belf6 The US must be willing to act preemptively by using military force against those that threaten us before they can attack us.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	8	8	11	24	21	13	16	4.42
07 phone	17	10	8	11	17	10	26	4.36
06 web	9	8	10	22	21	13	17	4.47
05 web	12	8	8	19	18	15	20	4.46
05 phone	18	9	9	12	17	10	26	4.32

[07 phone vs. 05 phone: p = .6616] [07 web vs. 06 web: p = .4649] [07 phone vs. 07 web: p = .3672]

p106_belf7 What society needs is a fairness revolution to make the distribution of goods more equal.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	14	9	11	27	20	9	10	3.99
07 phone	23	9	10	13	17	10	18	3.91
06 web	13	9	10	27	17	12	12	4.09
05 web	17	10	10	24	17	10	11	3.92
05 phone	20	10	8	13	18	10	22	4.15

[07 phone vs. 05 phone: p = .0064] [07 web vs. 06 web: p = .1104] [07 phone vs. 07 web: p = .3065]

p107_belf8 Society works best if power is shared equally.

%	<u>Strongly Disagree</u>			<u>Strongly Agree</u>				Mean
	1	2	3	4	5	6	7	
07 web	6	5	11	25	21	16	15	4.58
07 phone	11	6	8	11	18	15	32	4.89
06 web	6	6	10	25	19	16	17	4.64
05 web	6	6	10	22	20	16	19	4.66
05 phone	9	6	9	11	17	14	34	4.98

[07 phone vs. 05 phone: p = .2573] [07 web vs. 06 web: p = .3382] [07 phone vs. 07 web: p < .0001]

p108_belf9 It is our responsibility to reduce differences in income between the rich and the poor.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7		
07 web	15	7	10	24	17	11	15	4.16	
07 phone	23	10	9	10	15	10	23	4.08	
06 web	14	10	11	20	16	12	18	4.23	
05 web	17	9	11	20	17	11	16	4.08	
05 phone	22	10	10	10	15	10	25	4.14	

[07 phone vs. 05 phone: p = .4744] [07 web vs. 06 web: p = .2883] [07 phone vs. 07 web: p = .2968]

p109_belf10 In the long run, spreading democracy is the best way to create a peaceful world.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7		
07 web	5	7	10	27	22	15	14	4.55	
07 phone	9	8	10	11	18	13	32	4.88	
06 web	6	6	10	27	19	17	16	4.61	
05 web	6	6	11	22	20	15	20	4.71	
05 phone	8	5	9	12	17	13	35	5.06	

[07 phone vs. 05 phone: p = .0222] [07 web vs. 06 web: p = .2860] [07 phone vs. 07 web: p < .0001]

p110_belf11 If terrorists use a nuclear weapon against the US, we would be justified in using nuclear weapons to fight a war on terrorism.

%	<u>Strongly Disagree</u>						<u>Strongly Agree</u>		Mean
	1	2	3	4	5	6	7		
07 web	6	6	9	19	19	14	28	4.92	
07 phone	15	7	6	9	12	11	40	4.84	
06 web	6	6	8	18	16	17	29	5.00	
05 web	11	6	8	18	15	13	29	4.75	
05 phone	16	9	8	8	13	12	35	4.67	

[07 phone vs. 05 phone: p = .0567] [07 web vs. 06 web: p = .1996] [07 phone vs. 07 web: p = .3065]

p111_faith Now using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important is religious faith in your life?

%	<u>Not At All Important</u>										<u>Extremely Important</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	9	3	4	4	4	11	7	10	12	8	27	6.53	
07 phone	5	4	3	4	4	8	4	11	9	6	42	7.28	
06 web	8	3	4	4	4	9	6	10	12	8	33	6.79	
05 web	8	2	4	3	3	11	6	9	11	7	36	6.91	
05 phone	5	4	5	4	3	8	5	11	9	7	40	7.13	

[07 phone vs. 05 phone: p = .2630] [07 web vs. 06 web: p = .0251] [07 phone vs. 07 web: p < .0001]

p112_rel With which of the following major religions do you most identify?

Religion (%)	07 web	07 phone	06 web
0. None	2	5	NA
1. Buddhism	2	3	1
2. Christianity (including Protestant and Catholic)	87	85	84
3. Hinduism	1	0	1
4. Islam	1	0	1
5. Judaism	3	2	4
6. Other (verbatim)	3	5	9

Finally, the last few questions concern some basic background information about you. Recall that your responses are anonymous, and our analyses will not reveal any individual's responses.

p113_zip What is the zip code at your residence? (This information will only be used to compare grouped regional differences, not to identify you.) (verbatim)

p113a_reside Including yourself, how many people currently live at your residence?

	Means
07 phone	2.64
05 web	2.62
05 phone	2.69
03 phone	2.60
01 phone	2.76
99 phone	2.77
97 phone	2.70
95 phone	2.80
93 phone	2.79

p113b_ovr18 How many are 18 years of age or older?

	Means
07 phone	2.26
05 web	2.23
05 phone	2.27
03 phone	2.24
01 phone	2.23
99 phone	2.24
97 phone	2.23
95 phone	2.22

p114_party With which political party do you most identify?

%	<u>Democrat</u>	<u>Republican</u>	<u>Independent</u>	<u>Other</u>
	1	2	3	4
07 web	38	33	23	6
07 phone	44	40	11	5
06 web	38	36	20	6
05 web	32	41	18	9
05 phone	43	45	9	4
03 phone	41	45	10	5
01 phone	44	45	7	4
99 phone	47	41	6	6
97 phone	43	44	10	3
95 phone	37	37	23	3
93 phone	43	39	16	2

p115_iden Do you completely, somewhat, or slightly identify with that political party?

%	<u>Not At All</u>	<u>Slightly</u>	<u>Somewhat</u>	<u>Completely</u>	Mean
	0	1	2	3	
07 web	5	15	60	20	1.95
07 phone	0	12	57	31	2.20
06 web	7	16	62	15	1.84
05 web	NA	13	64	23	2.11
05 phone	NA	13	56	32	2.19
03 phone	NA	11	56	33	2.22
01 phone	NA	8	53	39	2.31
99 phone	NA	22	60	19	2.03
97 phone	NA	21	61	18	2.03
95 phone	NA	21	58	21	1.99
93 phone	NA	18	55	26	2.08

p116_ideol On a scale of political ideology, individuals can be arranged from *strongly liberal* to *strongly conservative*. Which of the following categories best describes your views?

%	<u>Strongly Liberal</u>	<u>Liberal</u>	<u>Slightly Liberal</u>	<u>Middle of the road</u>	<u>Slightly Conserv.</u>	<u>Conserv.</u>	<u>Strongly Conserv.</u>	Mean
	1	2	3	4	5	6	7	
07 web	4	14	12	36	14	16	5	4.11
07 phone	5	12	9	29	16	22	7	4.36
06 web	4	12	12	35	15	17	5	4.16
05 web	5	12	11	31	15	21	5	4.23
05 phone	5	13	10	26	18	19	8	4.28
03 phone	6	12	10	27	18	19	9	4.34
01 phone	4	12	11	27	18	19	9	4.35
99 phone	4	13	8	29	17	20	8	4.37
97 phone	4	10	11	28	17	24	7	4.43
95 phone	2	10	11	28	21	20	7	4.46
93 phone	4	12	12	28	17	19	9	4.34

[07 phone vs. 05 phone: p = .2264] [07 web vs. 06 web: p = .2909] [07 phone vs. 07 web: p < .0001]

p117_race Which of the following best describes your race or ethnic background?

%	American Indian	Asian	Black	Hispanic	White, non-Hispanic	Other
07 web	1	4	6	4	85	1
07 phone	3	1	6	4	83	2
06 web	1	3	5	3	87	1
05 web	1	2	3	3	89	2
05 phone	2	2	5	4	83	4
03 phone	3	1	5	4	85	1
01 phone	3	3	6	5	81	3
99 phone	2	2	7	5	79	4
97 phone	2	1	6	4	81	5
95 phone	2	2	7	4	79	6
93 phone	2	2	6	4	84	2

p118_inc Please indicate which of the following income categories approximates the total estimated annual income for your *household* for the year 2006.

%	< \$10K	\$10-20K	\$20-30K	\$30-40K	\$40-50K
	1	2	3	4	5
07 web	5	10	12	13	10
07 phone	5	7	9	10	9
06 web	3	9	16	13	10
05 web	4	8	15	14	11
05 phone	4	7	11	10	11

%	\$50-60K	\$60-70K	\$70-80K	\$80-90K	\$90-100K
	6	7	8	9	10
07 web	12	9	8	5	3
07 phone	11	11	8	6	3
06 web	13	10	7	5	3
05 web	12	9	7	5	3
05 phone	10	10	7	5	5

%	\$100-110K	\$110-1200K	\$120-130K	\$130-140K	\$140-150K
	11	12	13	14	15
07 web	3	2	2	2	1
07 phone	4	5	3	2	2
06 web	2	2	2	1	1
05 web	3	2	2	1	1
05 phone	3	4	2	2	1

%	> \$150K	Median
	16	
05 web	4	5
05 phone	7	6

	<u>\$150–160K</u>	<u>\$160–1700K</u>	<u>\$170–180K</u>	<u>\$180–190K</u>	<u>\$190–200K</u>
%	16	17	18	19	20
07 web	1	0	0	0	0
07 phone	1	1	0	0	1
06 web	0	1	0	0	1

	<u>> \$200K</u>	Median
%	21	
07 web	1	5
07 phone	4	6
06 web	1	6

Median Ranges

07 web	07 phone	06 web
\$40K– 50K	\$50K– 60K	\$50K– 60K

05 web	05 phone	03 phone	01 phone	99 phone	97 phone	95 phone	93 phone
\$40K– 50K	\$50K– 60K	\$40K– 50K	\$50K– 60K	\$40K– 50K	\$40K – 50K	\$30K – 40K	\$35K – 40K

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Appendix Three

Energy and Environment Data Summaries

Web: 4–15 May 2007 ($n = 1,504$)

w1_edu What is the highest level of education you have completed?

%	2007 Web	2006 Web	2006 Phone
1. < High school graduate	1	1	6
2. High school graduate	17	14	26
3. Some college / vocational school	35	39	28
4. College graduate	26	27	22
5. Some graduate work	7	6	3
6. Master's degree	10	9	11
7. Doctorate	3	3	3
8. Other degree	<1	0	0

w2_age How old are you?

%	Mean
2007 web	48.36
2006 web	44.18
2006 phone	50.57

[07 web vs. 06 web: $p < .0001$]

w3_gend As part of the survey, I am required to ask: are you male or female?

%	<u>Female</u>	<u>Male</u>
	0	1
07 web	50.9	49.1
06 web	51.8	48.2
06 phone	41.1	58.9

[07 web vs. 06 web: Chi Sq = 2.23; $p = .1354$]

Now I want to ask you some questions about important issues facing policy makers in the US today.

For each of the following issues, please rate your level of concern about the issue using a scale from zero to ten, where zero means you are *not at all concerned* and ten means you are *extremely concerned*. How concerned are you about:

w4_worry1 Threats to national security, including terrorism?

%	<u>Not at All Concerned</u>										<u>Extremely Concerned</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	1	1	1	2	7	9	13	18	16	31	7.96
06 web	1	0	1	3	3	8	7	14	17	17	29	7.86
06 phone	2	1	1	2	3	9	6	9	16	10	40	7.91

[07 web vs. 06 web: $p = .2179$]

w5_worry2 The delivery and cost of healthcare in the US?

%	Not at All <u>Concerned</u>										Extremely <u>Concerned</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	0	1	1	1	5	6	11	15	19	40	8.43
06 web	1	0	1	1	1	6	6	10	15	18	42	8.41
06 phone	1	0	1	1	2	6	4	9	17	13	47	8.47

[07 web vs. 06 web: p = .8205]

w6_worry3 The availability and cost of energy in the US?

%	Not at All <u>Concerned</u>										Extremely <u>Concerned</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	0	1	1	1	5	6	13	20	19	34	8.31
06 web	0	0	1	1	1	5	6	12	18	20	36	8.41
06 phone	1	0	1	1	2	8	5	12	21	12	37	8.09

[07 web vs. 06 web: p = .1430]

w7_worry4 The quality and the stability of the environment?

%	Not at All <u>Concerned</u>										Extremely <u>Concerned</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	0	2	2	3	9	9	14	18	17	25	7.63
06 web	1	1	2	2	3	9	9	15	16	15	26	7.52
06 phone	1	1	1	2	3	13	8	14	19	9	28	7.50

[07 web vs. 06 web: p = .2062]

w8_worry5 The state of the economy, including jobs and inflation?

%	Not at All <u>Concerned</u>										Extremely <u>Concerned</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	0	1	3	2	8	9	14	20	16	27	7.80
06 web	1	0	1	1	2	7	8	15	18	17	29	7.92
06 phone	1	1	2	3	3	10	7	13	20	11	30	7.62

[07 web vs. 06 web: p = .1110]

The next several questions ask about your views on energy and environmental issues. These questions concern your perceptions and beliefs, so don't worry about being right or wrong when providing your answers.

w9_egatt First, considering the full range of issues we face today, using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important are energy issues to you?

%	Not at All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	1	1	1	2	6	7	17	24	15	26	7.99
06 web	0	0	1	1	2	6	8	16	22	16	28	8.01
06 phone	1	0	0	2	1	8	6	13	20	11	37	8.10

[07 web vs. 06 web: p = .8319]

w10_futr Using a scale from zero to ten, where zero means you are *not at all confident* and ten means you are *completely confident*, I would like to know how confident you are that there will be adequate sources of energy to meet the energy needs of the US during the next 20 years. Please think about US energy needs overall, including transportation, heating, electricity, and other energy requirements when considering your answer.

%	Not at All Confident										Completely Confident	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	5	1	7	12	10	18	13	14	10	4	7	5.38
06 web	6	3	9	11	10	18	12	10	11	5	6	5.16
06 phone	4	1	5	7	10	20	7	12	12	7	14	5.97

[07 web vs. 06 web: p = .0222]

w11_egpol As you may know, US energy policies generally deal with such issues as the sources and adequacy of energy supplies, the costs of various types of energy, and the environmental implications of using energy. Using a scale from zero to ten, where zero means *not at all satisfied* and ten means *completely satisfied*, how satisfied are you with current US energy policies overall?

%	Not at All Satisfied										Completely Satisfied	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	13	6	12	13	16	18	10	7	3	2	1	3.80
06 web	12	7	12	15	14	18	9	6	3	2	1	3.77
06 phone	15	4	10	11	13	23	8	7	6	1	2	3.97

[07 web vs. 06 web: p = .7202]

w12_envatt Once again, considering the full range of issues we face today, using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important are environmental issues to you?

%	Not at All Important										Extremely Important	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	1	0	2	3	3	10	10	17	19	13	21	7.38
06 web	1	1	2	3	5	11	11	16	16	11	22	7.17
06 phone	1	0	1	3	2	11	8	13	20	11	31	7.72

[07 web vs. 06 web: p = .0122]

w13_nature On a scale from zero to ten, where zero means that nature is *robust and not easily damaged* and ten means nature is *fragile and easily damaged*, how do you view nature?

%	Robust and Not Easily Damaged										Fragile and Is Easily Damaged	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	2	1	4	4	6	15	11	17	17	10	14	6.63
06 web	2	1	3	5	7	15	12	16	16	8	15	6.61
06 phone	2	1	2	3	4	15	7	13	17	9	28	7.25

[07 web vs. 06 web: p = .8493]

As you may know, the issue of global climate change has been the subject of public discussion over the last few years.

w14_atten On a scale from zero to ten where zero means *no attention* and ten means *close and constant attention*, how much attention have you paid to the issue of global climate change?

%	No Attention										Close and Constant Attention		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	2	2	3	5	5	15	15	18	16	10	10	6.41	

w15_inform On a scale from zero to ten where zero means *not at all informed* and ten means *completely informed*, how well informed do you consider yourself to be about the issue of global climate change?

%	Not At All Informed										Completely Informed		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	1	1	2	5	6	17	17	21	16	8	6	6.35	

w16_temp In your personal experience, over the past few years have average temperatures where you live been rising, falling, or staying about the same as previous years?

%	Rising	Falling	Staying About the Same
07 web	59	5	36

Scientists who specialize in the study of the earth's climate have debated the possible effects of climate change. To the best of your knowledge, do most scientists expect any of the following changes in the global climate to take place?

w17_expt1 Do most scientists expect temperature to rise?

%	No	Yes
07 web	10	90

w18_expt2 Do most scientists expect ocean levels to drop?

%	No	Yes
07 web	66	34

w19_expt3 Do most scientists expect more frequent droughts?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	17	83

w20_expt4 Do most scientists expect fewer floods?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	87	13

w21_expt5 Do most scientists expect more severe weather storms, like hurricanes and tornadoes?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	10	90

Many scientists have argued that global average temperatures have risen slightly and will continue to increase for many years as a result of human activities. To the best of your knowledge:

w22_rise1 Do scientists believe exhausts from cars and trucks cause global temperatures to rise?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	10	90

w23_rise2 Do scientists believe radiation from nuclear power plants causes global temperatures to rise?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	54	46

w24_rise3 Do scientists believe disposal of toxic chemicals in landfills causes global temperatures to rise?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	45	55

w25_rise4 Do scientists believe coal powered electricity plants cause global temperatures to rise?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	24	76

w26_rise5 Do scientists believe the destruction of jungles and forests causes global temperatures to rise?

	<u>No</u>	<u>Yes</u>
%	0	1
07 web	12	88

w27_deg To the best of your knowledge, how much do scientists think the average global temperature will increase over the next 50 to 70 years?

	<u>0-1 Degree</u>	<u>2-5 Degrees</u>	<u>6-9 Degrees</u>	<u>10 or More Degrees</u>
%	1	2	3	4
07 web	11	48	23	18

w28_gcc In your view, are greenhouse gasses, such as those resulting from the combustion of coal, oil, natural gas, and other materials causing average global temperatures to rise?

	<u>Are Not</u>	<u>Are</u>
%	0	1
07 web	24	76
06 web	25	75
06 phone	23	77

[07 web vs. 06 web: Chi Sq = 0.50; p = .4784]

w29_gcccert On a scale from zero to ten, where zero means *not at all certain* and ten means *completely certain*, how certain are you that greenhouse gasses <are/are not> (from w28) causing average global temperatures to rise?

	<u>Not at All Certain</u>										<u>Completely Certain</u>		
%	0	1	2	3	4	5	6	7	8	9	10	Mean	
07 web	4	1	2	3	4	18	13	16	18	9	12	6.53	
06 web	3	1	2	3	3	15	14	18	19	10	13	6.78	
06 phone	4	1	2	3	3	12	8	13	19	11	23	7.11	

[07 web vs. 06 web: p = .0043]

w30_gccrsk On the scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how much risk do you think global warming poses for people and the environment?

	<u>No Risk</u>										<u>Extreme Risk</u>		
%	0	1	2	3	4	5	6	7	8	9	10	Mean	
07 web	3	1	3	4	3	11	11	13	17	11	23	7.07	
06 web	2	2	3	4	5	11	11	15	15	11	21	6.96	
06 phone	4	1	3	3	4	11	8	13	19	9	24	7.03	

[07 web vs. 06 web: p = .2188]

w31_slow On a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important do you think it is for the US to reduce greenhouse gas emissions?

%	<u>Not at All Important</u>										<u>Extremely Important</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	2	1	2	3	2	11	11	12	14	12	31	7.47
06 web	2	1	2	3	3	10	10	14	16	11	28	7.41
06 phone	3	1	3	2	3	10	6	10	17	9	35	7.54

[07 web vs. 06 web: p = .4980]

The next set of questions concerns all kinds and uses of energy, including electricity for homes and businesses; gas, oil, and coal for heating; and transportation fuels, such as gasoline and diesel.

Considering the effects of both normal operations and potential accidents, how do you rate the risks to society and the environment from each of the following sources of energy using a scale from zero to ten, where zero means *no risk* and ten means *extreme risk*?

w32_ersk1 The risks from fossil fuels, such as coal, oil, and natural gas?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	2	2	3	4	5	13	10	16	16	11	16	6.73
06 web	2	2	5	5	5	17	12	17	15	10	11	6.40
06 phone	3	1	3	5	5	16	11	17	18	8	13	6.53

[07 web vs. 06 web: p = .0003]

w33_ersk2 The risks from nuclear power plants?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	3	5	6	7	6	14	10	11	13	10	16	6.14
06 web	2	4	6	7	6	11	9	11	13	10	20	6.50
06 phone	3	1	4	5	6	11	7	10	17	10	27	6.99

[07 web vs. 06 web: p = .0007]

w34_ersk3 The risks from renewable sources of energy, such as from hydroelectric dams, solar power, and wind generation?

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	27	22	17	10	4	8	3	3	2	1	3	2.35
06 web	21	19	18	10	7	10	3	4	3	1	3	2.81
06 phone	21	10	15	13	9	11	4	4	6	2	5	3.38

[07 web vs. 06 web: p < .0001]

As you may know, in the US today, electricity is generated from three basic sources: (1) fossil fuels, such as coal, oil, and natural gas; (2) nuclear reactors; and (3) renewable sources of energy, such as hydroelectric dams, solar power, and wind generation. The next several questions are about your views of these three sources of electricity.

w35_most Considering the overall production of electricity, to the best of your knowledge, which one of the following three sources produces the most electricity in the United States each year?

%	<u>Fossil Fuels</u>	<u>Nuclear Energy</u>	<u>Renewable Energy</u>
	1	2	3
07 web	78	14	9
06 web	74	16	10
06 phone	74	13	13

w36_gas Which of these three sources produces the most greenhouse gasses and other kinds of air pollution?

%	<u>Fossil Fuels</u>	<u>Nuclear Energy</u>	<u>Renewable Energy</u>
	1	2	3
07 web	87	10	3
06 web	86	11	3
06 phone	87	10	3

w37_perct To the best of your knowledge, approximately what percent of US electricity is produced by nuclear energy plants today? Would you say that it is:

%	<u>0-15</u>	<u>16-30</u>	<u>31-45</u>	<u>46-60</u>	<u>61-75</u>	<u>76-90</u>	<u>≥ 90</u>	Median
	1	2	3	4	5	6	7	
07 web	18	39	20	14	6	3	1	2
06 web	15	37	23	14	9	2	1	2
06 phone	21	34	20	13	5	3	4	2

w38_resv As you are probably aware, we have been mining coal, pumping oil, and extracting natural gas from underground deposits in the United States for many years. Of these three sources of fossil energy, I would like to know which one you believe has the largest remaining reserves of potential energy that we know about in the US. Is it coal, oil, or natural gas?

%	<u>Coal</u>	<u>Oil</u>	<u>Natural Gas</u>
	1	2	3
07 web	48	19	33
06 web	43	23	34
06 phone	46	22	33

w39_oil To the best of your knowledge, approximately what percent of crude oil used in the US today is imported from other countries? Would you say that is:

%	<u>0-15</u>	<u>16-30</u>	<u>31-45</u>	<u>46-60</u>	<u>61-75</u>	<u>76-90</u>	<u>≥ 90</u>	Median
	1	2	3	4	5	6	7	
07 web	1	4	11	26	37	18	3	5
06 web	1	4	10	24	37	20	4	5
06 phone	1	4	11	27	32	18	7	5

w40_source Which of the following countries do you think provides the largest quantity of crude oil imports to the United States?

	Canada	Saudi Arabia	Venezuela	Russia	Kuwait	Nigeria	Mexico
%	1	2	3	4	5	6	7
07 web	9	61	12	2	12	1	4
06 web	9	59	12	2	13	1	4
06 phone	8	57	11	2	17	1	5

w41_dep Using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important is it to reduce US dependence on foreign sources of energy of all types?

	Not at All Important										Extremely Important	
%	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	0	0	0	1	1	5	4	10	17	15	46	8.60
06 web	0	0	1	1	1	5	4	10	17	15	46	8.61
06 phone	2	0	1	1	1	3	3	7	14	13	56	8.79

[07 web vs. 06 web: p = .8353]

Now think about the overall mix of energy sources for the US. We currently get about 85 percent of our energy from fossil fuels, 8 percent from nuclear energy, and 6 percent from renewable sources. The following three questions concern how you would like to see this mix of energy sources change over the next 20 years. Please tell me approximately what percentage of the total US energy supply you would like to see come from each of these three energy sources.

w42_20yrs1 What percent of our energy should come from fossil fuels, which currently provide about 85 percent of our energy?

%	Fossil Fuels (Mean)
07 web	25.3
06 web	26.6
06 phone	31.3

[07 web vs. 06 web: p = .0943]

w43_20yrs2 What percent of our energy should come from nuclear energy, which currently provides about 8 percent of our energy?

%	Nuclear Energy (Mean)
07 web	23.6
06 web	22.0
06 phone	22.2

[07 web vs. 06 web: p = .0212]

w44_20yrs3 What percent of our energy should come from renewable sources, which currently provide about 6 percent of our energy?

%	Renewable Sources (Mean)
07 web	51.0
06 web	51.4
06 phone	46.3

[07 web vs. 06 web: p = .6804]

w45_cutoff On a scale from one to seven, where one is *very unlikely* and seven is *very likely*, how likely do you think it is that industrial economies like those in the US, Europe, and Japan will have enough energy to continue to function if oil from the Middle East is cut-off?

%	Very Unlikely						Very Likely	Mean
	1	2	3	4	5	6	7	
07 web	15	18	21	20	14	6	6	3.40
06 web	16	17	20	21	14	5	6	3.40
06 phone	15	12	14	11	19	10	19	4.15

[07 web vs. 06 web: p = .9663]

The federal government in Washington is now considering a substantial new investment in energy research and development that is intended to reduce US reliance on fossil fuels. The research effort would include different components.

Please rate how important you think it is for the US government to carry out research and development efforts on each of the following using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*.

w46_cv1 How important is it that the US government carry out research and development of new nuclear reactor designs that are much safer, produce less radioactive waste, and do not produce radioactive materials that can be used to make nuclear bombs?

%	Not at All Important										Extremely Important	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	1	2	2	2	7	8	12	15	17	34	7.94
06 web	2	2	2	2	2	11	7	10	15	12	34	7.59
06 phone	4	2	2	3	3	7	5	8	13	10	43	7.73

[07 web vs. 06 web: p = .0053]

w47_cv2 How important is it that the US government carry out research and development of methods for improving the production and delivery of crop-based fuels from corn, soybeans, and other plants?

%	Not at All Important										Extremely Important	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	1	3	2	2	8	7	10	14	14	37	7.87
06 web	1	1	1	2	1	8	6	9	16	14	42	8.19
06 phone	1	0	1	2	2	7	5	11	17	9	45	8.31

[07 web vs. 06 web: p = .0073]

w48_cv3 How important is it that the US government carry out research and development of more efficient electricity generators based on renewable solar, wind, and biomass energy?

%	Not at All Important										Extremely Important	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	0	1	1	1	5	3	7	12	16	54	8.78
06 web	0	1	1	0	1	5	4	8	13	17	51	8.71
06 phone	0	0	1	1	1	3	2	7	15	10	60	8.96

[07 web vs. 06 web: p = .4796]

w47a_cv2a How important is it that the US government carry out research and development of methods for improving the production and delivery of crop-based fuels from corn, soybeans, and other plants?

%	Not at All Important										Extremely Important	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	1	2	2	2	7	9	12	16	13	36	7.89
06 web	1	1	1	1	2	6	6	10	15	14	44	8.32
06 phone	1	0	1	2	1	6	6	10	18	8	46	8.26

[07 web vs. 06 web: p = .0002]

w48a_cv3a How important is it that the US government carry out research and development of more efficient electricity generators based on renewable solar, wind, and biomass energy?

%	Not at All Important										Extremely Important	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	0	1	1	1	3	4	6	15	17	52	8.81
06 web	1	0	0	1	2	4	3	8	13	15	52	8.70
06 phone	2	0	0	1	1	4	2	7	17	9	56	8.72

[07 web vs. 06 web: p = .2079]

Over the next 20 years it is expected that <nuclear, crop-based and renewable resources/crop-based and renewable resources> could replace a substantial portion of fossil fuels used currently in the US. These changes would reduce dependence on unstable sources of oil, while also reducing emissions of greenhouse gasses and other pollutants.

While the benefits of such research and development efforts may take many years to significantly reduce reliance on fossil fuels, the investment in the research must be made much earlier.

These kinds of energy research and development would be expensive, requiring new sources of funding. Suppose that a national advisory vote or referendum was held today. You could vote to advise the federal government whether to develop a new National Energy Research and Development Fund from additional fees on fossil energy use. The fees would apply to purchases of electricity and products and services that rely on coal, oil, and natural gas.

w49_erdf1 If you were confident that this new fund would help create new energy sources and reduce US dependence on foreign oil, even if creating this National Energy Research and Development Fund would cost your household *<insert randomly selected cost>* per year in increased energy prices for such things as electricity and gasoline, would you vote for or against creating the National Energy Research and Development Fund? Keep in mind that the *<repeat randomly selected cost>* per year that you spend on increased energy prices could not be spent on other things, such as other household expenses, charities, groceries, or car payments.

Cost/ Year	Mode	Received: cv1, cv2, cv3				Received: cv2, cv3				All Respondents			
		# No	# Yes	% No	% Yes	# No	# Yes	% No	% Yes	# No	# Yes	% No	% Yes
\$6	Web 07	7	50	12	88	5	35	13	88	12	85	12	88
	Web 06	6	53	10	90	8	48	14	86	14	101	12	88
\$12	Web 07	7	42	14	86	5	47	10	90	12	89	12	88
	Web 06	9	48	16	84	7	37	16	84	16	85	16	84
\$24	Web 07	11	45	20	80	7	51	12	88	18	96	16	84
	Web 06	4	39	9	91	4	37	10	90	8	76	10	90
\$48	Web 07	9	40	18	82	6	34	15	85	15	74	17	83
	Web 06	14	30	32	68	7	43	14	86	21	73	22	78
\$72	Web 07	7	31	18	82	10	31	24	76	17	62	22	78
	Web 06	8	49	14	86	10	40	20	80	18	89	17	83
\$96	Web 07	6	33	15	85	5	42	11	89	11	75	13	87
	Web 06	12	34	26	74	15	44	25	75	27	78	26	74
\$120	Web 07	12	39	24	76	15	34	31	69	27	73	27	73
	Web 06	12	36	25	75	11	42	21	79	23	78	23	77
\$240	Web 07	13	37	26	74	11	39	22	78	24	77	24	76
	Web 06	13	27	33	68	13	41	24	76	26	68	28	72
\$360	Web 07	16	41	28	72	21	41	34	86	37	82	31	69
	Web 06	18	26	41	59	16	37	30	70	34	63	35	65
\$480	Web 07	22	32	41	59	22	41	35	65	44	73	38	62
	Web 06	17	30	36	64	18	34	35	65	35	64	35	65
\$600	Web 07	21	33	39	61	18	25	42	58	39	59	40	60
	Web 06	11	38	22	78	24	25	49	51	35	63	36	64
\$960	Web 07	14	34	29	71	21	24	47	53	35	58	38	62
	Web 06	20	23	47	53	12	35	26	74	32	58	36	64
\$1,200	Web 07	16	29	36	64	29	25	54	46	45	54	45	55
	Web 06	21	23	48	52	14	28	33	67	35	51	41	59
\$1,800	Web 07	28	18	61	39	32	31	51	49	60	49	55	45
	Web 06	20	27	43	57	24	31	44	56	44	58	43	57
\$2,400	Web 07	23	25	48	52	26	28	48	52	49	53	48	52
	Web 06	24	20	55	45	19	31	38	62	43	51	46	54

w50_erdf2 Asking the same question in another way, suppose that a national advisory vote or referendum was held today, and you could vote to advise the federal government on whether to create a National Energy Research and Development Fund, but the fund would cost your household *<insert randomly selected cost>* per year in increased energy prices. Where would you place yourself on a scale from zero to 100, where zero means you are absolutely certain that you would vote against the creation of the Fund and 100 means you are absolutely certain that you would vote for it?

Means

Scale	Mode	Groups	\$6	\$12	\$24	\$48	\$72	\$96	\$120	\$240
0 = certain against 100 = certain for	Web 07	cv-1, 2, 3	81.75	73.29	81.76	78.85	68.11	70.53	73.60	66.16
		cv-2, 3	77.41	82.55	75.56	72.06	64.28	78.25	65.16	69.48
		All	79.94	77.76	78.66	75.68	66.07	74.49	69.47	67.91
	Web 06	cv-1, 2, 3	84.10	73.19	79.51	61.07	71.32	71.61	75.71	70.22
		cv-2, 3	75.18	76.52	83.17	78.36	69.73	69.95	70.09	66.61
		All	79.76	74.64	81.30	70.27	70.58	70.68	72.76	68.15
	Phone 06	cv-1, 2, 3	76.85	64.63	70.51	66.46	61.46	58.00	68.56	53.88
		cv-2,3	70.82	74.29	71.91	72.25	65.09	76.06	73.00	61.88
		All	73.33	69.60	71.26	69.46	63.37	68.11	70.75	57.93

Scale	Mode	Groups	\$360	\$480	\$600	\$960	\$1,200	\$1,800	\$2,400	All
0 = certain against 100 = certain for	Web 07	cv-1, 2, 3	63.22	52.54	58.76	63.15	53.65	43.18	47.05	65.24
		cv-2, 3	65.58	59.84	58.05	51.33	49.20	55.84	50.32	64.41
		All	64.47	56.36	58.43	57.16	51.12	50.27	48.81	64.82
	Web 06	cv-1, 2, 3	53.43	57.66	69.20	56.05	45.48	51.85	43.55	64.95
		cv-2, 3	60.79	63.27	56.45	64.43	64.83	53.65	55.80	67.00
		All	57.45	60.58	62.83	60.42	54.93	52.82	50.06	66.01
	Phone 06	cv-1, 2, 3	61.31	65.29	58.37	51.24	42.77	39.27	56.29	59.03
		cv-2, 3	62.58	51.88	56.66	41.40	60.96	50.54	44.24	62.43
		All	61.89	59.70	57.45	46.37	51.86	43.75	49.90	60.74

w51_erdf3 On a scale from zero to ten, where zero means you are certain that the federal government would not seriously consider the results of a national advisory vote or referendum and ten means you are certain that they would seriously consider the results, how certain are you that the federal government would give the results of an advisory vote or referendum serious consideration in deciding whether to create a National Energy Research and Development Fund?

%	Would NOT Seriously Consider Results						WOULD Seriously Consider Results					Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	7	4	8	10	8	22	11	14	7	3	5	4.88
06 web	8	4	9	11	8	21	12	10	8	3	6	4.82
06 phone	13	3	9	8	9	20	9	10	8	2	8	4.69

[07 web vs. 06 web: p = .5613]

w52_erdf4 Now, on a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about holding a national advisory vote or referendum for citizens to express their preferences about creating a National Energy Research and Development Fund?

%	Strongly Oppose						Strongly Support	Mean
	1	2	3	4	5	6	7	
07 web	3	3	4	18	24	18	31	5.36
06 web	3	2	3	18	21	20	33	5.45
06 phone	9	2	4	6	16	13	50	5.57

[07 web vs. 06 web: p = .1045]

Frequently, U.S. residents are asked about their willingness to pay in donations or higher prices to address environmental problems such as global climate change. The answers are often provided to government officials to assist in developing policies to address these problems.

w53_dona Is this a good way for government officials to make policy choices about global climate change?

%	<u>No</u>	<u>Yes</u>
	0	1
07 web	54	46

I am going to list some of the arguments that are made against relying on residents' willingness to pay through donations or higher prices as a way to inform government decisions on issues like global climate change. On a scale from zero to ten where zero means you *completely disagree* with the argument, and ten means you *completely agree* with it, please indicate your level of agreement for each of the following arguments.

w54_fund1 Residents from poor households can afford to pay less, so their views will have less weight than those from rich households.

%	Completely Disagree										Completely Agree	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	25	9	8	6	4	12	5	7	8	5	11	4.14

w55_fund2 Government officials should rely on scientific expertise about global climate change, not on the preferences of ordinary residents.

%	Completely Disagree										Completely Agree	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	4	2	3	6	7	16	11	13	13	10	16	6.41

w56_fund3 We all have a right to the preservation of a safe and stable global environment and should not have to depend on peoples' willingness to pay to get it.

%	Completely Disagree										Completely Agree	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	2	1	2	3	4	13	10	12	14	12	26	7.17

w57_fund4 I already pay far too much in taxes and contributions to consider paying more to address global climate change.

%	Completely Disagree										Completely Agree	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	7	5	6	7	7	19	8	9	9	5	18	5.71

w58_fund5 I don't trust most residents to have well informed views on environmental issues like global climate change.

%	Completely Disagree										Completely Agree	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	2	1	3	4	6	16	11	14	15	10	18	6.76

w59_suit Which of the following groups do you believe is best suited to lead research and development efforts to reduce US reliance on fossil fuels?

%	Federal Government	Private Industry	State Government	Other
	1	2	3	4
07 web	27	53	7	13
06 web	24	54	12	10
06 phone	30	48	17	5

Please respond to the following three statements using a scale from one to seven, where one means *strongly disagree* and seven means *strongly agree*.

w60_solu1 Meeting our future energy needs requires a combination of energy conservation and developing additional sources of energy, but I would prefer that we emphasize conservation.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	3	8	15	27	22	13	11	4.41
06 web	5	9	12	29	22	11	11	4.33
06 phone	6	4	8	12	21	15	34	5.21

[07 web vs. 06 web: p = .1696]

w61_solu2 Meeting our future energy needs requires a combination of energy conservation and developing additional sources of energy, but I would prefer that we emphasize developing energy sources.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	1	2	7	20	27	22	21	5.18
06 web	2	2	5	21	24	23	22	5.22
06 phone	3	3	6	9	20	18	42	5.62

[07 web vs. 06 web: p = .4672]

w62_solu3 Meeting our future energy needs requires a combination of energy conservation and developing additional sources of energy, and I prefer that we balance conservation and development equally.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	1	2	6	20	20	22	29	5.37
06 web	2	2	6	22	21	19	28	5.30
06 phone	2	2	4	8	18	17	49	5.84

[07 web vs. 06 web: p = .1517]

The next set of questions focus specifically on the possible risks and benefits of nuclear energy.

First, I want to ask about your beliefs about some of the possible risks associated with nuclear energy use in the US. Please consider both the likelihood of a nuclear event occurring and its potential consequences when evaluating the risk posed by each of the following on a scale from zero to ten where zero means *no risk* and ten means *extreme risk*.

w63_nrisk1 An accident at a US nuclear power plant within the next 20 years that results in the release of large amounts of radioactivity.

%	No Risk										Extreme Risk		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	2	5	7	6	7	13	10	11	12	8	18	6.17	
06 web	3	5	7	8	6	14	9	9	11	8	19	6.19	
06 phone	3	6	9	8	7	14	6	9	10	4	24	6.06	

[07 web vs. 06 web: p = .8738]

w64_nrisk2 An accident during the transportation or storage of spent nuclear fuel from nuclear power plants in the US within the next 20 years that results in the release of large amounts of radioactivity.

%	No Risk										Extreme Risk		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	2	4	8	6	8	13	9	13	13	8	16	6.19	
06 web	1	4	6	7	7	15	11	11	12	9	18	6.34	
06 phone	2	5	7	7	7	14	6	10	13	5	23	6.22	

[07 web vs. 06 web: p = .1539]

w65_nrsk3 A terrorist attack at a US nuclear power plant within the next 20 years that results in the release of large amounts of radioactivity.

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	1	2	5	5	6	11	9	13	13	11	23	6.93
06 web	2	2	4	5	5	12	10	12	13	10	24	6.91
06 phone	2	3	5	7	5	12	7	11	11	6	30	6.83

[07 web vs. 06 web: p = .8429]

w66_nrsk4 The diversion of nuclear fuel from a nuclear power plant in the US within the next 20 years for the purpose of building a nuclear weapon.

%	<u>No Risk</u>										<u>Extreme Risk</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	4	6	10	7	8	14	10	10	11	7	13	5.60
06 web	4	7	9	8	7	15	8	10	11	7	15	5.64
06 phone	6	6	9	8	7	14	6	9	10	4	22	5.75

[07 web vs. 06 web: p = .7253]

Now I want to ask about your beliefs about some of the possible benefits associated with nuclear energy use in the US. Please evaluate the benefits associated with each of the following on a scale from zero to ten, where zero means *not at all beneficial* and ten means *extremely beneficial*.

w67_nben1 Fewer overall greenhouse gas emissions because nuclear energy production does not create greenhouse gasses.

%	<u>Not At All Beneficial</u>										<u>Extremely Beneficial</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	1	1	1	2	3	14	11	17	17	13	20	7.36
06 web	2	1	1	2	3	15	10	15	20	12	20	7.26
06 phone	4	2	2	3	3	15	9	13	17	7	24	6.89

[07 web vs. 06 web: p = .2281]

w68_nben2 Reliable power because nuclear energy generates large amounts of electricity and is not affected by weather conditions, such as low rainfall or no wind.

%	<u>Not At All Beneficial</u>										<u>Extremely Beneficial</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
07 web	1	1	1	1	2	12	11	17	18	15	20	7.46
06 web	2	1	1	2	3	13	10	16	18	14	21	7.34
06 phone	4	1	2	3	3	12	8	15	19	8	24	7.12

[07 web vs. 06 web: p = .1286]

w69_nben3 Greater US energy independence because nuclear energy production does not require oil or gas from foreign sources.

%	Not At All <u>Beneficial</u>										Extremely <u>Beneficial</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	0	1	1	2	13	9	15	19	15	24	7.60
06 web	2	1	1	2	2	13	9	13	18	14	25	7.52
06 phone	3	2	2	3	3	12	8	12	19	9	26	7.20

[07 web vs. 06 web: p = .3190]

w70_nben4 Reduced environmental damage because of less need for mining coal or extracting oil and gas.

%	Not At All <u>Beneficial</u>										Extremely <u>Beneficial</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	0	1	2	3	14	10	16	19	13	21	7.43
06 web	2	1	2	3	3	13	11	16	18	11	21	7.18
06 phone	4	1	3	4	4	15	10	13	18	7	22	6.83

[07 web vs. 06 web: p = .0024]

w71_riskben Using a scale from one to seven, where one means the risks of nuclear energy far outweigh its benefits, four means the risks and benefits are equally balanced, and seven means the benefits of nuclear energy far outweigh its risks, how do you rate the overall balance of the risks and benefits of nuclear energy in the US? Remember, you can choose any number from one to seven.

%	Risks > <u>Benefits</u>		Risks/Benefits <u>Balanced</u>			Benefits > <u>Risks</u>		Mean
	1	2	3	4	5	6	7	
07 web	4	5	10	32	22	16	11	4.57
06 web	7	6	13	30	20	13	10	4.32
06 phone	8	6	7	24	22	16	18	4.64

[07 web vs. 06 web: p < .0001]

w72_new1 Using a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about constructing additional nuclear reactors at the sites of existing nuclear power plants in the US?

%	Strongly <u>Oppose</u>						Strongly <u>Support</u>	Mean
	1	2	3	4	5	6	7	
07 web	7	7	10	23	22	17	14	4.54
06 web	11	7	9	24	24	13	13	4.34
06 phone	18	6	10	12	16	14	24	4.40

[07 web vs. 06 web: p = .0010]

w73_new2 Using the same scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about constructing additional nuclear power plants at new locations in the US?

%	Strongly Oppose						Strongly Support	Mean
	1	2	3	4	5	6	7	
07 web	9	9	12	20	19	16	15	4.40
06 web	14	8	11	22	17	14	14	4.16
06 phone	25	10	10	11	12	11	21	3.92

[07 web vs. 06 web: p = .0004]

Now I want to know what kinds of issues affect your views about the use of nuclear energy. Using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, please rate the importance of each of the following considerations when you make judgments about nuclear energy.

w74_imp1 The adequacy of future energy supplies.

%	Not at All Important										Extremely Important		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	1	0	0	1	1	9	7	12	18	19	32	8.07	
06 web	1	0	1	1	2	10	7	11	16	18	32	7.97	
06 phone	2	1	2	4	4	12	10	14	17	7	26	7.18	

[07 web vs. 06 web: p = .1612]

w75_imp2 US dependence on foreign sources for energy.

%	Not at All Important										Extremely Important		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	1	1	1	1	2	9	6	11	18	17	32	8.01	
06 web	2	0	1	1	2	10	7	10	17	16	34	7.93	
06 phone	3	2	2	4	6	12	8	15	14	7	27	7.00	

[07 web vs. 06 web: p = .3585]

w76_imp3 Greenhouse gas emissions.

%	Not at All Important										Extremely Important		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	4	3	2	2	3	13	8	13	15	14	23	7.05	
06 web	3	2	3	3	4	15	9	11	16	11	23	6.97	
06 phone	7	4	5	6	5	14	7	14	13	6	19	6.08	

[07 web vs. 06 web: p = .4538]

w77_imp4 The safety of the operation of nuclear reactors.

%	Not at All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	0	1	1	1	7	7	10	16	17	40	8.28
06 web	1	0	1	1	2	8	5	9	14	16	43	8.32
06 phone	1	2	3	3	5	8	6	12	13	7	40	7.64

[07 web vs. 06 web: p = .6461]

w78_imp5 Managing spent nuclear fuel from nuclear power plants, including its transportation and storage.

%	Not at All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	0	1	1	1	1	9	8	12	17	16	34	8.07
06 web	1	0	0	1	2	10	6	11	16	15	37	8.07
06 phone	1	2	3	3	5	10	8	15	12	8	33	7.42

[07 web vs. 06 web: p = .9306]

w79_imp6 The spread of nuclear materials to countries and groups outside the US.

%	Not at All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	2	3	3	3	11	9	13	16	12	26	7.29
06 web	2	2	3	3	4	14	9	12	13	13	26	7.20
06 phone	3	4	5	5	6	11	8	12	10	6	30	6.71

[07 web vs. 06 web: p = .3650]

w80_imp7 The risk of terrorist attacks against nuclear energy facilities.

%	Not at All <u>Important</u>										Extremely <u>Important</u>	Mean
	0	1	2	3	4	5	6	7	8	9	10	
07 web	1	1	3	3	4	11	7	13	14	12	31	7.48
06 web	1	1	2	4	4	10	7	10	15	13	33	7.60
06 phone	2	2	5	5	5	11	7	11	11	7	33	7.04

[07 web vs. 06 web: p = .2020]

w81_disp As you may know, as nuclear fuel is used to generate electricity, it becomes contaminated with radioactive byproducts. When it can no longer efficiently produce electricity, it is called spent nuclear fuel. To the best of your knowledge, what is currently being done with most of the spent nuclear fuel produced in the US? Is it:

	07 web	06 web	06 phone
1 - Stored above ground in special containers at specific nuclear power plants throughout the US	22	20	20
2 - Shipped to Nevada and stored in a facility deep underground	33	33	43
3 - Chemically reprocessed and reused	13	13	10
4 - Shipped to regional storage sites	31	34	26

As you may know, spent nuclear fuel is highly radioactive and must be protected for thousands of years or be reprocessed and reused. Currently, there are four basic options for dealing with these materials. After hearing key arguments for and against each of the options, I will ask you to rate each as an alternative way to deal with the spent fuel from nuclear power plants.

Option one is to continue the current practice of storing spent nuclear fuel above ground in special containers at some of the existing nuclear power plants.

Opponents argue that many of these plants are near rivers, oceans, and large population centers, and permanent storage is needed where the waste can be better secured against possible terrorist attacks.

Supporters argue that transporting spent nuclear fuel to a central underground storage facility by truck, train, or barge would be too risky, and that the current practice of storing spent nuclear fuel at nuclear power plants buys time for finding future solutions.

w82_opt1 Using a scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about the current practice of storing spent nuclear fuel at existing nuclear power plants?

%	Strongly Oppose			Strongly Support			Mean	
	1	2	3	4	5	6		7
07 web	10	12	19	34	17	4	3	3.60
06 web	10	11	22	35	15	4	3	3.56
06 phone	22	10	14	14	19	8	13	3.73

[07 web vs. 06 web: p = .4304]

Option two is to ship spent nuclear fuel, primarily by train, to a central facility where it would be stored in special containers deep underground and permanently monitored. The potential site being studied is in southern Nevada inside Yucca Mountain.

Opponents argue that nuclear materials could eventually leak into underground water, and the risks of transporting radioactive materials to a central facility would be too high.

Supporters argue that a central facility would remove radioactive materials from their current locations near large population centers, rivers, and oceans, and would allow more careful monitoring and control.

w83_opt2 Using the scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about the option of opening a long-term underground storage facility where spent nuclear fuel from all over the US would be stored?

%	Strongly Oppose			Strongly Support			Mean	
	1	2	3	4	5	6		7
07 web	8	8	13	28	22	13	8	4.21
06 web	10	7	14	28	21	10	9	4.12
06 phone	18	9	11	14	17	11	19	4.11

[07 web vs. 06 web: p = .1300]

Option three is to ship the spent nuclear fuel by truck and train to privately owned temporary storage sites where it would be monitored for up to 50 years. At that point, a more long-term decision could be made about how to manage it.

Opponents argue that private firms might not be safe stewards of the spent nuclear fuel, and that the risks of transporting radioactive materials to and from a temporary facility would be too high.

Supporters argue that private facilities for temporary storage of spent nuclear fuel would remove the materials from their current locations near large population centers, rivers, and oceans, and would allow more time for developing longer-term management options.

w84_opt3 Using the scale from one to seven, where one means *strongly oppose* and seven means *strongly support*, how do you feel about the option for opening privately owned facilities where spent nuclear fuel would temporarily be stored?

%	Strongly Oppose						Strongly Support	Mean
	1	2	3	4	5	6	7	
07 web	21	14	19	26	14	3	3	3.19
06 web	21	18	16	25	12	4	3	3.12
06 phone	43	15	14	9	9	4	6	2.59

[07 web vs. 06 web: p = .2038]

Finally, worldwide, the spread of nuclear materials that might be used to make nuclear weapons is a growing concern. Some countries may attempt to use nuclear energy programs to produce enriched uranium that can be used for nuclear weapons. Others may try to recover plutonium from spent nuclear fuel and use it in nuclear weapons. Today, North Korea and Iran illustrate these kinds of concerns.

One suggestion to control the spread of nuclear materials is to designate a small number of countries with proven nuclear expertise and a history of secure management of nuclear materials as the only countries authorized to enrich nuclear materials and reprocess spent nuclear fuel. These countries would provide fuel for nuclear power plants at market price to other countries.

Opponents of such a plan argue that this arrangement would place developing countries at the mercy of more highly developed countries who might withhold nuclear fuel needed for producing electricity.

Supporters of such a plan argue that this arrangement would help prevent the spread of nuclear materials that might be used to make nuclear weapons while still allowing developing countries to have the benefits of nuclear energy.

w85_consort Using the scale from one to seven, where one means you would *strongly oppose* this process and seven means you would *strongly support* it, how do you feel about having a few designated countries provide nuclear fuel at market price to all other countries that produce nuclear energy?

%	Strongly Oppose						Strongly Support	Mean
	1	2	3	4	5	6	7	
07 web	14	10	14	31	18	7	5	3.72
06 web	14	10	14	31	18	8	5	3.73
06 phone	22	10	12	16	15	11	14	3.82

[07 web vs. 06 web: p = .7610]

The next several questions are about your beliefs concerning a variety of issues.

w86_doright First, on a scale from zero to ten, where zero means *none of the time* and ten means *all of the time*, how much of the time do you trust the government in Washington to do what is right for the American people?

%	None of the Time										All of the Time		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	9	8	14	16	10	16	12	10	4	1	1	3.93	
06 web	7	9	12	15	10	16	13	9	5	2	1	4.09	
06 phone	10	8	10	11	12	19	10	8	7	1	3	4.16	

[07 web vs. 06 web: p = .0549]

Now, please respond to each of the following statements using a scale from one to seven, where one means *strongly disagree* and seven means *strongly agree*.

w87_belf1 Unless directly attacked, the US should not use military force without authorization from the United Nations.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	16	9	10	16	16	15	17	4.20
06 web	17	8	9	18	16	15	16	4.19
06 phone	26	8	7	7	11	14	26	4.16

[07 web vs. 06 web: p = .9184]

w88_belf2 Like the citizens of many other countries, officials and citizens of the US, including members of the military, should be subject to criminal proceedings under the International Criminal Court in Europe.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	14	7	9	23	19	12	17	4.30
06 web	14	6	8	23	17	15	18	4.40
06 phone	24	6	6	11	15	12	26	4.25

[07 web vs. 06 web: p = .1711]

w89_belf3 We should agree to accept internationally established limits on US production of carbon dioxide and other greenhouse gases thought to cause global warming.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	8	4	8	20	22	17	21	4.78
06 web	8	6	7	22	21	16	21	4.76
06 phone	12	4	7	10	19	16	31	4.92

[07 web vs. 06 web: p = .8529]

w90_belf4 The US can never entrust its security to international organizations such as the United Nations.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	5	7	10	20	17	13	27	4.84
06 web	5	6	10	20	17	15	27	4.91
06 phone	13	9	9	10	16	10	33	4.72

[07 web vs. 06 web: p = .2935]

w91_belf5 Even though allies are important, the US must be willing to act alone to protect American interests.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	3	4	7	16	21	18	30	5.24
06 web	3	5	6	15	21	20	30	5.25
06 phone	9	6	8	8	16	12	40	5.14

[07 web vs. 06 web: p = .7907]

w92_belf6 The US must be willing to act preemptively by using military force against those that threaten us before they can attack us.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	9	10	10	19	20	13	19	4.48
06 web	8	8	12	21	19	13	20	4.53
06 phone	16	8	9	11	15	11	30	4.54

[07 web vs. 06 web: p = .4624]

w93_belf7 What society needs is a fairness revolution to make the distribution of goods more equal.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	12	9	11	25	21	10	13	4.16
06 web	11	10	11	26	18	10	14	4.16
06 phone	16	11	9	14	17	11	24	4.30

[07 web vs. 06 web: p = .9760]

w94_belf8 Society works best if power is shared equally.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	5	7	10	25	23	16	15	4.62
06 web	6	7	9	25	22	16	15	4.58
06 phone	9	6	8	12	19	13	33	4.97

[07 web vs. 06 web: p = .4750]

w95_belf9 It is our responsibility to reduce differences in income between the rich and the poor.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	14	8	9	21	18	12	17	4.25
06 web	13	9	11	20	18	12	16	4.24
06 phone	19	9	10	12	14	9	28	4.31

[07 web vs. 06 web: p = .9024]

w96_belf10 In the long run, spreading democracy is the best way to create a peaceful world.

%	Strongly Disagree					Strongly Agree		Mean
	1	2	3	4	5	6	7	
07 web	5	7	11	26	24	13	13	4.50
06 web	5	5	9	27	22	15	16	4.63
06 phone	9	4	10	14	17	14	32	4.96

[07 web vs. 06 web: p = .0262]

w97_belf11 If terrorists use a nuclear weapon against the US, we would be justified in using nuclear weapons to fight a war on terrorism.

%	Strongly Disagree						Strongly Agree	Mean
	1	2	3	4	5	6	7	
07 web	9	8	9	19	17	14	23	4.63
06 web	11	9	8	20	15	13	25	4.56
06 phone	20	11	7	9	11	9	32	4.34

[07 web vs. 06 web: p = .3585]

w98_faith Now, using a scale from zero to ten, where zero means *not at all important* and ten means *extremely important*, how important is religious faith in your life?

%	Not at All Important										Extremely Important		Mean
	0	1	2	3	4	5	6	7	8	9	10		
07 web	8	3	5	4	4	11	6	11	11	8	29	6.57	
06 web	8	4	3	4	4	11	7	10	12	7	30	6.62	
06 phone	5	4	4	4	2	8	6	12	9	5	42	7.27	

[07 web vs. 06 web: p = .6819]

w99_rel With which of the following major religions do you most identify? Is it:

%	Buddhism	Christianity	Hinduism	Islam	Judaism	Something Else
	1	2	3	4	5	6
07 web	2	86	1	0	5	5
06 web	2	85	1	1	4	8
06 phone	2	82	1	0	1	14

w100_web Shifting to another issue, approximately how often do you access the Internet? Is it:

	<u>Never</u>	<u>< Once/</u> <u>Month</u>	<u>Several Times/</u> <u>Month</u>	<u>Once/</u> <u>Week</u>	<u>Several Times/</u> <u>Week</u>	<u>Once or</u> <u>Twice/Day</u>	<u>Several Times/</u> <u>Day</u>
%	0	1	2	3	4	5	6
07 web	1	0	1	1	8	25	64
06 web	0	0	1	2	10	28	59
06 phone	11	10	4	7	14	18	37

Different people rely on different sources of information about public issues. On average, approximately how many hours per week do you spend acquiring information on public issues from each of the following sources?

w101_srce1 Newspapers?

Trimmed Mean (50)

07 web	4.70
06 web	4.23
06 phone	4.08

[web 06 vs. web 07: p = .0724]

w102_srce2 Broadcast or cable television?

Trimmed Mean (50)

07 web	10.41
06 web	9.49
06 phone	7.85

[web 06 vs. web 07: p = .0229]

w103_srce3 The Internet, including news sources, blogs, discussion groups, etc.?

Trimmed Mean (50)

07 web	8.56
06 web	7.67
06 phone	3.35

[web 06 vs. web 07: p = .0173]

Finally, I need some basic background information.

w104_zip What is the zip code at your residence? (verbatim)

w105_heat What is the primary source of heating for your home?

	<u>Electricity</u>	<u>Natural Gas</u>	<u>Fuel Oil</u>	<u>Coal</u>	<u>Something Else</u>
%	1	2	3	4	5
07 web	35	52	8	0	5
06 web	39	52	7	0	2
06 phone	31	52	9	1	7

w106_cars Counting all cars, trucks, vans, and SUVs, how many licensed and working vehicles does your household currently own or lease?

Trimmed Mean (7)

07 web	1.94
06 web	1.98
06 phone	2.25

[web 06 vs. web 07: p = .2329]

w107_miles For all vehicles in your household combined, approximately how many miles do members of your household drive in a typical week? (verbatim)

Trimmed Mean (3,000)

07 web	192.64
06 web	221.73
06 phone	273.45

[web 06 vs. web 07: p = .0027]

w108_mpg To the best of your knowledge, approximately how many miles per gallon does your primary household vehicle get?

Trimmed Mean (70)

07 web	22.68
06 web	23.03
06 phone	23.80

[web 06 vs. web 07: p = .2758]

w109_hybrid Do you currently own a hybrid or biofuel vehicle?

%	Yes	No
07 web	2	98
06 web	3	97
06 phone	4	96

[web 06 vs. web 07: Chi Sq: p]

w110_ptrans How many times per week, on average, do you use public transportation, such as a bus, subway, or train?

Trimmed Mean (50)

07 web	0.53
06 web	0.69
06 phone	0.43

[web 06 vs. web 07: p = .0984]

w111_party With which political party do you most identify?

%	<u>Democratic</u> 1	<u>Republican</u> 2	<u>Independent</u> 3	<u>Other Party</u> 4
07 web	37	34	23	6
06 web	36	34	22	8
06 phone	46	41	8	5

w112_iden Do you completely, somewhat, or slightly identify with that political party?

%	<u>Slightly</u> 1	<u>Somewhat</u> 2	<u>Completely</u> 3	Mean
07 web	14	60	26	2.12
06 web	13	62	25	2.12
06 phone	13	55	32	2.18

[07 web vs. 06 web: p = .9662]

w113_ideol On a scale of political ideology, individuals can be arranged from strongly liberal to strongly conservative. Which of the following best describes your views? Would you say that you are:

%	<u>Strongly Liberal</u> 1	<u>Liberal</u> 2	<u>Slightly Liberal</u> 3	<u>Middle of the Road</u> 4	<u>Slightly Conserv.</u> 5	<u>Conserv.</u> 6	<u>Strongly Conserv.</u> 7	Mean
07 web	5	12	11	35	15	16	6	4.16
06 web	4	13	12	34	14	16	7	4.18
06 phone	5	12	11	25	16	20	11	4.36

[07 web vs. 06 web: p = .6664]

w114_race Which of the following best describes your race or ethnic background?

%	<u>American Indian</u> 1	<u>Asian</u> 2	<u>Black</u> 3	<u>Hispanic</u> 4	<u>White</u> 5	<u>Something Else</u> 6
07 web	1	3	4	2	89	1
06 web	1	3	5	4	86	1
06 phone	3	2	4	4	84	2

w115_inc Please indicate which of the following income categories approximates the total estimated annual income for your *household* for the year 2005.

%	<u><\$10K</u> 1	<u>\$10–20K</u> 2	<u>\$20–30K</u> 3	<u>\$30–40K</u> 4	<u>\$40–50K</u> 5	<u>\$50–60K</u> 6	<u>\$60–70K</u> 7
07 web	5	9	13	11	8	13	12
06 web	5	8	13	12	11	14	10
06 phone	3	7	11	10	11	11	10

%	<u>\$70–80K</u> 8	<u>\$80–90K</u> 9	<u>\$90–100K</u> 10	<u>\$100–110K</u> 11	<u>\$110–120K</u> 12	<u>\$120–130K</u> 13	<u>\$130–140K</u> 14
07 web	6	5	5	4	2	2	1
06 web	7	5	3	3	2	2	1
06 phone	8	7	4	3	3	3	2

%	<u>\$140–150K</u> 15	<u>\$150–160K</u> 16	<u>\$160–170K</u> 17	<u>\$170–180K</u> 18	<u>\$180–190K</u> 19	<u>\$190–200K</u> 20	<u>>\$200K</u> 21
07 web	1	0	0	0	0	1	1
06 web	2	1	0	0	0	1	1
06 phone	1	1	1	1	0	1	3

%	Median
07 web	\$50–60K
06 web	\$50–60K
06 phone	\$50–60K

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Los Alamos National Laboratory
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