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Multiple frame environments and mediating factors: does context affect opinion on same-sex marriage and civil unions?

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University of Iowa

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MULTIPLE FRAME ENVIRONMENTS AND MEDIATING FACTORS: DOES
CONTEXT AFFECT OPINION ON SAME-SEX MARRIAGE AND CIVIL UNIONS?

by
James Scott Krueger

An Abstract

Of a thesis submitted in partial fulfillment
of the requirements for the Doctor of
Philosophy degree in Political Science
in the Graduate College of
The University of Iowa

July 2009

Thesis Supervisors: Professor Michael S. Lewis-Beck
Associate Professor David Redlawsk

ABSTRACT

This dissertation examines the effects of issue frames and individual-level mediating factors on attitudes toward same-sex marriage and civil unions. It employs three survey experiments to test both competing and non-competing frame environments, an advance which will clarify the effect of these environments on public opinion. Prior literature on multiple frame environments has failed to reach consensus on the effects of multiple frame environments (MFEs) on public opinion, MFEs may: moderate subject opinion or facilitate stronger connections between subject core values and issue opinions.

Results indicate that frame effects vary with framing environment: subjects presented with two persuasive frames advocating the same issue position, or a persuasive frame advocating one position and an unpersuasive frame advocating another, reported opinions closer to the persuasive frames than the control groups. Subjects who received persuasive frames advocating contrary positions reported more moderate positions than the control groups. The magnitude of frame effects also varied by question, with larger effects recorded for the civil unions question than the same-sex marriage question. On balance, these findings support the literature suggesting that multiple frame environments moderate public opinion, although some core value-issue opinion linkages were strengthened by the framed environments. Results for the individual-level political sophistication hypotheses were inconclusive.

This thesis extends prior work on MFEs to a salient and divisive issue, with multiple possible solutions. In doing so, it helps resolve a debate in the literature on the effect of MFEs on public opinion. It also provides a first test of individual-level factors, such as respondent political sophistication, which may mediate the reception and processing of these frames by citizens. Finally, this thesis tries to bring both of these literatures into communication with one another to better understand the effects of each in relation to public opinion.

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Graduate College
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CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

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has been approved by the Examining Committee
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To Scott and Barbara

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CHAPTER 1: INTRODUCTION

1.1 Iowa's debate over legal recognition of same-sex relationships

Since the mid-1990s, the number of states who have ratified statutes or constitutional amendments banning formal recognition of same-sex relationships has increased dramatically across the United States. A representative case of such actions was the 1998 amendment of Iowa Code section 595.2(1) to state that “only a marriage between a male and female is valid” (Varnum v. Brien 2009, 8). In the following years, Iowa's neighbors enacted similar legislation: Illinois and Minnesota have statutes which ban same-sex marriage, Missouri went a step further to amend its state constitution to ban such marriages, and Nebraska, South Dakota, and Wisconsin passed constitutional amendments which ban state recognition of any form of same-sex relationship.¹

Despite these uniformly negative legislative actions, six same-sex couples attempted to receive marriage licenses in Polk County, Iowa in 2005. After having their applications for marriage denied under the 1998 state statute, the couples filed suit with the Polk County Court in December, 2005 (Lamda Legal 2009). Judge Robert Hanson ruled the state statute unconstitutional on August 30, 2007, but issued a stay on the decision shortly thereafter. In that time only one same-sex couple married, due to a three day waiting period normally required of all marriage applications.²

Later that year the ruling was upheld by an Iowa district court and appealed to the state's Supreme Court. On December 9th, 2008, the Iowa Supreme Court heard oral arguments on the case. In addition to the oral arguments, 24 amicus curiae briefs were

¹ Wisconsin Governor Jim Doyle has subsequently proposed to recognize same-sex domestic partnerships in spite of the 2006 constitutional amendment, however the fate of the proposal has yet to be resolved (Foley 2009).

² The waiting period can be waived by a judge, for a ‘good cause’ and with a \$5 fee.

filed with the Court.³ These briefs highlighted a number of arguments on both sides of the same-sex marriage debate. Proponents cited appeals to equal protection under the state constitution, echoing the appeals of other proponents of same-sex marriage who have attempted to define the issue as a matter of equality.⁴ Opponents of the ruling focused on the threat to ‘traditional’ marriage represented by officially recognizing same-sex marriage, as well as religious exceptions. In keeping with recent appeals made in California’s “Yes on Proposition 8” movement, and Arkansas’ referendum on same-sex adoption opponents also argued that same-sex marriage represented a threat to children of both same and opposite sex unions.

Following this outpouring of opinion on both sides of the issue the Iowa Supreme Court issued a ruling on April 3rd, 2009. In that decision, the Court legalized same-sex marriage within the state of Iowa. Writing the unanimous decision, Justice Mark S. Cady struck down the 1998 statute:

“We are firmly convinced the exclusion of gay and lesbian people from the institution of civil marriage does not substantially further any important government objective. The legislature has excluded a historically disfavored class of persons from a supremely important civil institution without a constitutionally sufficient justification.” (Varnum v. Brien 2009, 67)

The language used here by Justice Cady mirrors that of Iowa’s state constitution, which contains a strong equal protection clause. Following the decision, the Court directed all government agencies to amend their policies to allow same-sex marriages beginning April 24th, 2009. This date was later pushed back to April 27th, 2009.

What accounts for the substantial shift in Iowa’s policy toward same-sex couples? Is the ruling likely to be invalidated by a subsequent constitutional amendment, or does it represent a continuation of the trend of Northeastern states such as Connecticut,

³ California’s ongoing challenge to Proposition 8, *Strauss v. Horton*, has prompted 62 *amicus* briefs.

⁴ See chapter 2 for an expanded discussion of this.

Massachusetts, and Vermont who also recognize same-sex marriages. This dissertation applies the issue frames used in Iowa's debate over same-sex marriage, along with others used across the U.S., to a variety of framing and question order experiments in an attempt to understand the effects of these frames on the public opinion both of the population as a whole, as well as specific groups distinguished by their value preferences and degree of political sophistication. The remainder of this chapter looks at the debate over same-sex marriage and civil unions across the nation, and outlines the topics of subsequent chapters.

1.2 Developments in the recognition of same-sex relationships across the U.S.

The debate over same-sex marriage persists at both the federal and state levels in the United States. President Clinton signed a federal Defense of Marriage Act into law in 1996, effectively barring recognition of same-sex marriages by federal agencies (Eskridge 1996, 3). In spite of this, there has been no federal legislation trend against same-sex marriage. The Senate blocked President Bush's ban on same-sex marriage in 2006 by failing to bring the constitutional amendment to a vote. (BBC News 2006a, Brewer 2008).

The ambivalence that these federal actions suggest persists into the 2008 elections. Neither the Democratic nor Republican nominees provided a clear position on the issue of same-sex marriage. Senator McCain came out in support of state-level defense of marriage acts, while opposing a national constitutional ban. While then Senator Obama argued that gay couples in California deserve 'full equality' during his campaign, he stopped short of endorsing their right to marry. Obama supported the creation of civil unions which grant the same legal protections as marriage instead (Smith 2008). In keeping with these nuanced positions, neither candidate sought to promote same-sex marriage as a major issue in the campaign.

State governments have also failed to reach a consensus on the issue. Currently 28 states have amended their constitutions to bar recognition of same-sex marriage by defining marriage as a union between a man and woman. Another 16 states have passed statutes to the same effect⁵ (Lewin 2003; New York Times 2004; BBC News 2006b, 2006c). Although these 45 states comprise an overwhelming majority against the recognition of same-sex couples, many of the same states grant same-sex couples some or all of the legal protections and benefits of marriage. Washington State, for example, provides registered couples access to one another's medical information similar to married couples (Washington Secretary of State 2008).

Differences also exist among the states which have not passed a Defense of Marriage Act or constitutional amendment. Same-sex marriage was legalized in Massachusetts on May 17, 2004, in California on June 11, 2008, in Connecticut on October 28th, 2008, in Iowa on April 3rd, 2009, and in Vermont on April 7th, 2009.⁶ Massachusetts did not allow gay couples residing in other states to marry in Massachusetts until this year, however. Also this year, New York's Governor David Paterson directed his state's government agencies to recognize same-sex marriages from

⁵ This paper uses a number of terms throughout that would benefit from conceptual clarification before proceeding. A civil union is a legal arrangement that guarantees the couple same rights offered by the institution of marriage in the locality in which it was issued (Gomes 2003). Domestic partnerships grant same-sex couples a shorter list of rights, again in the state in which it was issued. Same-sex marriage, by contrast, offers opposite-sex couples a greater list of rights, including legal guardianship over incapacitated individuals, survivor's benefits, and inheritance rights, among others, all of which follow the married couple despite interstate travel or relocation through the Full Faith and Credit Clause (Eskridge 1996; 66).

Defense of Marriage Acts (DOMAs) seek to legally define marriages as a union between a man and woman to avoid couples suing for the right to marry within the state. DOMAs also do not recognize marriages by resident or visiting nonresident couples that were married in other states (Kersh 1997; 135). Some states have introduced laws which exceed the strength of regular DOMAs. These 'super DOMAs' also void civil union or domestic partnership benefits granted by other states. States with these strong acts include Ohio and Louisiana.

⁶ California voters subsequently passed an initiative that banned same-sex marriage in November 2008.

other states (Belluck 2008). In doing so, New York joined Rhode Island in recognizing out of state gay marriages (Legislatures 2007; Brewer 2008).⁷

Some states which now recognize same-sex marriage began by issuing same-sex civil unions, an arrangement which provides many of the same legal protections as marriage under a different name. This was the case for Vermont, who first recognized same-sex civil unions in 1999. Recently, other states have chosen to recognize same-sex relationships in this manner. New Jersey and New Hampshire began issuing civil unions in January 2008. Oregon, Maine, Washington, and the District of Columbia allow some or all the benefits of marriage to same-sex couples through domestic partnership laws. Hawaii currently recognizes partnerships and unions granted in other states (Gomes 2003; 17).

1.3 Attitudes toward same-sex marriage and civil unions in the U.S

Trends in public opinion on gay rights issues mirror the mixed picture presented by federal and state governments. Between 1970 and 1977, 70% of the public considered homosexuality ‘always wrong’ (de Boer 1978). By 2003, the percentage of the population holding an unfavorable view of homosexuals dropped to 60% of the public (Pew 2003).

Opposition specific to same-sex marriage has fluctuated over time. A number of polls have recorded the fluctuations of public opinion on same-sex marriage prior to 2004. Each shows increasingly favorable public attitudes towards the issue with strong

⁷ Iowa allowed same-sex marriages from August 30-31, 2007. On August 31, 2008 the presiding judge in the marriage ruling placed a stay on any further marriages, pending review by the Iowa Supreme Court. A constitutional amendment banning same-sex marriage failed in the Iowa legislature in 2008 (BBC News 2007). Another attempt at introducing a constitutional amendment was made following the state Supreme Court ruling in favor of same-sex marriages in 2009. In that session, the amendment failed to come to the floor of either the Iowa House or Senate.

reversals in presidential campaign years of 1996 and 2004. These reversals appear to be the result of conservative voter mobilization efforts during electoral campaigns (Lewis and Gossett 2008, 7). Since 2004, public support for same-sex civil unions has increased substantially, to approximately 49% nationwide. Opposition to a constitutional amendment barring same-sex marriages has also increased, achieving parity with support in 2008 (Buchanan 2006; Gallup Poll 2007; Brewer 2008).

Same-sex marriage remains a highly salient issue for the public. A recent study suggests a third of voters believe same-sex marriage is a ‘very important’ issue (Pew 2008). Both Evangelicals and Republicans are more likely to list the issue as very important compared to other voters. This evidence fits with a statement by Tom McClusky of the Family Research Council, who believes that gay marriage is a mobilizing issue for conservative voters. “These issues [marriage and other gay rights issues] motivate the grassroots and will get the people in churches and people who care about these issues not only out to vote, but hopefully, bringing their friends along.” (Smith 2008).

1.4 The purpose of this dissertation

In light of these events, it is apparent that the debate over the state sanctioning of same-sex relationships remains a salient and divisive issue among elites and the general public. It is, therefore, a useful issue on which the logic of competing frames can be tested. Members of the general population are more likely to be familiar with some or all of the arguments relating to salient issues, and have an opinion on the issue. This should reduce the possibility of frames ‘creating opinion’ for subjects rather than reminding them of arguments relevant to the debate, and helping them link the issue with its underlying values.

To the extent that the public is already familiar with part or all of this debate, we might expect that frames in general will have less of an effect on subject attitudes. Also,

one of these relationships, same-sex marriage, often provokes an immediate, gut reaction from the public—no frame-provided interpretation necessary. These factors make this issue a stringent test for issue frames. Any framing effects which result would suggest that frames have an impact on opinion even on issues where they are least likely to.

The goal of this thesis is to gain a clearer understanding of how different arguments about same-sex marriage affect public opinion. Can issue frames reduce bias in measuring subjects' opinions? Further, does the provision of issue frames help subjects provide more consistent answers across other gay rights issues?

This dissertation also engages the question of how well issue frames can travel between easy and hard issues. Both same-sex marriage and civil unions are part of a larger discussion over the government's role in sanctioning same-sex relationships, but substantial differences in the public's understanding of these different relationships exist. Same-sex marriage is often considered an 'easy' issue, in that the public readily understands what marriage is. Civil unions, by contrast, are less familiar, and can vary between states in the rights granted and their recognition in other places. How does the public deal with this information difference? Do they rely more heavily on issue frames for civil unions than marriage? Do frames which are targeted to same-sex marriage remain effective when applied to the question of same-sex civil unions?

Not all individuals approach political issues in the same way. Some are more likely to follow political campaigns and seek information on current issues than others. The experiments conducted here also account for variation in political sophistication between subjects, by comparing their consistency across gay rights issues. Differences between subjects would suggest that portions of the public process issue frames differently and further clarify the relationship between issue frames and public opinion.

Finally, this dissertation also engages work on core values, those underlying general preferences which translate into opinion on specific issues. Do issue frames facilitate values-opinion linkages? Unintentional differences in question wording can

account for differences in opinion of up to 15% in survey responses (Zaller 1992, 19). If issue frames are found to strengthen the link between core values and issue opinions, this bias-induced inconsistency in subject opinion can be reduced.

Apart from these benefits, this dissertation will also provide insight into the results of recent referenda on same-sex marriage in Arizona, California, and Florida. It will also suggest which groups are most susceptible to framed appeals on future same-sex marriage referenda. This question is of particular importance to the Iowa case, discussed above. Prospective candidates for the 2010 Governor's race, as well as several state legislators have vowed to make this a central issue in that election. Opponents of the recent decision have also promised to put a constitutional amendment banning state recognition of same-sex relationships to a vote in that election. My findings on the persuasiveness of different frames will suggest which frames may be most successful in attracting public support during this ongoing debate.

1.5 Outline of the following chapters

The following chapters explore the many questions from the last section with a series of survey experiments. These experiments utilize both student and national samples to examine the different effects of a variety of issue frame combinations on attitudes toward same-sex marriage and civil unions. What follows is a brief outline of each chapter.

Chapter 2 reviews the framing literature in several fields to identify the competing theories of framing effects in multiple frame environments. The chapter also summarizes work on LGBT (Lesbian Gay Bisexual and Transgender) issues in political science. It then builds a theory of multiple frame environments which is sensitive to the strength and content of the issue frames present within each specific framing environment. The chapter also comments on the importance individual level factors, such as political

sophistication and contact with members of the gay community may have on attitudes. The chapter concludes by detailing the hypotheses tested in subsequent chapters.

Chapter 3 describes the 2005 and 2007 University of Iowa student experiments, as well as the 2008 national experiment. In doing so, it highlights potential sources of opinion variation resulting from the population each subject sample is drawn from, as well as possible differences created by the different survey techniques employed by each experiment. The chapter also discusses the applicability of an experimental method to the questions examined in this project. It closes with a brief description of the demographic characteristics of each sample.

Chapter 4 offers a first look at framing and question order effects across all three experiments. These effects are the most basic indicators of framing effects considered in this thesis, and they are explored for each sample in the aggregate. The chapter also looks at priming effects across related LGBT issues. This analysis relies on crosstabs and chi-squared tests, as well as one-way ANOVA, and finds limited effects based on an interaction between frames and question order, as well as priming effects in the 2008 experiment.

Chapter 5 engages recent work by scholars who have begun to examine the effects of an issue frame's persuasiveness when presented with other frames. These multiple frame environments have many variations. Three are explored here. These environments differ based on the persuasiveness, and direction of the frames provided to subjects. The chapter also examines differences in persuasiveness across related issues—does a frame designed for same-sex marriage remain persuasive when talking about civil unions? The analysis again relies on crosstabs, as well as ordered logit tests. It finds limited support for the ability of frames to improve value-opinion linkages, as well as an unexpected question order effect.

Chapter 6 engages the debate over the effects of multiple frame environments on opinion-value linkages by comparing subjects on the basis of their framing condition and

core value hierarchies. It suggests that subjects in framed conditions which support their underlying value preferences are better able to link their opinion to their values than those subjects who receive frames which contradict their opinion.

Chapter 7 opens with a brief summary of the dissertation's findings. It then provides linkages between the different findings offered by each chapter to suggest a broader pattern of framing effects across subjects with different values and levels of political sophistication. Following this, the chapter returns to the continuing debate over same-sex marriage across the United States to offer a richer understanding of recent events and suggest who is most susceptible to issue framing. The chapter closes with suggestions for future research on issue framing.

CHAPTER 2: A THEORY OF MULTIPLE FRAME ENVIRONMENTS

2.1 Introduction

The previous chapter has laid out the case for the salience of same-sex marriage and civil unions to national politics. This chapter extends this discussion by reviewing the literature on LGBT studies in political science, and linking this work to research on issue frames. The review builds the case for the use of this debate in a study of multiple frame environments. The chapter closes by detailing the hypotheses examined in this dissertation.

2.2 LGBT studies in political science

A diverse literature examines many aspects of the relationship between homosexuality and politics. One strand of research theorizes about the importance of homosexuality as an identity (Singorile 1993; Sullivan 1995; Link 2001; Riggle, Thomas, and Rostosky 2005), while another focuses on the history and experiences of the gay rights movement (D'Emilio 1983; Wald, Button, and Rienzo 1996; Haider-Markel and Meier 1996, 2003; Gamble 1997). These literatures form the context from which more recent work has evolved.

This newer research examines the impact of government action, electoral systems, and public opinion on a variety of gay rights issues. Haider-Markel and Meier (1996) explore the ability of rights activists to expand the scope of the conflict over anti-discrimination protection and military service beyond the gay community. Other scholars focus on the passage of community-specific anti-discrimination legislation (Wald, Button, and Rienzo 1996). Research at the state level focuses on the role direct democracy plays in securing (or eroding) rights for minority groups (Donovan and Bowler 1998). Haider-Markel et al (2007, 310) argue direct democracy mechanisms are weak tools for supporters of gay rights. Their work finds that, regardless of the size of

the jurisdiction, 71% of pro-gay rights initiatives have failed. This work supports the general consensus among scholars of direct democracy that gay rights have fared better under mechanisms of representative democracy than direct. Extensions of this work contextualize homosexuals and other minority groups as part of a class of electoral 'losers' and explore the effects of different mechanisms of direct democracy on their mobilization and trust in government (Bowler and Donovan 2002; Bowler, Nicholson, and Segura 2006; Bowler and Donovan 2007).

Despite the variety in the study of gay politics generally, little literature examines same-sex marriage and civil unions specifically. Most scholars who have written on same-sex marriage focus on case law (Gerstmann 1999, 2005; Haider-Markel 1999; Haider-Markel and Joslyn 2001, 2005). While this research has improved our understanding elite opinion and government action, public opinion rarely receives a mention here. An exception can be found in recent work by Fiorina, which offers a nuanced look at support for gay rights and same-sex marriage since the early 1970s (Fiorina, Abrams, and Pope 2006). This work provides a comprehensive examination of support for same-sex marriage, as well as exploring the importance of the issue to different groups of voters.

Among the other studies of public opinion on gay rights, the focus is on macro-level polling trends on a given issue (Gartner and Segura 1997; Yang 1997; Donovan and Bowler 1998; Liu and Macedo 2005; Segura 2005; Egan and Sherrill 2005). This work provides a sense of attitudes towards gay rights generally, and civil unions and marriage specifically, at each point in time. Others have examined the changing public attitudes towards homosexuality and linked these changes to the evolution of public policy on gay rights issues (Haerberle 1999; Lewis and Rodgers 1999; Schroedel 1999; Loftus 2001; Brewer 2003; Wood 2004).

Some of the most useful research on the correlates of support for same-sex marriage has only recently received attention from political scientists. Lewis and Gossett

(2008, 4) track changes in public support for same-sex marriage since 1985. They find that while public support for same-sex marriage has remained stable at approximately 30% nationally, it has increased to 43% in California since the 1980s. They contend that these differences are due in part to generational replacement, but are also due to large gains in support for same-sex marriage among liberals, Democrats, and the less religious (Ibid. 21-22). This article appeared just months prior to the decision by the California Supreme Court to allow same-sex marriage, and subsequent initiative repealing it, and offers insight into which groups are most likely to support or oppose future efforts to repeal same-sex marriage.

Lewis and Gossett's work is situated in a multi-disciplinary conversation of the correlates of support for same-sex marriage. Scholars from sociology, psychology, and marriage and family studies have been more active in this avenue of research than political scientists. With regard to gender, scholars have found that women are more likely to express a supportive attitude towards same-sex marriage (Finlay and Walther 2003; Steffens and Wagner 2004). Examination of ideology and religion produce similarly clear cut results: conservatives are less supportive of gay marriage than liberals, as are high religiosity and high frequency church attendees compared with low frequency attendees and the nonreligious (Fish et al. 1994; Emerson and Hartman 2006). Support for same-sex marriage has also been found to vary by race. Lewis (2003) finds whites to be more supportive of gay rights generally and gay marriage specifically than blacks, and Brumbaugh et al. (2008) report similar findings.

2.2.1 Experimental research on same-sex marriage

While the study of gay rights and same-sex marriage has expanded into a sizeable and varied literature over the past two decades, the use of experimental methods to study gay rights has remained infrequent. A welcome exception to this trend can be found in the work of Paul Brewer. In a series of articles, Brewer employs frames for and against

same-sex marriage to test hypotheses on frame processing (2001), explanations of opinions (2002), and linkages between opinions and core values (2003, Brewer and Gross 2005). These articles have been updated and collected into a book, which details the many aspects of public opinion surrounding gay rights since the 1990s (Brewer 2008). His findings suggest that citizens who are more politically knowledgeable may be less susceptible to framing effects. Further, the use of frames can influence the language subjects use to explain their opinions. Subjects in single frame conditions who received an ‘equality’ frame responded using an equality-based language, while those who received a ‘morality’ frame preferred a moral language. Finally, his limited competing frames study suggests that the presence of multiple frames may dampen framing effects, generally (2008).

I concur with Brewer that much more can be learned about the uptake and processing of competing elite frames through an analysis of public attitudes towards same-sex marriage and civil unions. This project expands on Brewer's work by examining the importance of different frame environments on support for same-sex marriage, as well as revisiting the question of linkages between competing frame environments and core values.

2.3 Framing research

Although relatively few scholars have examined attitudes toward same-sex marriage using an experimental methodology, the volume of experimental research on framing effects is substantial. Early work on framing identified “schemata of interpretation” which were used to “locate, perceive, identify, and label” events (Goffman 1974, 21). Building on the work of Goffman, Snow and Benford (1992, 137) I define a frame as “an interpretive schemata that simplifies and condenses the ‘world out there’ by selectively punctuating and encoding objects, situations, events, experiences and sequences of action within one’s present or past environment”. Other scholars have

similarly defined the phenomenon, emphasizing that frames construct and define the issue for their audience and suggest what should be done about it (Nelson, Oxley, and Clawson 1997; Sniderman and Theriault 2004, 11; Berinsky and Kinder 2006, 642).

In other words, framing is the reduction of a complex argument or event into a smaller phrase, often one that has a particular resonance with those supporting the frame or the public at large. An example might be couching one's presidential vote choice in 1992 as an evaluation of economic policies, the reduction of the campaign to 'It's the economy, stupid'. Kinder and Sanders (1990, 76) offer another example in their survey-experiment, comparing white subjects' attitudes under differing frames. They frame acceptance of affirmative action policies as a need for 'remedial action'.

How exactly do these alternative framings affect public attitudes? By offering divergent frames, elites hope to influence public opinion in the direction of their policy preferences. Tversky and Kahneman find that these different conceptualizations of the same issue often have strong effect on an individual's preferences. "Individuals who face a decision problem and have a definite preference might have a different preference in a different framing of the same problem, [and] are normally unaware of alternative frames and of their potential effects on the relative attractiveness of options..." (1981; 457). For example, an individual with many gay friends may weakly support the idea of same-sex marriage if asked. If the same individual is also Catholic, the use of an 'against my religion' frame may increase the salience of her religious preference in her opinion on same-sex marriage and thereby evoke an opposition to marriage response.

The provision of a frame, then, alters a subject's response to a given issue not by altering the opinion itself, but by "passively altering accessibility of different considerations" relevant to the issue (Druckman 2001, 1044; Entman 2007). This understanding of frames agrees with Nelson and Oxley's (1999) finding that it was the *importance attached to beliefs, rather than the beliefs themselves*, that were altered through the introduction of differing frames.

The persistence of framing effects remains a large question in the literature, however. While the frames themselves may persist over time (Reese 2007) or oscillate between periods of stagnation and quick evolution (Brewer 2008), many scholars suggest that the impact of these frames on public opinion dwindles quickly. Among them, Mutz and Reeves found framing effects from their studies to last between ten days and three weeks, depending on the subject, other scholars have reported similar findings (Mutz and Reeves 2005, see also Gaines, Kuklinski, and Quirk 2007). Several other studies have also noted that the effects of frames appear short lived (Druckman and Nelson 2003, Jackman and Sniderman 2006, Chong and Druckman 2007b).

One explanation for the sharp decline in framing effects over time could be the frequency with which the frame is employed by elites. As frames are altered or drop out of public discourse on a given issue, they lose their ability to resonate with elites. In other words, frame repetition is integral to frame strength—if a frame is not frequently used in public discourse it will not resonate with the public. In the above studies, the experiments relied on hypothetical issues, or issues whose salience has decreased over time. The paucity of framing effects over time should not be surprising, then—in effect subjects must ‘relearn’ the frames and issues unless they remain near the top of public discourse. Since the late 1990s same-sex marriage and, to a lesser extent, civil unions have remained a focus of local, statewide, and national political campaigns, as well as individual legislation. As a result, framing effects on marriage and unions are much more likely to persist than those on less visible issues.

Framing effects are not limited only to public policy issues; they can also be applied to institutions or political actors. Nicholson and Howard (2003) examine the impact of differing frames on the levels of specific and diffuse support for the Supreme Court following the 2000 *Bush v. Gore* ruling. Their results suggest that frames linking partisanship to the Court reduce specific support for the institution, while frames linking the Court to adjudicating the election reduced diffuse support (Ibid 71). Other scholars

have examined the use of frames in EU governmental debates (Morth 2000) and in support for specific electoral reforms (Bowler and Donovan 2007).

Framing is distinct from other closely related 'passive' processes: persuasion, priming, and agenda setting (Druckman 2001). Persuasion differs from framing in that it seeks to alter actual belief content, rather than the importance attached to those beliefs (Nelson and Oxley 1999). Examples of the use of persuasion can be found in the work of several scholars, including: Brewer (2001) and Peffley and Hurwitz (2007). These experiments attempt to change subject attitudes through the presentation of information contrary to the subject's opinion. Other examples of this 'counterargument' technique can be found in the work of Sniderman and Piazza (1993) and Jackman and Sniderman (2007).

Priming also differs from framing. The emphasis here is on the repetition of a given issue or position to define a second issue in terms of the first. For example, the use of initiatives to ban same-sex marriage in the 2006 and 2008 elections was, in part, an attempt to focus voter attention on same-sex marriage when voting on candidate races. Examples of this sort of work can be found in Miller and Krosnick (1998) and Huber and Lapinski (2001). A recent issue of the *Journal of Communication* presented a collection of articles on the distinctions between priming and framing (Scheufele and Tewksbury, 2007).

Finally, second order agenda setting differs from framing. Edy and Meirick (2007, 121) distinguish framing from agenda setting in that the former focuses on the power of the message coming from its connection to the narrative structure of the story, whereas the latter relies on repetition of the message, much like priming. Further, they differ in their objects of interest, scholars of agenda setting are measuring the difference between the media's agenda and that of the public's, whereas scholars of framing focus on shifts in public opinion resulting from given media frames (*ibid.*). Other scholars

detail the divergence of the agenda setting and framing literatures, noting the growth of the latter in recent years (Scheufele and Tewksbury 2007, Weaver 2007).

2.3.1 Multiple frame environments

Simply identifying the frames most commonly used in public debate on a given issue is not sufficient for creating an experiment, however. Scholars must also decide how they want to employ the frames they have identified. Traditionally, framing experiments have provided the frame as part of a survey item, and then compared the responses with those from a group who received a version of the question which did not employ a frame. More recent work moves beyond the effects of a single frame to include several frames in the question. Work by Sniderman and Theriault (2004) has laid the groundwork for a theory of frame competition—testing the impact of two opposing frames on public opinion. This work represents a challenge to the common wisdom provided by many framing experiments. Sniderman and Theriault (2004, 41) contend that research which provides only one frame to subjects poorly mimics real politics and may make subjects' responses more pliable. Their 'competing frames' theory contends that the presentation of two opposing frames allows subjects to better link their responses to core values.

A number of scholars have built on Sniderman and Theriault's argument, suggesting that frames should be tested under multiple framing environments to better replicate politics in the real world (Chong and Druckman, 2007a, 2007b, 2007c). They argue that frame competition moderates the effects of any one frame. The use of one frame would increase the salience of a particular value to a subject's response, whereas the introduction of two frames would require a subject to evaluate the importance of two values and consciously choose between them.

It is this sort of work that is largely absent from framing studies. Although Kinder and Sanders (1990) provide frames for and against affirmative action policies in

their work, the majority of framing studies avoid the use of more than one frame in a given treatment condition. Sniderman and Theriault's (2004, 19) piece is a reaction to this 'artificial sequestering' of citizens in studies using only one frame. Theirs is one of the first intentional studies of competing frames, to get at the argumentation underlying public debate. Recently, Chong and Druckman (2007a, 102) have expanded on the idea of competing frames, calling for experiments which employ differing numbers of frames and vary exposure to the frames. They assert that all of these conditions can be compared to unframed conditions to provide a clearer understanding of the impact of each frame under each condition.⁸ These studies, they believe, will improve understanding of the importance of frame repetition and strength in affecting public opinion.

Other studies adopting the competing frames approach include Hansen's (2007) study of Danish public opinion. His national telephone survey found that the introduction of competing frames reduced the number of nonattitudes, enabled subjects to provide more consistent answers across a range of public opinion questions, and facilitated linkages between responses and core values (381). Among the many effects of framing an issue in terms of a core value, is the potential for the frame-core value linkage to prime citizen responses on related issues. Kinder and Sanders (1990) find that frames may not have an impact on attitudes towards the issue they discuss, but they can prime values for related issues. Although they were unable to find a difference in attitudes towards affirmative action across their framed conditions, they did see differences in subject's evaluations of other federal assistance and equal opportunity programs (82-3).

Some scholarly attention has focused on multiple, non-competing frame environments. This work examines the acceptance of one frame over another on a single side of a divisive issue, such as gun control (Haider-Markel and Joslyn 2001). The

⁸ By unframed condition I mean that the experiment does not provide an explicit frame within the treatment question. Since each of these issues is subject to framing by elites, subjects are likely to bring an unspoken or pre-existing frame from public discourse to the experiment.

critical assumption of this work is that each frame will resonate with the public to a different degree. Frames which better resonate with the public are 'stronger' than those frames which do not resonate as well. In comparing two arguments for blame attribution following the shootings at Columbine High School, Haider-Markel and Joslyn were testing the relative strength of each frame.

More recently, attention has shifted to testing the strength of frames on opposite sides of an issue (Druckman 2006). These multiple-frame studies measure the impact of competing frames of differing strength (strong or weak) on public opinion (Chong and Druckman 2007a, 2007c). In doing so, Chong and Druckman's work extends the basic logic of multiple-frame environments. Real world public debate comes in many forms: a strong frame versus a weak one, two competing strong frames, a weak frame versus no frame at all, etc. Their work provides insight into the dynamics of frame strength and competition by exploring the effects of frames across these different environments.

To construct these divergent framing environments, Chong and Druckman rely on prior work which has examined factors inherent to the frames themselves which mediate the relative strength of a frame, its resonance with the public. Several articles focus on the credibility of the frame's source (Miller and Krosnick 2000; Chong and Druckman 2007a). One memorable study attributed given frames to Colin Powell or Jerry Springer, depending on the treatment condition; results suggested that who was transmitting the frame mattered at least as much as who was receiving it (Druckman 2001, 1052). Finally, how the frames are presented, apart from the source and subject characteristics may also play a role. Joslyn and Haider-Markel (2002, 2005) stress that the medium of communication for frames, in addition to their content, and the predispositions of frame recipients can mediate frame effects.

Among the questions of recent interest in experimental studies are: What effects do multiple frame environments have on public opinion? How do both frame specific and individual-level mediating factors alter these effects? Prior work examining the

impact of issue frames on public opinion suggests that the number of frames subjects are given plays an important role in their ability to link responses to core values, that is, their ability to express an opinion consistent with their self-reported ideology (Sniderman and Theriault, 2004; Chong and Druckman 2007c).

Framing theory as defined here is predicated then on the assumptions that a) elites are capable of simplifying complex issues into simple arguments or frames; b) that these 'frames' are disseminated to the public to gather support for a specific policy position, and do so by suggesting the importance of one value over another in reaching a decision; and c) that the public reacts to these frames through the acceptance of one position or another. Competing frames environments should enable citizens to provide more coherent responses across a range of related issues and better link these responses to core values. The result of these linkages is the reduction of measurement bias in survey responses, which in turn will provide a more accurate understanding of public opinion on the framed issues.

2.3.2 Framing same-sex marriage and civil unions

Elites have long used frames to gather support for their side of an issue. The type of issue being framed has a strong impact on the success or failure of each framing attempt, however. The basic distinction between issues is what they require of a person to "deal meaningfully" with it. (Carmines and Stimson 1989, 11). In other words, what does a person need to know in order to understand an issue and respond when asked for their opinion? Easy issues require only a "gut level" understanding and response. These issues require no attention to politics, supporting information, or substantial ability reasoning (Ibid.).

Easy issues also have a shorter connection between the issue and its core value than do hard issues (Pollock et al. 1993). In the case of same-sex marriage, there are no stringent informational requirements as in issues like nuclear power, or even civil unions.

Rather, marriage belongs to the category of ‘morality issues,’ in which one side of the debate frames their position in moral or religious terms. Further, these issues are strongly related to personal beliefs and therefore highly salient to the public (Tatalovich, Smith, and Bobic 1994; Mooney 2001, 7-8). Morality politics issues also lend themselves to zero-sum solutions: either abortion is banned or it is not, same-sex couples have the right to marry or not, etc. As a result, morality issues are among the issues most likely to receive public attention and participation (Mooney 2006, 3).

Several different frames have been used to justify support or opposition to same-sex marriage. In determining which were most appropriate for use in this study, I follow the example of Paul Brewer by selecting frames articulated in newspapers and other popular media, Supreme Court briefs, information provided by citizens and lobbying groups, public officials, and prior scholarly research (Brewer 2005, 2008; Kinder 2007).

A number of scholars have cited 'equality' frames to support issues dealing with race (Gamson and Modigliani 1987; Kinder and Sanders 1990), school vouchers (Brewer and Gross 2005), and gay rights (Brewer 2001, 2002, and 2003). Others have cited an ‘equality’ or ‘civil rights’ justification for the provision of equal protection in housing and jobs, the extension of civil rights legislation to cover sexual preference, open military service, as well as marriage and civil unions (Eskridge 1996, 62; Strasser 1997, 44; Gerstmann 1999, 113; Hull 2001, 218; Dean 2002; Gomes 2003, 16). The overwhelming support for this rationale, to the exclusion of any others, suggests that any research requiring a pro-gay rights argument should be based on the equality premise.

Scholars have found more variety in the frames offered by those opposing the extension of rights and same-sex marriage. Previously, justifications for opposition to same-sex marriage have argued that such unions would be: morally wrong (Hull 2001, 221; Pew 2003, 14), against a set of religious beliefs (Reilly 2003, 4; Gomes 2003, 17), or a violation of the traditional definition of marriage as between a man and a woman (Frist 2003, 3; Bradley 2003, 27; Griffiths 2003, 10). Another opposition frame is

majority rule—since the majority of the population opposed same-sex marriages, they should not be permitted. This appeal to majoritarian democracy was favored by Save Traditional Marriage '98, the opposition advocacy group in the Hawaiian amendment campaign (Hull 2001).

More recently, opposition elites have shifted the attention of their frames from homosexuals to children (Liu and Macedo 2005; 211). Evidence of this can be found in the speeches of Republican Senators during the 2004 debate on the proposed Federal Marriage Amendment, who suggested that the creation of same-sex marriages serves to weaken the connection between marriage and parenthood, and premise the union on the idea of mutual affection which erodes the norm of marrying before having children (Ibid. 212). The result, claimed Senators McConnell, Cornyn, and Santorum (among others), would be detrimental to children, who benefit from being raised in a two-parent household. This frame received further attention in debates over referenda on same-sex marriage in Arizona, California, and Florida in 2008, and may indicate the next generation of opposition frames in the larger discussion on marriage.

I draw on several of these frames in order to test the wide range of multiple frame environments outlined above. Both 'against my religion' and 'the traditional definition of marriage is between a man and a woman' are strong opposition frames because of their conceptual clarity and frequent use in the discourse of national (rather than local) elites. These frames are used in the 'strong noncompeting' frames condition. The 'morally wrong' frame is not used here because it may overlap significantly with 'against my religion', suggesting the use of one rather than both. Further, the 'morally wrong' frame seems conceptually less distinct than the other two frames, which appeal directly to the institution of marriage and the recipient's religious views.

The 'against religion' frame is also used in the 'strong competing' frames condition. The strong frame promoting same-sex marriage and civil unions is an equality-based appeal. The equality frame is also used in the 'strong-weak competing'

condition, opposite the ‘majority rule’ frame. I consider the ‘majority rule’ frame to be weaker than the other opposition frames because it has not been used outside of the Hawaiian case. Also, the frame requires additional effort on the part of the subject—they must decide what jurisdiction the question applies to (local, state, or national), and what public opinion on same-sex marriage is within the jurisdiction.⁹

2.3.3 Framing civil unions

Although civil unions offer many of the same legal benefits granted by marriage, they differ substantially from marriage in terms of the ease with which they can be understood. First, the term ‘civil union’ has not permeated our culture and public discussion in the way marriage (hetero or same-sex) has. Further, while civil unions are functionally equivalent to marriage within the state where they are issued, civil unions, as an issue, have substantially higher information requirements. Individuals must know that unions provide the same legal benefits and protections in the state which grants the union, and some others. The unions do not provide the same legal benefits as marriage in the majority of states, however, nor are they recognized at the federal level. Finally, civil unions may be conceptualized as part of a continuum from no recognition of gay rights to equal rights both of individuals and for gay couples. Whereas marriage can be best understood as zero-sum (you can marry or you can’t) civil unions lend themselves to more nuanced and technical outcomes.

In light of this discussion, civil unions are best understood as ‘hard issues.’

“[they] require contextual knowledge, appreciation of often subtle differences in policy options, a *coherent structure of beliefs about politics, systematic reasoning to connect means to ends*, and interest in and attentiveness to political life to justify the cost of

⁹ This frame may be particularly problematic for subjects living in states which allow same-sex marriage or civil unions. This frame is used in only one of the four conditions, and responses from subjects in these states who receive this frame can be examined separately, if necessary. (See the next chapter for more information)

expensive fact gathering and decisionmaking.” (Carmines and Stimson 1989, 11, emphasis in original)

Since hard issues have a longer value-issue connection they require greater effort on the part of elites to frame the issue and greater attention on the part of the individuals. (Ibid. 29) Pollock and colleagues use the debate over nuclear power, an information intensive ‘hard’ issue to test their assumption. They find that individuals who paid greater attention to the nuclear power debate were more likely to describe the issue in terms of the frames offered by elites, and have more polarized positions on the issue of nuclear power (ibid. 47).

Applying the ‘equality’ pro-gay rights frame to civil unions may be inhibited by the fact that it is a hard issue. Equality is easy to understand when used in the context of same-sex marriage: both straight and gay couples can marry or they can’t, but the applicability of equality to civil unions remains up for debate. Many politicians and pundits point to the legal protections and benefits granted by civil unions to suggest that such unions are equivalent in every sense to marriage, the most recent example of this being Senator Obama’s endorsement of equal rights for gays and lesbians without endorsing marriage.

Although civil unions do provide the same protections for couples as marriage (in the issuing state), critics charge that the civil unions as an institution separate from marriage are inherently unequal due to the difference in social meaning ascribed to them (Pinello 2006, Vigil 2007). Roey Thorpe, a gay rights activist, argues that marriage conveys a sense of inclusion in the family which civil unions do not. Citing personal experience, she contends that the marriage ceremony conveyed a greater sense of legitimacy on her relationship in the eyes of her in laws (Pinello 2006, 136). To the extent that subjects think of legal protections and benefits provided by a government when responding to questions about civil unions, the strength of the equality frame should not differ from marriage to civil unions. If subjects instead focus on the social

meaning of marriage and civil unions, the equality frame may not resonate as strongly for civil unions as it does for marriage.

This is also true for the ‘traditional definition’ frame. To the extent that civil unions are considered equal to marriage the frame should produce a similar effect on responses. To the extent that the subjects view civil unions as distinct from marriage, we should expect the power of the frame to decrease. Since this opposition frame is employed as an example of a ‘weak’ frame, such effects should not pose additional concern for this project, however.

2.3.4 Core values

At their most basic level, frames attempt to raise the salience of one core value over another for a given issue. Core values are best defined as: “abstract beliefs about desirable end states or behaviors that transcend specific situations, that guide evaluation and behavior, and can be rank ordered in terms of relative importance.” (Schwartz 1994, 20; see also Rokeach 1973, Kinder 1998, Jacoby 2008). These core values represent the fundamental beliefs held within a society. It is important to note, however, that the degree to which each member of a society holds a core value varies from person to person, as well as across time and issue.

Core values are acquired through the process of socialization. As a result, individuals need not be politically sophisticated in order to receive core values (Feldman 1988, 418; Inglehart and Flanagan 1981). Rather, these scholars believe that core values are the basic guidelines people use in order to make decisions. “Political evaluations may be based, in part, on the extent to which policies and actions are consistent or inconsistent with certain important beliefs and values.” (Feldman 1988, 418). Feldman continues, suggesting that most individuals use core values over a complete and internally consistent ideology, which would require greater amounts of political knowledge and sophistication to employ.

Scholars have identified a wide variety of core values, based in part on the questions they seek to study. Some examples include: protecting the environment, national security, and social order (Schwartz 1992). Hansen (2007) uses liberalism, conservatism, and socialism. Others compare across categories. Pollock et al. distinguish between economic and moral core values, such as: free market versus egalitarianism and religious versus secular belief (1993; Feldman 1983; Fisher et al. 1994). A final group of scholars have contrasted traditional morality, individualism, and egalitarianism (Craig et al. 2005; Jacoby 2006, Jacoby 2008).

Several studies have explored the connection between core values and gay rights. Brewer (2003) examines the interplay of moral traditionalism and egalitarianism in media coverage of gay rights issues. His analysis of 1992 and 1996 ANES data suggests that the number of frames (each representing a core value) present in public debate can reduce differences opinion between subjects with differing amounts of political knowledge. Other studies of attitudes toward gay rights in general focus on ambivalence created by core value conflict (Wilcox and Wolpert 2000; Wilcox and Norrander 2002; Craig et al 2005).

Core values have also been applied to the study of same-sex marriage. Brumbaugh et al (2008) examine attitudes toward same-sex marriage in the context of weakening heterosexual marriage. They rely on a three state survey conducted between 1998 and 2000, which measures the strength of two values: the sanctity of marriage and valorization of the individual (ibid 349). Brumbaugh and her colleagues find that the weight subjects put on each of these values when thinking about the institution of marriage, not their personal experience with marriage, moderates attitudes towards gay marriage (ibid 357). This study is interesting because it is the only study of a gay rights issue which does not examine equality or egalitarianism as a core value. This difference is likely the result of disciplinary differences.

A final point on core values that is worth consideration is their longevity. Early work on core values noted their stability over time (Lane 1962; Almond and Verba 1963; Inglehart 1985). More recent work has also noted the stability of core values. Feldman (1988, 436) found a .86 correlation between subjects' initial core values, and those reported one month later. McCann (1997) finds a difference in the rate of decline between core values by increasing the time between measurements from a month to two years. His work suggests that the correlation between the reported core values of subjects across these time periods is .84 for traditional morality, but closer to .41 for egalitarianism (Goren 2005, 882). The strength of these findings is mediated by each subject's level of political sophistication. It is to this topic I now turn.

2.3.5 Individual-level factors as framing effect mediators

What factors mediate the effects of framing? Some scholars argue that individuals with less formal education and weak party affiliations are most susceptible to framing effects (Haider-Markel and Joslyn 2001). Others suggest that an individual's motivation or attention to politics also plays a role (Kuklinski et al. 2001; Slothuus 2008). Another group of scholars emphasize the importance of social location and other demographic variables in explaining the varying impact of frames on public opinion (Edy and Meirick 2007).

Much scholarly attention also focuses on the intensity with which individuals hold issue positions or their political sophistication (Lau, Smith, and Fisk 1991, 669; Lau and Schlesinger 2005). Scholars investigating this relationship argue that an individual's sophistication, knowledge, and attention to politics should mediate frame effects. (Kuklinski et al. 2001; Joslyn and Haider-Markel 2002; Jackman and Sniderman 2006; Slothuus 2008). The nature of the relationship between political sophistication and frame effects is not immediately obvious. Some scholars have suggested that the relationship is linear and negative; as political sophistication increases the framing effects decrease

(Kuklinski et al 2001). If this theory is correct, then the most politically sophisticated individuals should be least likely to report an issue position which is consistent with a frame, but inconsistent with their ideology or core values in a single frame environment.

Others suggest that the ability to process frames requires greater sophistication, meaning that individuals with low sophistication scores will not be affected by frames (Zaller and Feldman 1992). Zaller and Feldman (1992, 67) continue, suggesting that individuals with greater awareness and interest in politics are more likely to exhibit consistent attitudes across issues and across time. In other words, these political sophisticates should be least likely to revise the content of their beliefs on an issue when presented issue frames, because they already have a belief structure in place. However, Zaller and Feldman and other scholars have also noted that subjects with higher levels of sophistication would be more susceptible to a changing the relative importance of an argument in single frame environments, because the argument provided by the frame is already available to them (Nelson, Clawson, and Oxley 1997, 227-8).

Recent work tests these competing theories of political sophistication and framing effects. In his study of attitudes toward social welfare, Slothuus (2008, 18) finds support for Zaller and Feldman's work. Among his sample of Danish students, the most sophisticated subjects exhibited small changes in the importance of the values expressed in his framed conditions, but the content of their beliefs did not change. Subjects with an intermediate level of sophistication experienced greater framing effects. For these subjects, both the importance of the values raised by the frames, and the content of their beliefs on the issue changed. Subjects in the lowest category of sophistication did not exhibit a change in the importance or content of their beliefs as a result of the frames (ibid. 22).

How would these effects translate to a multiple, competing frames environment? If the frames presented are of equal strength and advocate opposed positions, then framing effects must be measured in terms of the consistency of a subject's position

across a variety of questions. In the context of this study, a subject who is consistent would need to express similar positions on same-sex marriage and civil unions. They would also need to express preferences on core value and ideology questions which are consistent with these positions. Political sophisticates should be able to do this across both the framed and control conditions. However, differences in consistency between these groups would show the presence of framing effects.

Moderately sophisticated subjects should be less consistent across gay rights issues in the unframed condition, owing to their lower levels of attention to and interest in the issues. However these subjects may also be the most susceptible to framing effects. Since these subjects pay at least some attention to politics, yet do not have a cohesive organizing structure, these subjects are most likely to adopt the structures provided by frames and apply them to their own beliefs on gay rights issues.

The low sophistication subjects should be characterized by the lack of consistency across questions. Recent work by Jacoby (2006) argues that only subjects with high levels of political sophistication are consistent in their comparison of core values. His analysis of Knowledge Networks polls conducted in 2002 and 2005 shows that subjects with low levels of political sophistication are less likely to rank core values transitively than high sophistication subjects (Jacoby 2006, 721). Again, significant differences between the framed and unframed conditions would suggest the presence of framing effects. Alternatively, inconsistent and similar results across subjects with low sophistication would support Zaller and Feldman's argument that these subjects are unable to process frames effectively.

2.4 Hypotheses

This project tests several hypotheses generated by the literature reviewed above. The discussion of framing effects suggests that subjects in the framed conditions should differ from subjects in the control groups in their support of same-sex marriage and civil

unions. Based on the continuing debate over the effect of competing frames on public opinion in work by Druckman (2001), Sniderman and Theriault (2004), Brewer and Gross (2005), Brewer (2008), and Chong and Druckman (2007a, 2007c), I offer a test of the effect of competing frames on the issues of same-sex marriage and civil unions:

1 Multiple-frame environments (regardless of frame direction) strengthen, rather than moderate opinion. Subjects in multiple-frame environments are more likely than control group subjects to express favor or opposition to same-sex marriage and civil unions.

This hypothesis stands in contrast to the Chong and Druckman's (2007c) finding that competing frames environments serve to moderate public opinion. This is based instead on the work of Sniderman and Theriault (2004) and Hansen (2007) who found that the introduction of multiple frames served to strengthen the connection between a subject's opinion on a given issue and their core values. By providing frames which tap different core values, subjects will be better able to match their opinions to their preferred value.

2 Frame context matters. Subjects in competing frames conditions are more likely to link their responses to core values than those in the unframed conditions.

3 Contrast Effects. Subjects will disproportionately support the position advocated by the strong frame in 'strong and weak competing frames' environments.

This hypothesis is derived from Chong and Druckman's recent work on multiple frame environments. They find that under 'strong versus weak' competing frame environments that the magnitude of support for the strong frame was similar to that of single frame environments (2007c; 648).

4 Alternate Frames. Subjects agreeing with the offered alternative, non-competing (frames offering different rationales for the same side of an issue) frames will link their responses to their core values better than those disagreeing with the frames.

In addition to framing effects, question order may also affect the subjects' levels of opposition to same-sex marriage and civil unions. Evidence from Pew suggests that subjects are more likely to accept civil unions after they have had an opportunity to reject

same-sex marriage (Pew 2003; 16). This is perhaps the most interesting finding coming from the 2003 Pew study. A difference in acceptance rates based on question order in this study would further strengthen this finding.

5 Subjects (across all conditions) who had an opportunity to oppose same-sex marriage first should be more likely to indicate support for civil unions than those receiving the civil unions question first.

Among the several individual-level mediating factors discussed above, political sophistication appears to be the most likely to influence frame reception and processing (Zaller and Feldman 1992; Joslyn and Haider-Markel 2002; Jacoby 2006; Slothuus 2008). These studies posit a curvilinear relationship between frame effects and political sophistication. Subjects with the lowest or highest levels of political awareness and interest should experience little to no change in the importance or content of their beliefs resulting from exposure to an issue frame. Subjects with an intermediate level of political sophistication, however, are likely to structure their opinions around a given issue on the basis of the frame presented to them. Importantly, this relationship has only been tested in single-frame environments. Extending Slothuus' work to multiple frame environments, and applying it to both easy and hard issues, will provide a greater understanding of how frames structure the beliefs of a substantial portion of the population.

6 Subjects with an intermediate level of political sophistication in the unframed conditions should resemble low sophistication subjects in terms of attitude consistency across gay rights issues.

7 Intermediate sophisticates in the framed conditions should resemble high sophistication subjects in terms of attitude consistency across gay rights issues.

2.5 Conclusion

The use of multiple frame environments to test questions related to public attitudes toward divisive questions is becoming more common in political science. While researchers are beginning to understand the effect of individual frames on public opinion,

they have only scratched the surface when it comes to the interplay of multiple frames (Chong and Druckman 2007c). These multiple frame environments better replicate real world public debate, and allow researchers to better grasp what factors mediate frame reception and processing by individuals. This chapter is an attempt to expand on this recent research into multiple frame environments and connect it to the literature on political sophistication and core values. In the next chapter, I present the methodological test of the hypotheses: three competing frames survey experiments.

CHAPTER 3: METHODOLOGY

3.1 Why use the experimental method?

What effects do competing frames have on attitudes towards same-sex civil unions and marriages? How does the strength of frames, or the presence of alternative, non-competing frames affect these same attitudes? What effects do political sophistication, knowledge, and motivation have on these attitudes? What role do other individual level characteristics have on these attitudes? This chapter will make a case for an experimental solution to these questions. It begins with a brief discussion of the strengths and weaknesses of an experimental approach, and then describes each experiment used in this dissertation. The chapter closes with an examination of the individual level characteristics of each sample.

The focus of this project is to better understand the process by which frames affect public opinion generally. Testing the effects of different framing environments and mediating variables requires the researcher to be able to control for the effects of a multitude of different factors. The experimental method provides unmatched internal validity, which allows researchers to be confident that it is their experimental treatment that is causing any variation in the dependent variables. Internal validity is provided by the random assignment of subjects to cells in the experiment. This means that each subject has an equal chance of being assigned to each cell.

Horiuchi, Imai, and Taniguchi (2007, 671) sum up the strength of random assignment as: “[experiments are] more likely to yield unbiased estimates of causal effects than typical observational studies because the randomization of the treatment makes the treatment and control groups equal on average in terms of all (observed and unobserved) characteristics.” In other words, subject characteristics such as gender, race, or years of formal education should each be spread evenly across the cells, reducing the likelihood that they are causing variation in the dependent variables. For this reason,

Levin (1998, 155) has argued that among the many methods scholars can employ, the experimental method is best for “determining cause and effect.”

With well-constructed experiments, then, we can be reasonably sure that any variation in the dependent variables will result from the experimental treatments. The other side of experiments, however, is their weak external validity relative to other approaches (Kinder and Palfrey 1993). External validity, or the degree to which the results of an experiment can be generalized beyond their sample to a larger population, is comprised of three characteristics: population validity, ecological validity, and temporal validity (Christensen 2000, 360). Each of these characteristics refers to the ability of an experiment to extend its findings beyond the original sample, to a different population, setting, or time (*ibid*). To increase the external validity of an experiment, the sample population would need to include as many diverse groups of people as possible. In doing so, the experiment’s internal validity would be reduced. The effects of this inverse relationship between internal and external validity can be mitigated to some degree by survey design, and it is to some of these choices the discussion now turns.

3.1.1 Types of experiments

One of the many ways scholars must address the internal versus external validity tradeoff is in the decision of how to collect the experimental data. Recent work has focused on one of three means of collection: in-person interviewing, telephone interviewing, and internet interviewing. Generally speaking, in-person interviewing favors internal validity over external, while telephone and internet interviewing both reduce internal in favor of external validity. This section reviews studies which have utilized each of these approaches to get a better understanding of how each negotiates the internal/external tradeoff, and what can be done to reduce the consequences of the tradeoff.

Scholars have noted that ‘in-person’ interviewing, where a group of subjects are brought to the same location to receive the experimental treatment, offers the greatest degree of control to researchers (Lewis-Beck and Wittrock 2007, 108). This approach allows researchers to control for the environmental factors which might otherwise vary across subjects, such as computer or tv usage, or the presence of a family member or roommate. In their study on the effects of the double-ballot on voting behavior, Lewis-Beck and Wittrock applied this method, by recruiting a group of student subjects to a common location to conduct the experiment. This approach is typical of in-person lab experiments.

The weakness of an in-person, common location collection strategy is its inability to mirror the real world. To the extent that experiments lack face validity, some argue that subjects may act differently than they would outside the experiment. Using the above example, subjects were asked to vote on candidates that they had only recently heard about. Further, voting in the experiment differed in its superficial characteristics from voting in a real election. While an experimental setting’s lack of face validity is only a minor concern for some experiments, others go to much greater lengths in order to avoid the criticism that their results were created in an ‘experimental vacuum’. Ansolabehere and Iyengar’s (1995, 21) study on the effects of negative campaign ads went so far as to create a testing environment which resembled a standard suburban living room. Further, the researchers invited subjects to bring friends or coworkers and encouraged discussion throughout the experiment to better mirror their home television viewing environment. Each of these steps represents an attempt to increase the generalizability of the experiment while maintaining its internal validity.

Telephone interviewing reduces the internal validity of an experiment while increasing its external validity, relative to in-person interviewing. Telephone interviews typically allow researchers to reach a wider sample of subjects than are available for in-person interviews, and they allow subjects to avoid entering a laboratory environment. A

number of scholars have used telephone interviews to increase their sample's size and diversity: Kinder and Sanders (1990, 77) included their framing experiment as part of the 1985 NES Pilot study, allowing them to procure a national sample. While relatively few subjects are needed for statistical analysis, some scholars have sought to increase the generalizability of their results by using telephone interviewing to recruit as many as 500 subjects in each experimental cell (Hansen 2007, 381). The drawback to telephone interviewing is that it costs experiments control over the subjects' environments—telephone subjects could participate in different environments: loud, quiet, solitary, or group, etc. which could affect their responses. This loss of environmental control introduces the possibility that some external stimuli may influence subject responses, thereby weakening the assertion that the responses are exclusively a function of the experimental treatments.

Recently, scholars have begun using the internet as a tool for distributing their experiments. The tradeoff between internal and external validity for internet samples is similar to that for phone samples, although with the greater potential risk that subjects may engage in some other activity while responding to the survey. In particular, subjects who receive information they find suspect could be more likely to 'fact check' it than if the survey were distributed by other means. At the same time, the internet allows researchers to bring experiments which were previously unwieldy to give by phone to a larger sample. In particular, the presentation of value triads, where subjects are asked to rank their most preferred and least preferred values from a list are accomplished more easily with a visual presentation of the list than a verbal one (Jacoby 2008, 10). Other scholars have suggested that web-based samples are more representative of the general public than previously suspected, and that their results to date are consistent with experiments using a more traditionally collected sample (Gosling, Vazire, Srivastava, and John 2004).

Each of these approaches were used in the collection of one of the surveys used in this study. The differences in control and generalizability of their results will be discussed further in the ensuing chapters. Before the design of each survey is discussed in detail, it is important to comment on an issue related to the method of data collection—the use of college students in experiments.

3.1.2 Student samples

Some scholars have suggested that using undergraduate student samples leads to results which are not generalizable to a larger population (Sears 1986; Gordon, Slade, and Schmitt 1987). In particular, Sears has argued that college students have “college students are likely to have less-crystallized attitudes, less-formulated senses of self, stronger cognitive skills, stronger tendencies to comply with authority, and more unstable peer group relationships.” (Sears 1986; 515). Relying on an analysis of articles published by the *Journal of Personality and Social Psychology*, as well as other similar analyses by other scholars, Sears (1986, 527) attempts to gauge the number of studies which rely on student samples, and how our understanding of human may be affected by it.

In particular, critics of student samples, point to strong demographic differences between students and the general population: the narrow age range of student subjects and their higher degree of formal education. These factors, Sears contends, may affect both the attitudes held by subjects, but also the process by which subjects attain, support, and revise these attitudes. To the extent that this is true, student samples would fail to improve our understanding of psychological processes and political behavior in the general population.

Despite Sears’ reservations about student samples, his analysis found that the number of student samples used in social psychology had increased over time. According to his findings, approximately 82% of social psychology experiments in the early 1980s used exclusively student samples (1986). This figure is consistent with work

by Christensen (2000, 363) which suggests that the use of student samples increased dramatically after 1950 and then leveled off at approximately 80%.

Apart from the general trend, a number of experiments in political science have used student samples to provide evidence for their work. Nelson, Clawson, and Oxley (1997, 570-1) note that several scholars believe that the use of a student sample does not endanger our understanding of the underlying psychological process of framing, and that the effects themselves should not differ from the general population. A year later, Kuhberger's (1998, 36) meta-analysis of experimental studies found that student behavior did not differ significantly from non-student behavior. Finally, Brewer (2005) and other framing scholars have routinely employed students in their analyses, suggesting that the use of student subjects is a common, if not best, practice.

In defense of this general trend toward the use of exclusively student samples, Greenberg (1987) argues that no one study can produce results which explain an entire class of behavior. As a result, the use of a student sample should not be avoided, since replication is required to confirm and extend the findings (ibid 157). Further, Greenberg argues that the use of a student sample can be beneficial. In particular, homogenous samples, such as those drawn from student populations, can reduce unnecessary variance in sample, increasing internal validity (Greenberg 1987, 159; see also Berkowitz and Donnerstein 1982).

While the concerns presented by the use of exclusively student samples should be considered, their continuing use across the social sciences suggests that there is value in using them. With this in mind, and mindful of the unique strength of design offered by an experimental approach, as well as the tradeoffs between internal and external validity created by sample collection, we can now turn to the experimental designs used in this study.

3.2 Experimental designs: 2005, 2007, and 2008

The three experiments used in this study share several common elements, with each successive study building on the findings of those preceding it. All of the surveys are based on the frame construction and question design work of Kinder and Sanders (1990), and the competing frames work of Sniderman and Theriault (2004), Brewer and Gross (2005), and Chong and Druckman (2007c). This section lays out the elements common to the three experiments, and then examines each experiment individually to cover the unique facets of each design, collection procedure, and sample.

All of the experiments rely on treatment conditions which provide subjects with two arguments about an issue in the stem of the question, before asking the subject to provide their opinion. As such, this work fits into the category of ‘multiple frame environment’ research, meaning that subjects in the experimental conditions are exposed to more than one argument (issue-frame) on a given issue as part of the treatment. The literature on multiple-frame research was reviewed in the last chapter, and will not be repeated here other than to show how the experiments in this study build upon existing literature.

These experiments employ only those frames which were commonly used by proponents and opponents of same-sex marriage and civil unions, with the exception of the ‘majority rule’ frame. A test was also conducted to support the analysis of speeches, court decisions, advertisements, newspaper and magazine articles, and other sources conducted by this and other scholars to identify these frames. The findings of the frame strength test appear to support these analyses.

Table A1 reports the mean evaluations of frame persuasiveness for eight frames either supporting or opposing gay marriage. Subjects were asked to rate each frame between one and ten, with ten being the most persuasive and one being the least. Higher numbers indicate more persuasive arguments both for the unstandardized figures, and for the z-scores. These data were collected between December 2nd and 4th, 2008, from 110

University of Iowa undergraduates enrolled in political science classes. As the table shows, the ‘equality’ frame appears to be the most persuasive of the arguments supporting same-sex marriage or civil unions. ‘Against Religion’ and ‘Traditional Definition’ appear to be the strongest of the frames opposing same-sex marriage and civil unions. The final frame used here, the ‘Majority Rule’ frame, appears to be the weakest of frames used in the experiments, although the difference between ‘Traditional Definition’ and ‘Majority Rule’ is small for the civil unions question.

For the purposes of these experiments, the frames were paired to create experimental conditions which mimic certain elements of the debate surrounding same-sex marriage and civil unions. Kinder and Sanders (1990) first employed this multiple issue-frame approach; however their work did not take into account the possibility that the frames they presented could be more or less persuasive to subjects. Brewer and Gross (2005), Hansen (2007), and Chong and Druckman (2007c) expand on this design by measuring the persuasiveness, or strength, of different issue-frames, and then deliberately matching them to create different multiple frame environments.¹⁰ Together, these experiments have begun to analyze the effects of competing frame environments—that subset of framing environments in which two arguments on opposite sides of an issue are presented to subjects.

The experiments used here begin with competing frames environments which use arguments of equal strength. The 2008 study also employs a competing frames condition in which the strength of the arguments for and against same-sex marriage differ, to provide further examination of possible contrast effects identified by previous work (Chong and Druckman 2007c). These experiments also provide a number of innovations not frequently employed in multiple-frame environment research. Like Slothuus (2008)

¹⁰ See Chong and Druckman (2007b) for a more complete review of multiple frame environment experiments in political science.

all include a control condition against which the effects of the framed conditions can be measured. Further, they provide tests in which the order of the frames is reversed, to ensure that the timing of information received by subjects does not affect their responses. This work also explores multiple-frame environments in which two arguments are presented on the same side of an issue, an area which only one other study has examined (Chong and Druckman 2007c).

In addition to the methodological replication offered here, the project contributes to the framing literature with its work on the impact of multiple frame environments on issues with non-dichotomous solutions. Other studies have examined the effects of framing with a hypothetical issue, such as a divisive group's right to hold a rally, or examined attitudes on a dichotomous 'real world' issue. By examining the effects of multiple frame environments on attitudes to both same-sex marriage and civil unions, this study explores framing effects on different facets of the same issue.

Rather than a yes/no response, the issue of same-sex relationships instead has four distinct categories: Favoring any recognition of same-sex relationships, favoring gay marriage, favoring civil unions, or opposing all relationships. To capture all of these categories, the experiments in this study use two different questions, each preceded by the same multiple frame prompt: one asks subjects' opinions on same-sex marriage, another on same-sex civil unions (exact question wordings are provided below). The order of these treatment-questions was randomized to test for a possible order effect. The treatment questions across all three surveys appear in this manner:¹¹

Experimental condition same-sex marriage question: Some people say that recognition of same-sex marriages [frame 1]. Others say that same-sex marriages [frame 2]. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

¹¹ See table A3 for the frame pairings used in each experiment. See Appendix B for exact question wordings for all survey items.

Experimental condition civil unions question: Some people say that allowing same-sex civil unions, which extend some legal rights and protections short of marriage, [frame 1]. Others say that same-sex civil unions [frame 2]. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Control condition questions: Do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage [civil unions]?

The dependent variables for all studies are a subject's support for same-sex marriage, and a subject's support for same-sex civil unions. Each variable has five response categories from strongly favor to strongly oppose. Across all three surveys, several questions were placed in between the treatments to help mask the purpose of the study. Finally, a follow-up question appeared immediately after the second treatment for subjects who expressed a position which supported (or opposed) same-sex marriages or civil unions, but not the other.¹²

You said you favor same-sex marriage but you also oppose civil unions. Which of the following is closest to your opinion on these issues?

Civil unions do not go far enough in providing equality for gay and lesbian couples.

Civil unions create a 'special right' different from marriage.

Other (vol)

Don't know/Refused (vol)

You said you oppose same-sex marriage but you also favor civil unions. Which of the following is closest to your opinion on these issues?

Civil unions provide all the same rights as marriage.

Civil unions allow each state to decide the matter for themselves.

Other (vol)

Don't know/Refused (vol)

¹² The 2005 and 2007 surveys ask only the first follow up question. The 2008 survey added the second.

For all experiments, the treatment-questions and follow up preceded any other gay rights questions. This was done to ensure any priming effects were the result of the same-sex marriage and civil unions questions affecting subject responses to other gay rights issues. The demographic questions also followed the marriage and civil union questions to avoid possible priming effects. For example, asking the battery of religious affiliation questions prior to the treatment might increase the number of subjects objecting to same-sex marriage under the ‘against my religion’ frame. Similarly, asking the party affiliation questions may have an effect on the number of subjects objecting to same-sex marriage under the ‘traditional definition of marriage’ frame.

Subjects also received several questions asking about the extension of other protections to homosexuals, these questions test for potential priming effects which may be caused by the treatments and follow the treatment questions. Differences in the levels of support for these questions across the treatment groups would suggest that the justifications used for opposing civil unions/marriage have an effect on other gay rights issues. A standard battery of demographic variables is also included. All questions, excepting the treatments and follow up question, are drawn from surveys by Pew (2004).

3.2.1 The 2005 experiment

The 2005 survey-experiment is a three by two design: three framing conditions are subdivided into two categories by the order in which the questions on same-sex marriage and civil unions are received, for a total of six cells. In the first and second conditions the justification for supporting same-sex marriage is held constant while the opposition justifications differ (see Table A2 for exact frame pairings). In the third condition the questions are presented without the addition of frames, to act as a control group. The frames used in this experiment are: ‘marriage constitutes an issue of equality’ (support) and either a ‘traditional definition of marriage’ or ‘against my religion’ justification (oppose), depending on the treatment.

The data were collected between April 12th and April 25th, 2005. The survey was distributed as a four page packet to students in two introductory level and one advanced political science courses. Subjects were invited to participate in a survey examining ‘political attitudes.’ The survey forms were randomized, and took approximately ten minutes for the subjects to complete. The students provided 251 usable responses, each cell had between 41 and 45 subjects in it. Initial results indicated that the subjects in the framed conditions expressed higher levels of support for same sex marriage and civil unions than those in the unframed condition. This led to the addition of new experimental cells in the second survey to examine whether the order in which frames were received by subjects affected opinion.

3.2.2 The 2007 experiment

The 2007 experiment added four cells to the 2005 design to test the impact of frame order on subject support for same-sex marriage and civil unions. These new conditions employ the same frames as the 2005 survey, but reverse the order the frames are received so that the negative frame comes first. Four cells total are added to allow for variation in question order (whether the subject is asked their opinion of marriage or unions first) as in the 2005 design. This makes the 2007 experiment a five by two design: five framing conditions divided into two categories by the order in which the marriage and unions questions are received, for a total of ten cells.

The data for this survey were collected between May 28th and June 8th, 2007. Responses were collected through the University of Iowa’s WebSurveyor. All students at the University of Iowa were invited, by email, to participate in the survey. Participants were randomly assigned to one of the experiment's ten cells using a hypertext link. This process yielded 1565 usable responses, with a range of 149 to 185 subjects in each cell. Preliminary analysis of the 2007 dataset has shown that subjects in competing frames conditions were more likely to offer an opinion than those in the unframed condition.

This reduction in ‘nonattitudes’ is similar to findings by Hansen (2007). Further, subjects in the framed conditions were better able to link their opinions on same-sex marriage and civil unions to their core values (measured by their self-reported ideology) than subjects in some of the unframed conditions. In other words, subjects in the framed condition were more consistent in matching their opinion of same sex marriage or civil unions to their ideology. Data from these surveys also suggest that subjects are more receptive to civil unions following an opportunity to comment on same-sex marriage.

Unfortunately, neither the 2007 nor the 2005 surveys comment on several other objects of interest. Both surveys utilize unframed and ‘two strong, competing frames’ environments. Not all debate on same-sex marriage has followed this format. The inclusion of an additional survey which tests other framing environments, such as: two strong, non-competing frames and strong and weak competing frames would provide a clearer picture of the impact on frames. An additional survey could also include better measures of some factors which have been identified as mediating the impact of frames. These measures include: political knowledge, sophistication, and interest in politics (Jackman and Sniderman 2006, Chong and Druckman 2007b, 2007c, Brewer 2008, Slothuus 2008).

3.2.3 The 2008 experiment

The third survey builds upon the advances of the previous two, and incorporates several elements of Chong and Druckman's (2007c) work. This new survey tests attitudes towards same-sex marriage and civil unions across multiple framing environments, as well as collects information on individual-level mediating factors. The experiment is a four by two design: four framing conditions broken into two categories, again to control for question order effects on the dependent variables, for a total of 8 cells. As Table A2 shows, the design pairs frames across the following multiple frame

environments: a ‘two strong, competing frames’ cell; a ‘strong and weak competing frames’ cell; a ‘two strong, alternative (non-competing) frames’ cell; and a control group.

This experiment also incorporates a series of political knowledge, sophistication, and motivation questions. Questions asking subjects to rank the core values tapped by the issue-frames are also included. These questions provide measures of individual-level characteristics which may affect the ability of subjects to identify and process issue frames.

This data for this experiment were collected between November 8th and 24th, 2008 as part of a national post-election survey collected by the University of Iowa’s Hawkeye Poll (2009). The sample includes 680 subjects, with 81 to 90 subjects per cell. It is worth noting that 133 of the subjects are from California, 36 from Arizona, and 73 from Florida. Each of these states had an initiative to ban formal recognition of same-sex relationships within their state on the ballot. Differences in sample size, collection method, and the population the samples were drawn from across all three surveys suggests large differences between the subjects in each experiment may exist. The next section offers an initial discussion of subject differences, by experiment.

3.2.4 Descriptive statistics, all experiments

Descriptive statistics for each of the three surveys are listed in Table A3. Differences in sample size are immediately apparent, and result largely from differences in the method of data collection: the internet sample (2007) has about twice as many subjects as the other two surveys combined. The national telephone sample (2008) is smaller, with almost 700 subjects, but the in person sample (2005) is less than half that of the telephone sample.

Demographically, the samples differ little in terms of gender, with women comprising between 50% and 55% of each sample’s population. Every sample also maintains overwhelming majorities of white subjects, although analysis of ‘mixed’

subjects in the 2007 and 2008 sample are possible. The figures provided suggest analysis of Asian American subjects in the 2007 survey, and African American subjects in the 2008 survey may also be possible.

In terms of ideology, both of the student samples over-represent liberals, compared to the general population, with the 2007 survey recording over half (53%) of subjects as self-identifying liberals. The 2008 sample is the most conservative and Republican of the samples, though only slightly more so than the 2005 sample. The 2008 sample also reports the highest percentage of subjects who attend a religious service at least once a week, twice the percentage of the other two samples.

Finally, the age of subjects also differs markedly across the samples. All but one of the subjects in the 2005 study are between the ages of 18 and 29, and 80% of the 2007 study also fall into that category. For the 2008 study, over 80% of the subjects are aged 45 or older, with approximately half of the sample identifying themselves as 60 or older. Only 6% of the 2008 sample is between 18 and 29. These demographic differences between the student and non-student samples are worth mentioning for the differences they may produce, in attitudes, and (if Sears and others are correct) in the processes of frame reception use by subjects.

3.3 Contextual differences and conclusion

This chapter has argued for the appropriateness of the experimental method in testing the hypotheses laid out in Chapter 2. In particular, the approach's strong internal validity, paired with a variety of distribution methods which mitigate the tradeoff of generalizability, suggest the strength of experimental designs here. The chapter has also discussed the design of each of the three experiments used in this project, as well as the differences in the demographic characteristics of each of the samples. In closing, a short commentary on another difference between the different surveys is appropriate: differences in context.

The 2005 survey was conducted following a national election in which 11 states passed defense of marriage acts banning same-sex marriages. At the same time, the issue was not particularly visible in the state of Iowa, which did not have a DOMA initiative on the ballot. The closest state to Iowa which did in that election was Ohio, suggesting that relatively few of the students in the sample were directly affected by the results of these initiatives. The 2007 survey was even further removed from the peak of the same-sex marriage debate in that the issue was on the ballot in only eight states, although Arizona rejected the measure. Two months after the data were collected an Iowa judge ruled to allow same-sex marriage in the state, although a stay was issued shortly thereafter.

By contrast, the 2008 sample was collected much closer to a national election, one in which three states had initiatives to ban same-sex marriages on the ballots. With this in mind, it is possible that contextual differences in terms of the salience of the issue to the subjects may exist. Further, the national and statewide debates have had three years to evolve since the initial experiment was conducted. Subjects from states who witnessed initiatives banning same-sex marriage, including those from Arizona, California, and Florida may view the debate differently than those from other states, as well as those from earlier samples. Subjects from states who faced other gay rights issues, such as Arkansas' initiative banning same-sex adoption may also view the issue differently from other subjects. I explore these and other questions in my next chapter, which takes a first look at the findings from the three experiments.

CHAPTER 4: A FIRST LOOK AT FRAMING, QUESTION ORDER AND PRIMING EFFECTS

4.1 Testing for initial results

The focus of this chapter is to understand what the three experiments can tell us about framing, question order, and priming effects (for all subjects) resulting from multiple frame environments. The next two chapters build on the findings outlined here to provide a nuanced picture of the effects the different frame combinations had on subject opinion toward same-sex marriage and civil unions. Before this nuanced picture can be glimpsed, however, a basic illustration of how multiple frame environments affect public opinion must be drawn.

This chapter is divided into four sections. Each section examines the three experiments used in this study for possible effects owing to one of the following manipulations: question order, framing, frame order, or priming. I begin each section with a discussion of the similarities and differences appearing across the data sets, and offer an explanation for the results. Each section closes by connecting these findings with existing literature, comparing my results to those found by other framing scholars. Since this is a preliminary look at the effects of each manipulation, relatively simple statistics are used, primarily independent samples t-tests, and one-way ANOVAs, to test for possible effects.

4.2 Question order effects

Hypothesis 5 states: “Subjects (across all conditions) who had an opportunity to oppose same-sex marriage first should be more likely to indicate support for civil unions than those receiving the civil unions question first.” This hypothesis grew out of a survey by Pew (2003), which found precisely this trend in a national survey of public opinion—many subjects who had already voiced their opposition to same-sex marriages then expressed support for, or neutrality toward, civil unions. Further, the same effect did not

appear for those subjects who were asked the questions in the reverse order, suggesting that opinion differences were the direct result of the order in which the questions were asked (Pew 2003, 16).

Across the three experiments used in this study, the dependent variables, which measure subject support for same-sex marriage or civil unions, are coded one through five, with a one indicating the subject strongly opposes marriage or unions, and a five indicating strong support. As discussed in the previous chapter, half of the subjects in each experiment received the marriage question prior to the unions question, while the order was reversed for the other half. To test for possible question order effects, each framed condition which received the unions question first was compared to the corresponding framed condition which received the unions question first, using independent samples t-tests. In other words, the group mean of each ‘marriage question first’ cell was subtracted from the group mean of each ‘civil unions question first’ cell which received the same frames. As a result, any differences in group means would indicate a difference due to question order. Table A4 compiles the results of these tests.

A look at Table A4 shows that question order effects on the civil unions question are neither strong nor plentiful across the three experiments. For 2005, all three comparisons yield the expected direction, but are not statistically significant.¹³ More variation can be found in the 2007 and 2008 datasets. For 2007, one condition, ‘Traditional Definition, con frame first’, produces the hypothesized effect. The magnitude of the effect is also substantial, suggesting that asking subjects their opinion about same-sex civil unions after asking them about same-sex marriage increases mean support for civil unions by almost two points (out of five). The other ‘Traditional

¹³ Variables are coded so that higher values indicate more support for civil unions before marriage. To be consistent with the hypothesis, the second group (which is subtracted from the first) should have a higher score on the variables of interest. Therefore negatively signed Ts support the hypothesis.

Definition' condition did not yield the same finding, in fact none of the other framed conditions did. Even more surprising is the control condition for 2007. For this group, subjects who received the marriage question *first* show more support for civil unions than those who received the question second. This finding is particularly puzzling since the control condition most closely mirrors the 2003 Pew question, in that neither of them make use of issue frames.

Both 2005 and 2007 were student samples, whereas Pew used a national sample of voting age adults. As a result, we might expect that the 2008 experiment would be most likely to resemble the Pew findings. Again, all three of the framed conditions exhibit the expected sign, with one of them being statistically significant. Also interesting is the magnitude of the mean differences, which meet or exceed those of 2007. Here we see that subjects in the 'Equality/Majority Rule' condition who received the unions question second expressed a level of support that was, on average, two and a half points higher (out of five) than those who received the unions question first. The control group, which received no frames, shows a much smaller and statistically insignificant effect.

Although two statistically significant comparisons do appear, the fact that only two of the nine framed conditions were significant and in the expected direction is hardly strong support for hypothesis five. Further, two of the three control conditions, which are most similar to the Pew questions, fail to reach statistical significance. The one that does is improperly signed. In total, this suggests little to no support for the question order effects hypothesis. Is there anything we can say about the two conditions which showed a significant and properly signed effect, however?

To find out, I also checked the marriage questions for a possible order effect. Generally speaking, no order effects are expected here—the Pew survey did not find an order effect for opinion toward same-sex marriage. To the extent that same-sex marriage is an 'easier' issue than civil unions, that is to say more readily understood and more

likely to produce a ‘gut’ reaction, the less likely contextual differences such as question order should have an effect. Table A5 presents the group mean differences using independent samples t-tests. As with the civil unions table, subjects are compared by taking the group mean of those who received the question first minus the group mean of those subjects who received the question second. Negative values would indicate that individuals who received the marriage question after the civil unions question were more supportive of same-sex marriage than those who received the marriage question first.

The results in Table A5 conform with the ‘no significant results’ expectation, with one exception. In 2008, subjects in the ‘Equality/Majority Rule’ condition who received the marriage question first expressed higher mean support for same-sex marriage than those who received the same-sex marriage question second. The difference in means is statistically significant, and substantial—a two point difference, which is similar in magnitude to that found in 2008 for civil unions. In fact, the result is from the same group of subjects—those who received the ‘Equality/Majority Rule’ treatment and who received the marriage question followed by the unions question expressed higher mean support for both marriage and unions than those subjects who received the same treatment but the questions in the opposite order. Further analysis of these two groups shows that the ‘marriage, then unions’ group expressed higher mean support for both marriage and unions than any other subjects in the 2008 study. At the same time, the ‘unions then marriage’ group expressed mean support for civil unions that was lower than the average of all cells and the lowest of all cells in 2008 for marriage.

So what does all of this say about question order effects? The 2005 findings, insofar as they were all in the hypothesized direction, if statistically insignificant, imply that better data could lead to replication of the Pew 2003 results. However, 2007 and 2008 fail to deliver on that implication. Across all experiments only two framed conditions exhibit the proper sign and significance to support the hypothesis, and one

control condition is signed in the opposite direction (and significant). As noted above, this is hardly grounds to argue for robust question order effects.

Adding the results from the question order tests on marriage actually undermines the limited findings for civil unions. It is possible that differences for the 2008 ‘Equality/Majority Rule’ subjects could be due to a strong question order effect, perhaps driven by an interaction with the ‘Equality/Majority Rule’ frame combination, which is only used in the 2008 experiment. It is more likely, however, that the differences between the cell means and the average of all cell means suggest that random variation may also explain these findings.

Setting aside the 2008 findings, leaves just two significant findings: a framed group which is in the expected direction, and a control group which is in the opposite direction. As a result, the Pew findings cannot be confirmed—there does not appear to be a consistent or significant question order effect across all three experiments, or even in just one of them.¹⁴

4.3 Frame effects

The ability of issue frames to move public opinion is already well established. For example, in one study subjects who received a frame suggesting that a social welfare bill would create jobs expressed higher levels of support for that bill than another group who were told that the net effect of the legislation would be to increase the number of working poor (Slothuus 2008; 15). This section extends this line of research to examine how the provision of more than one frame at a time moves opinion on a given issue.

¹⁴ A quick note about states with same-sex marriages in 2008: while states which had an initiative which banned same-sex marriage, or other similar gay rights issues (such as adoption) on the ballot in 2008 may differ systematically from those that did not, the lack of significant question order findings across the other experiments led me to conclude that splitting the 2008 sample here to remove AR, AZ, CA, and FL was unlikely to produce different results from non-initiative states.

Prior work on the framing effects of multiple frame environments began with Kinder and Sanders (1990). They used a design similar to the ones used here in that their support frame for affirmative action did not change, but their opposition frames articulated different justifications for opposing affirmative action. After an analysis using crosstabs and chi-square tests, they were unable to find any framing effects in their study of white attitudes toward affirmative action policies, however (15).

Two more recent studies have carried forward the search for frame effects in multiple frame treatments. Hansen (2007, 15) finds limited support for multiple frame effects on a battery of 13 different political issues (spanning education, social welfare, and economy). Interestingly, his work, which also tested for single frame effects, found six single frame effects, and only two multiple frame effects. Further, the issues which exhibited a difference attributable to multiple frame effects were not the same as the issues which showed an effect from the single issue frame treatments.

Chong and Druckman (2007c) also created an experiment which would lend itself to an examination of framing effects due to multiple frames or frame repetition. They forgo this analysis, however, to instead comment on the difficulties of finding multiple frame effects using the standard created by single frame environments. They note that the traditional procedure for identifying framing effects has been comparison of control cells to experimental cells. They suggest that this standard is problematic for use in multiple frame environments because the comparison group most appropriate for a group of frames is unclear. Further, framing effects in single frame environments are necessarily larger than those between two frames which influence subjects in opposite directions (ibid 645).

In light of these limited findings and methodological critiques, I examine potential framing effects across all three experiments using the standard method of between groups comparison. However, I do not limit my exploration only to comparisons between frame and control group, looking at comparisons between all groups in the study, instead. The

2008 study, in particular, may show framing effects which would be masked in treatment-control only comparisons. Recall that among the framed conditions in 2008 are a ‘two opposition frame’ treatment, and a ‘strong support/weak opposition’ frame treatment—if the former treatment provides an effect at least as strong as a single frame environment, and a contrast effect is present in the latter, a comparison would provide the most favorable test for between-subjects framing effects in multiple frame environments. To test for framing effects, I report group mean differences gathered from one way ANOVA analysis. The results for the civil unions question are compiled in Table A6.

At first glance, the case for framing effects in these experiments appears to be about as strong as that for question order effects. Both the 2005 and 2008 experiments show effects which are reasonably consistent in direction, but none of them are significant. The 2007 experiment shows framing effects, which are consistent in direction, between the treatment groups and controls. As the middle column of Table A6 indicates, subjects in all of the framed conditions expressed greater mean support for civil unions than subjects in the control groups.¹⁵ Note that the effect is present regardless of the order in which frames are presented, and irrespective of the opposition frame used. In other words, the 2007 framed conditions exhibit a clear framing effect: higher support for civil unions.

The lack of consistent framing effects on the civil unions question across all experiments is unexpected, given the consistent direction of findings from 2005. There was an expectation that better data may provide statistically different findings, as was expected with the question order hypotheses. While this expectation held for 2007, it did not for 2008, which is arguably the ‘best’ of the three datasets. It is possible that the differences between these sets are driven largely by their samples. Both 2005 and 2007

¹⁵ Due to the paucity of findings for question order, these cells were collapsed for the tables presented here. Examination of the cells controlling for question order was conducted, and the effects are similar to those of the collapsed cells which are reported in this chapter.

are student samples, although the 2005 sample is much smaller than 2007. It is possible that Sears' warning that students may have less-crystallized attitudes is relevant here. Alternatively, it is possible that students are less familiar with the idea of civil unions than other voters—owing to a lack of experience with these issues in work healthcare policies, and fewer political campaigns in which they were eligible to vote on the issue.

With regard to between-subjects effects for the framed conditions, only the 2008 experiment finds a significant result. As Table A6 shows, the “Equality/Against Religion” frame is more supportive of same-sex civil unions than the “Traditional Definition/Against Religion” frame. Although the ‘two opposition frame’ condition is less supportive of civil unions than its comparison frame, the expectation was that differences in mean support for civil unions would appear between this frame and ‘Equality/Majority Rule’, rather than the frame indicated in the table. This does not bode well for potential contrast effects between strong and weak frames (see Chapter 5 for more).

As with the question order tests, I checked for framing effects on the marriage question. The results of these tests are shown in Table A7. Across all three experiments, no framing effects were found between the framed and control conditions. This could be due to a number of factors. First, we should bear in mind Chong and Druckman's (2007c) warning about the difficulty of finding framing effects for multiple frame environments in this manner. Nonetheless, it is surprising that no framing effects were found between the ‘two opposition frame’ condition and the control in 2008. The lack of findings here could also be the result of marriage being an ‘easier’ issue than civil unions: the 2007 and 2008 samples showed a 6% increase in the number of neutral (neither favor nor oppose) responses in the control conditions as subjects moved from the same-sex

marriage to the civil unions question. This increase in neutral responses was larger in 2005, which showed a 13% difference between the two questions.¹⁶

Between-subjects framing effects do appear between framed conditions on the marriage question, however. In 2008, the ‘Equality/Against Religion’ treatment subjects show greater support for gay marriage than those in the other two framed conditions. This suggests that the ‘against religion’ frame may be the weaker than the ‘majority rule’ frame. In fact, the ‘Equality/Majority Rule’ treatment appears to behave in the same manner as the ‘two opposition frame’ treatment on the marriage question, though less so on the civil unions question. The differences between these frames will be discussed further in the next chapter, which looks directly at differences in frame strength.

Another possible explanation for the difference between the framed conditions could be an interaction with the frames subjects received from groups on both sides of the same-sex marriage debate during the 2008 election. In 2008, three states voted on the issue: Arizona, California, and Florida. Another state, Arkansas, voted on the issue of gay adoption. It is possible that these states may have responded differently to the treatments as a result of having more exposure to these (and other frames) leading up to the experiment than subjects from states which did not vote on the issue. To test this I split the 2008 sample by state: the four initiative states provided just over 200 cases across all cells; the non-initiative states comprised the other 400.¹⁷ The resulting analysis suggests that states which did NOT have a gay rights initiative on the ballot in 2008 were driving cell differences between the framed condition on the marriage question, but that the difference between framed conditions on the civil unions question

¹⁶ There is no difference in ‘don’t know’ responses across these questions in any of the experiments.

¹⁷ The analysis was run both including and excluding Arkansas from the ‘gay rights initiative’ states. The results did not change. The results reported here include all four states: AR, AZ, CA, FL.

was present for both states which did and which did not face an initiative. Although they are not statistically significant, the frame effects for the gay rights initiative states in 2008 were in the same direction as the combined findings. No other statistically significant results appeared for either subsample. All of this suggests that the presence of a gay marriage initiative in 2008 did not have a significant impact on the framing effects found in the 2008 sample.

In sum, the case for frame effects in multiple frame environments is not strongly supported by traditional tests on these three datasets. It does suggest several attitudes for further exploration, however. These results suggest that students may be more susceptible to framing effects, as suggested by Sears' (1986) work. It also suggests that there is a substantial difference in the persuasiveness of the dual frame treatments on the marriage question. This is surprising, given that subjects might be expected to have stronger opinions on the marriage question than the unions question, but it should also be noted that the frames here were designed to target marriage attitudes, and some may translate poorly to a question about civil unions—the argument that 'same-sex marriage is against many people's religion' has little to do with civil unions, for example. This was done intentionally to see how well frames could be translated to include different possible solutions to the same topic, and will be explored further in the next chapter.

4.4 Frame order effects

Although not discussed by prior literature, the issue of frame order, that is to say the order in which subjects received frames, was a possible concern coming from the 2005 dataset. A brief look at the results from 2005 (listed in Tables A6 and A7) shows that all the framed conditions registered higher mean support for same-sex marriage and civil unions than the control group, although none reached statistical significance. A possible order effect would significantly damage Sniderman and Theriault's (2004) assertion that multiple frame environments act to link survey responses to a subjects'

actual (bias-removed) opinion. Instead, any frame order effects would suggest that subjects are likely to support either the argument they heard first, or the most recent argument they heard about issue at question.

To test for possible frame order effects, I split the 2007 framed conditions in half, such that half of the cells received the opposition frame first, and half of the cells received the support frame first. I then tested these cells for differences in support for civil unions and same-sex marriage using independent samples t-tests. Table A8 reports the findings of these tests.

As Table A8 shows, there are no significant differences between cells on the same-sex marriage question. For civil unions there is one significant difference—between subjects in the ‘Traditional Definition’ treatment. This suggests that subjects who received the support frame first were actually less supportive of civil unions than subjects in who received the opposition frame first. This finding is contrary to expectations created by the aggregate frame analysis, which suggests that all of the framed conditions are more supportive of civil unions than the control conditions; therefore any frame order results would be expected to drive subject opinions toward the frame provided first in the treatment. The only statistically significant finding here is in the opposite direction. For that reason I believe that frame order has no effect on subject opinions here.

4.5 Priming effects

Few scholars of multiple frame environments have examined possible priming effects resulting from their treatment conditions. One exception can be found in the work of Kinder and Sanders (1990). Their work on whites’ opinion to affirmative action found that while their different frames opposing affirmative action policies (the support frame was held constant) did not produce a change on affirmative action policy specifically, but it did result in a priming effect (ibid. 79). Their work suggests that when affirmative

action policies were opposed on the grounds that they created an ‘unfair advantage’ for blacks, white subjects linked their opinion on policies designed to provide assistance to blacks more strongly with their opinion on other racial policies designed to eliminate discrimination, than whites who were told that affirmative action policies created ‘reverse discrimination’ (ibid. 81).

Just as affirmative action policies persist as divisive and salient issues, same-sex marriage has been part of political discussion for more than a decade. It is possible that discussion of marriage could affect opinion on other gay rights issues. To test for possible effects, I use two different batteries of questions. For 2005 and 2007 subjects were asked two questions about the extension of civil rights to homosexuals, one question about job rights specifically, one question about housing rights, and a final question about gays serving in the military.¹⁸ Less space was available for the 2008 survey, and the housing and job rights questions seemed less relevant to the current debate over gay rights than other questions. As a result, the civil rights questions were condensed into one question, the military question remained, and a new question concerning gay adoption was added.

Within each of the three experiments an index of gay rights support was created by recoding the various follow up variables to just three values: support, neutral, and oppose. Each of the values had a constant numerical value across questions which allowed the five questions (in 2005 and 2007) or three questions (2008) to be summed. The resulting variables vary between zero and ten for 2005 and 2007, and between zero and six in 2008. Cronbach’s Alphas for the indexes vary between .64 and .82, and are listed below each table for easy reference.

Possible priming effects are tested for in two ways: an initial between-subjects analysis using one way ANOVAs was conducted for each experiment. Potential priming

¹⁸ Precise question wordings can be found in Appendix B.

effects resulting from the question order and frame manipulations are examined, as well as the interaction between question order and frames received. The results of this analysis are reported in Tables A9 through A16. In addition to this analysis, a confirmatory factor analysis, similar to the work of Kinder and Sanders, is also conducted for each experiment. These results are discussed in the next two sections.

4.5.1 Differences in support for other gay rights issues

Table A9 reports the findings for frame and question order priming effects for the 2005 experiment. The first column lists the five gay rights questions and the index. The middle two columns list the cells which find a priming difference and the magnitude of the effect. The final two columns list question order effects across the questions and index. Results show that few direct priming effects result from the treatment frames. Each question had three possible between-frame effects, for a total of eighteen possible differences. Only two differences can be found. They suggest that the ‘equality/against religion’ subjects were more supportive of gay civil rights on the first rights question than the control group, and the ‘equality/traditional definition’ subjects were more supportive of guaranteeing job rights for homosexuals than the control group.

Table A9 also reports between-subjects differences on the priming questions resulting from question order for the 2005 experiment. It suggests that subjects who received the civil unions question first were more supportive of the two civil rights questions and the index than subjects who received the marriage question first. A possible explanation for this trend is that subjects who received the marriage question first considered their responses to all other gay rights question in the context of marriage, whereas subjects who received the civil unions question first did not. The data from 2005 presents reasonable evidence that a priming effect due to question order may exist within that dataset, however no priming effects due to the order of the treatment questions appear in 2007 or 2008. This could be for a number of reasons: again the difference in

samples could be driving the finding, alternatively differences in context—the marriage debate has not remained static over the past three years—could play a role. Whatever the case, question order related priming effects appear to be driven by the civil rights questions in the 2005 data exclusively.

Moving to priming effects due to an interaction between frame and question order, Table A10 reports the results for the 2005 dataset. This table illustrates two basic trends: subjects in the control conditions were consistently less supportive of gay rights issues than subjects in the ‘Traditional Definition/Unions First’ condition. Further, subjects who received the marriage question first were more likely to oppose other gay rights issues than those in the unions first conditions. Note also that the ‘Control/Marriage First’ group, which synthesizes both of these trends, is less supportive on all gay rights issues than those in the reference category.

Although not reported in the table, it should be noted that another framed condition, which received the unions question first, exhibited a statistically significant difference from the ‘Control/Marriage first’ condition. This result suggests that while question order and frame alone may not provide the context necessary to significantly move opinion, putting the two together can create such a context. Subjects who were not provided frames in their questions (who need to rely on their internal frames from prior public discussion) and were asked about their opinion on same-sex marriage first were more likely to oppose other gay rights than subjects who were asked about their opinions on civil unions first, and had received frames.

Moving to the 2007 dataset, I find no priming effects due to frame, question order, or the interaction between the two. Given the findings for the 2005 dataset this is particularly surprising.

Both the 2005 and 2007 experiments were conducted with University of Iowa undergraduate samples, suggesting that any differences were due either to: differences in the context of the same-sex marriage debate, or differences due to the experiments’

enrollment processes. The 2005 experiment simply recruited undergraduates in introductory classes, whereas the 2007 experiment contacted all undergraduates, but only those interested in ‘a survey on political attitudes’ or a chance to win \$50 responded. With regard to the context of the same-sex marriage debate, several states that were considering marriage bans in 2005 had passed them by 2007. This, combined with the increased attention on marriage rather than civil unions in public debate over same-sex relationships, suggests that the context of in which subjects responded to these questions differed between 2005 and 2007. With these differences in mind, it is appropriate to the 2008 sample for further evidence of priming effects.

Analysis of the 2008 dataset was conducted in the same manner as the 2005 dataset—beginning with priming differences due to the frames, then question order, and finally an interaction between the two. As noted above, no priming effects due to question order appear in 2008. Priming effects due to the different framed conditions do appear, however. Table A12 lists seven such effects. Here we find that the ‘Traditional Definition/Against Religion’ frame subjects were significantly less supportive of gay adoption and the gay rights index than all three other conditions. One other significant difference was found, with the ‘Traditional Definition/Against Religion’ subjects less supportive of extending civil rights to homosexuals than the ‘Equality/Against Religion’ subjects.

The differences between Tables A9 and A12 underscore the differences that can be found between the datasets. For the 2005 data, priming effects due to frames resulted from differences between the framed conditions and the control. For 2008, no significant differences appear between the control and the ‘support frame/opposition frame’ treatments. Rather, differences on the priming questions exist between to the ‘two opposition frame’ treatment and all others. While it appears that the provision of different frames on the question of same-sex marriage can have a priming effect on other

gay rights issues, the effect is modest—it requires two arguments against same-sex marriage to create a statistically significant difference from other conditions.

The lack of effect from the ‘equality’ support frame is also worth noting. Of all the frames used in these experiments, it is the frame that should have the greatest ability to translate to other related issues without losing strength—equality applies equally well to extending civil rights and adoption as it does to marriage, at least when compared with frames such as ‘traditional definition of marriage’ and ‘against one’s religion’. Although the ‘equality’ frame may be responsible for the differences between the framed and control conditions in 2005, it does not appear to have a significant effect on distinguishing its framed conditions from the controls in 2008.

Tables A13 through A16 examine the ability frame and question order interactions to produce priming effects on gay rights questions employed by the 2008 study. Due to the number of cells used in each experiment, these tables are presented in a manner which is different than those for the other experiments. Each table examines only one of the questions (or the index). The eight cell combinations, due to frame and question order manipulations, are listed down the left side of the table and across the top. Each cell at the top of the chart is the reference category for its column. The values reported are the mean differences between the cell at the top and the cells at the right. Negative values indicate that the cell on the listed on the side expressed less support for the gay rights question than the cell at the top. In other words, Table A13 shows that subjects in the ‘Equality/Against Religion, Marriage first’ condition expressed higher mean support for the gay rights index than subjects in the ‘Control/Marriage first’ condition.

Taken together these tables identify a number of trends for the 2008 data. First, there were no significant differences between subjects on the ‘gays in the military’ question for 2008 (Table A16). This finding echoes that of 2005 and 2007. This issue, which appeared in public discussion during President Clinton’s first term, may have

already reached equilibrium in public debate, whereas gay adoption has only recently begun to be discussed widely.

Another finding is that three cells consistently appear to be the least supportive of gay rights throughout the questions. They are: ‘Control, Marriage first,’ ‘Traditional Definition/Against Religion, Marriage first,’ and ‘Traditional Definition/Against Religion, Unions first.’ Again we see that the least supportive cells tend to ask the marriage question prior to the civil unions question. Although the ‘two opposition frames’ conditions have replaced the control conditions as the least supportive, the ‘Control, Marriage first’ condition, which was the least supportive in 2005, is again among the least supportive in 2008.

The net result of this analysis is that priming effects do appear as the result of a frame and question order interaction. These effects are concentrated on a few cells, however, suggesting that the priming only takes place under certain conditions. The commonalities between these cells are: cells which are unframed and ask the marriage question first, or provide multiple frames opposed to same-sex marriage tend to push subject responses away from supporting other gay rights issues. Nevertheless, one gay rights issue seems to have become uncontroversial enough not to be affected by these trends: gays in the military.

4.5.2 Confirmatory factor analysis for priming effects on gay rights issues

As a second test for priming effects resulting from the frame and question order manipulations I performed a confirmatory factor analysis on the three datasets. Analysis for all three datasets began by looking at all the variables which comprised the gay rights indexes. Additional comparisons were made for 2005 and 2007, in which the job and housing rights variables were removed in order to reduce differences between those indexes and the 2008 index.

Results indicate that the ‘gays in the military’ question consistently had the weakest factor loadings out of all the variables in the index. However, only in 2005 does it load onto a second factor at all, and only under certain conditions. For 2005, the Jobs and Military questions load onto a separate factor for the two control conditions and for the ‘Equality/Against Religion, Marriage first’ condition. This suggests that the other three conditions in 2005 structured student responses such that all of the gay rights issues were understood to be a function of one underlying factor. In this sense, it would make sense that the control conditions would not be able to provide that same structure.

The ‘Equality/Against Religion’ still produces two different factors, it is possible that this was the ‘default’ condition for the subjects. In other words, the frames which students called to mind when thinking about the marriage question tended to be those frames. In that sense providing information which was consistent with their expectations and starting with the marriage question may have resulted in a lack of structuring gay rights onto a single issue similar to what the other subjects found.

By the time of the 2007 and 2008 surveys, the need for competing frames to structure gay rights issues as a function of one underlying factor no longer appears necessary. Although the military remains the weakest factor, all the variables across both indexes load on the same factor. This could result from a contextual difference in the tenor of debate over these issues, such that people were becoming more comfortable expressing their opinion on gay rights issues. Alternatively it could be the result of people understanding all gay rights issues as a function of the same underlying factor. This in turn could be due to a shift in the debate away from issues such as extending civil rights and military service toward issues such as gay marriage and adoption. Both of the latter issues are rooted in the idea of the family. As a result, we might expect that members of the public are better able to understand these issues as pieces of the same puzzle without outside assistance.

4.6 Resolved and unresolved issues

This chapter has uncovered a number of findings relating to the effects of multiple frame environments, question order, and priming across all three experiments. Table A17 summarizes the hypotheses tested in this chapter, as well as my findings. To sum up, I found no evidence for question order effects across all three experiments, allowing me to disconfirm hypothesis 5. With regard to frame effects, no consistent frame effects appeared across all three experiments. The 2007 experiment found a difference between framed and control conditions, neither 2005 nor 2008 similar effects which were also statistically significant.

A difference did appear among framed conditions in 2008. These differences suggest possible differences in frame strength, that is the ability of a given frame (or frame combination) to influence opinion in a given direction. These findings are particularly interesting in that they do not appear to coincide with hypothesis 3, which suggests that the use of strong and weak frames on opposite sides of an issue should result in a contrast effect. This chapter is unable to provide conclusive evidence for or against this hypothesis, however, and the matter will be taken up further in the next chapter.

The experiments also fail to find a frame order effect which supports my hypothesis. This null finding is particularly important, since the theory that competing frame environments may be able to reduce opinion bias to reach subjects' 'true attitudes' on a given issue would be substantially damaged if the order in which subjects receive the frames affected their opinions. As with hypothesis 3, the findings reported here are not enough to confirm hypotheses 1 and 2, which will be examined further in Chapter 6.

Finally, this chapter examined priming effects on other gay rights issues resulting from frame, question order, or the interaction of the two manipulations. Results indicate that question order does not lead to priming effects outright, while certain framed conditions do. In particular, the 'two opposition frame' and control condition subjects

tended to be less supportive other gay rights issues, although the effects were not widespread. When interacted with question order, however, these effects increased in number. In particular, both ‘two opposition frame’ conditions from the 2008 study, and the control conditions which received the marriage question first in 2005 and 2008 expressed the lowest levels of support for other gay rights issues. Nonetheless, these effects did not include all the gay rights questions, particularly gays in the military. Further, the 2007 experiment produced no priming effects at all. All of which suggests that priming effects are possible, but only under certain contexts, such as those which provide a substantial amount of negative information.

The following chapters extend the results presented here by disaggregating the samples. Chapter 5 takes a closer look at the effects of each multiple frame environment on subject opinion toward same-sex marriage and civil unions. It also attempts to clarify the framing effect findings from this chapter by measuring the strength of each individual frame. Chapter 6 focuses on opinion-core value linkages and subject political sophistication to improve the understanding of framing effects presented here.

CHAPTER 5: EXAMINING THE STRENGTH OF INDIVIDUAL FRAMES

5.1 Framing effects in multiple frame environments

The last chapter examined the three experiments with an eye toward differences in subject opinion resulting from frame, frame order, and question order. This chapter builds on the work of the last by attempting to understand those results in the context of frame strength. In doing so, it tests two hypotheses outlined in Chapter 2. In sum, the goal of this chapter is to determine whether multiple-frame environments act to push opinion into more extreme positions, or to moderate it. The chapter also explores the persuasiveness of the framed conditions used across these experiments. All frames are not created equal, and the interplay between frames of varying strength (persuasiveness) may have dramatically different effects depending on the population receiving the frames, and the issue under consideration.

5.2 Theorizing the effects of multiple frame environments on public opinion

Much recent attention has focused on the effects of multiple frame environments. Scholars such as Chong and Druckman (2007a, 2007c) suggest that these environments serve to moderate opinion. By providing subjects with reasonable arguments on each side of a given issue, subjects become less likely to express ‘extreme’ opinions, such as strongly supporting or opposing a given issue. These scholars suggest that these framing environments enable subjects to see both sides of the issue, which may serve to weaken the connection between their reported opinion, and their actual belief about a given issue. (Chong and Druckman, 2007c)

Other scholars suggest that multiple frame environments enable subjects to more accurately express their actual opinion on a given issue (Sniderman and Theriault, 2004; Hansen, 2008). Their work contends that multiple frame environments may act as a brief

primer into the issue in question. For less visible issues, or less knowledgeable subjects, the provision of multiple frames may serve to ‘educate’ subjects about the issue. For more salient (or easy) issues, or subjects with more knowledge of current issues, multiple frame environments remind subjects of arguments on both sides of the issue, assisting them in recalling their opinion on the issue quickly.

This debate focuses implicitly on multiple frame environments in which the frames are on opposite sides of the issue, and are balanced with respect to frame strength, that is, the frame’s ability to raise the salience of a given consideration when the subject decides what their opinion on the issue is. Many other multiple frame environments exist, however. Work by Chong and Druckman (2007c) examine many of these alternative environments. These alternatives vary the strength of the issue frames provided to subjects, and the sides of the issue on which they appear. In doing so, they present environments which match the many different combinations which are present in real world debate.

The 2008 experiment used here expands upon Chong and Druckman’s work to cover two additional environments: the provision of a strong support frame and weak opposition frame, and two strong opposition frames. Although these do not exhaust the possible combinations of multiple frame environments, they are a representative sample of the mismatch between frames present in real world debate. By testing these frames on ‘real’ issues, those which are not hypothetical, but are present in public debate, I hope to get a better understanding of the effects of the broader population of possible multiple frame environments. Beyond this, the use of an issue on which has four possible outcomes (support marriage and unions, support marriage, support unions, oppose both) rather than two (support or oppose a given issue) also represents an advance on prior work in this area.

I test the competing claims about balanced frames on opposite sides of an issue with the following hypothesis:

Multiple-frame environments (regardless of frame direction) strengthen, rather than moderate opinion. Subjects in multiple-frame environments are more likely than control group subjects to express favor or opposition to same-sex marriage and civil unions.

In order to find support for this hypothesis, fewer subjects in the framed conditions should answer ‘neither favor nor oppose’ to the questions about same-sex marriage and civil unions than subjects in the control condition. By the same logic, more subjects in the framed conditions should report opinions at the extremes of the opinion scale: strongly favor or strongly oppose.

Subjects in the ‘strong support frame/weak opposition frame’ should not follow the same pattern as those in the balanced conditions. Scholars have found that subjects in this type of condition typically exhibit a ‘contrast effect,’ in which the disparity in frame strength pulls subjects closer to the position of the strong frame (Chong and Druckman 2007c, 640). I test for these findings with the following hypothesis:

Contrast Effects. Subjects will disproportionately support the position advocated by the strong frame in ‘strong and weak competing frames’ environments.

There are a few things worth noting about this hypothesis. First, the comparison here is between all of the other conditions, rather than just the control. In each case, I expect that more subjects will claim to strongly support same-sex marriage or civil unions in the ‘contrast effect’ treatment than the others. Second, the number of subjects in the ‘neither support nor oppose’ may be higher here than in the balanced condition, or the control. This may occur as subjects in the ‘oppose’ or ‘strongly oppose’ condition are pulled away from their actual opinion by the contrast effect.

The final framed condition provides two strong arguments against same-sex marriage or civil unions. I expect this condition to behave similarly to a single frame condition in that subjects will be pulled in the direction of the frames, toward the ‘oppose’ and ‘strongly oppose’ response options. I expect this condition to show the largest number of subjects in the opposition categories, more than would appear in the support categories for the contrast effects condition. This expectation derives from the

difference in the amounts of negative information presented: subjects who receive a weak argument which they agree with still receive information which bolsters their opinion. By contrast, subjects in the ‘two opposition frame’ condition only receive arguments on one side of the issue, meaning those that support marriage or unions receive no outside affirmation of their position here. I examine all of these hypotheses using cross tabulations of the treatment conditions and dependent variables.

5.2.1 Measuring frame strength

Chapter 2 provided an argument about the strength of each frame used across the 2005, 2007, and 2008 experiments based on a review of primary sources and academic articles. This work suggests that the ‘Equality’ argument is a strongly persuasive argument in favor of both marriage and civil unions. The work also suggests that ‘traditional definition’ and ‘against religion’ are strong arguments against, and that ‘majority rule’ is a weak argument against marriage and unions. Although this work is instructive, another check of the strength of these frames was also conducted.

The results of this test were reported in Chapter 3 (Table A1), and show that, among University of Iowa undergraduates, the ‘equality’ frame is the most persuasive argument with regard to same-sex civil unions. Although it loses some strength when speaking about same-sex marriage, ‘equality’ remains the strongest argument for that portion of the analysis as well. Although the ‘equality’ argument remains the most commonly cited argument for same-sex marriage (Brewer 2008, 37) its strength, particularly compared with strong arguments against same-sex marriage is surprising. This likely reflects the liberal leanings of the sample, as well as the general appeal of the ‘equality’ frame for students. Interestingly, the equality frame loses some of its strength when talking about marriage. This is the opposite of what one might expect, since true equality with heterosexual couples would require that homosexual couples also be allowed to marry.

Turning to the opposition frames, it is clear that none of these arguments were considered as strong as the ‘equality’ frame or indeed as the support frames generally. Both ‘traditional definition’ and ‘against religion’ fared the best of the opposition arguments, although ‘traditional definition’ was less persuasive when talking about civil unions. This drop was expected. In fact, the drop was also expected for ‘equality’ and ‘against religion’, although those frames did not lose as much strength moving from marriage to unions.

The least persuasive frame used here was the ‘majority rule’ frame. For both civil unions and marriage this frame is well below the levels of persuasion reported by other frames. This result is also as expected—the prior literature showed only one explicit example of the majority rule frame being used, suggesting either that the frame is perceived not to resonate as well with the public as others.

In total, these results fit the basic expectations created by the prior literature review. One item of concern is the strength of the ‘equality’ frame compared to the other strong frames. To the extent that the ‘equality’ frame resonates better with subjects than the strong opposition frames, results may be biased in the direction of the ‘support’ response categories. Despite the weakness of the opposition frames, there does appear to be a separation between the strong and weak frames identified above. It is possible, however, that the ‘two strong opposition’ frames condition for civil unions might be more properly relabeled ‘strong and weak opposition’ frames. This theory is explored further in subsequent chapters.

A final item worth noting about the frame strength test is the weakness of the ‘protecting children’ opposition frame. This argument appeared in the 2008 campaigns against same-sex marriage in California and Florida, as well as in the campaign against gay adoption in Arkansas. Unfortunately, the frame was not able to be included in 2008 experiment. To the extent that the general public concurs with this student frame strength test, we should expect the ‘protecting children’ argument to go out of vogue as quickly as

it has appeared. On the other hand, this dissertation has already shown that significant differences do exist between the student samples and the general voting public.

5.3 Attitudes toward civil unions and same-sex marriage, by frame

In order to show that the frames have had an effect, the crosstabs of subject opinion should indicate a reduction in the ‘neither favor nor oppose’ condition for the framed conditions, when compared with the control (hypothesis 1). It should also be noted that the difference between the framed and control conditions will likely be greater for the civil unions question than for the same-sex marriage question. This flows directly from our understanding of the two issues. Same-sex marriage is an ‘easy’ issue in that it does not require a great deal of prior knowledge to understand, and is generally considered to be a moral issue. By contrast, civil unions require more technical knowledge to understand as an issue. As a result, subjects may be less familiar with this issue, and more susceptible to the influence of the frames.

The distinction between marriage and unions suggests a number of possibilities: first, the number of subjects across all conditions in the ‘neither favor nor oppose’ category may be higher for the civil unions question because it is a ‘harder’ issue than marriage. If this is true, the control condition would likely show the highest number of ‘neither favor nor oppose’ cases since no additional information is provided to subjects. By contrast, if the balanced frame condition acts as Chong and Druckman suggest it will, then the ‘equality/against religion’ condition should express the highest number of subjects in the neutral category.

Table A18 reports the percentage of subjects in each response category for the civil unions question, by treatment condition. The first finding which appears from this table is the movement of approximately 12% of the subjects from the ‘neither favor nor oppose’ category to ‘strongly favor’ across both framed conditions. The control

condition, by contrast, does show a similar reduction in the number of subjects in the neutral category. This finding suggests some initial support for the hypothesis that multiple frame environments act to intensify opinion, rather than moderate it. Although a similar exodus from the neutral category to the ‘strongly oppose’ is not present, this is due in part to the demographics of the 2005 sample (see Chapter 3) which slightly favored a liberal ideology. It is likely also due to the strength of the equality frame, as identified by the frame strength test.

Moving to the 2007 sample, shown in Table A19, the same general pattern is evident. Subjects in the framed conditions show a 9-12% reduction in ‘neither favor nor oppose’ over the control condition. Again, those subjects moved to the ‘favor strongly’ category. The remainder of the difference between the framed and control conditions in the ‘favor strongly’ category appears to have come from subjects who favored civil unions also moving to ‘favor strongly’. Compared to the 2005 sample, subjects in 2007 were more likely to say that they were liberal, with nearly 40% of the 2007 sample self-identifying as such (more demographic information is available in Chapter 3).

The 2008 experiment differs from the 2005 and 2007 experiments in two ways: it is a national sample, with subjects who are typically older, more conservative, and more diverse than the student sample; and the sample was collected by phone rather than in class or by web survey. The difference between the telephone collection method and the others is that it requires more interaction with another person, and perhaps more constant attention—with a paper or email survey it is easier to look away for a moment and return to the experiment. The 2008 experiment also expands on the work offered by 2005 and 2007 by offering new multiple frame environments, rather than the same balanced ‘strong support/strong opposition’ format used previously.

Table A20 reports a number of differences between the civil unions responses from the 2008 experiment and the others. First, many more subjects appear in the ‘oppose’ and ‘strongly oppose’ categories. Second, differences between the framed

conditions and the control in the neutral category are smaller. The balanced cell, ‘equality/against religion’ does show a slight reduction in subjects in the ‘neither favor nor oppose’ category, and again they do appear to be moving into the ‘favor strongly’ category. Although the results are not as dramatic as with the previous experiments, the general trend is supported here.

The results for the ‘equality/majority rule’ frame, the contrast condition, do not appear to support the ‘contrast effects’ hypothesis, however. Rather than subjects clustering in the supportive categories, subjects appear most often in the neutral category. Just over a quarter of subjects appear in the ‘favor’ category as well, but these results only serve to balance the relatively small number of subjects in the ‘strongly favor’ category.

The ‘two strong opposition’ frame was projected to behave similarly to a single frame environment, that is, subjects should be pushed strongly in the same direction as the frames. The evidence here suggests that a there this is happening, though on a much smaller scale than expected. Subjects were pulled out of the ‘favor’ category, as well as the ‘neither favor nor oppose’ category into the opposition categories. The increase in the number of subjects saying they oppose civil unions is small, however, with approximately 6% more subjects in the opposition categories. Although evidence of potential trends does appear, there is not a statistically significant difference between cells, suggesting support for these hypotheses on the civil unions question is weak at best.

In sum, the evidence of this question again highlights the difference between the student and national samples. That said, there is evidence which suggests that the trend for the ‘balanced’ cells in favor of civil unions does appear across all three experiments. That the subjects in this condition tend to cluster in the favor categories is consistent with the frame strength test’s finding that the ‘equality’ frame was the strongest. Oddly this same effect did not occur when the equality frame was paired with the worst-performing frame strength test frame: majority rule. This may be due to a belief, on the part of the

subjects, that a majority of their fellow citizens do oppose civil unions. If that is the case the cell would resonate more with those subjects than those who are unsure or believe that to be false. Finally, the ‘two opposition’ frame environment performs in the expected direction, although at a weaker rate than hypothesized. This could be due to a reduction in frame strength (the frames were designed to speak about same-sex marriage; they are less relevant to civil unions).

Moving to the same-sex marriage question, the 2005 results in Table A21 exhibit the same trend found above: subjects in the framed condition moved from the neutral category to ‘strongly favor’. The magnitude of the opinion shift from the ‘neutral’ category to ‘strongly favor’ is much smaller here than with civil unions. This was expected: to the extent same-sex marriage is an easier issue than civil unions, subjects should need to rely less on frames for assistance in understanding the issue.

For 2007, the results reported in Table A22 are similar to those for 2005: subjects moved from the neutral category to ‘strongly favor’, and again at a lower rate than for the civil unions question. Keep in mind that while the numbers in the ‘strongly favor’ category appear large, they only represent a 5-8% reduction in nonattitudes over the control condition. Again, this is likely the result of a strongly liberal sample of undergraduates.

Subject responses for the same-sex marriage question in the 2008 experiment are reported in Table A23. As the table shows, they again depart from the findings for 2005 and 2007. Across all framed conditions, the expected reduction in the number of subjects in the neutral category did not occur. In the case of the contrast effect condition, the opposite occurred, with an additional 7% of subjects reporting that they ‘neither favored nor opposed’ same-sex marriage, over the control condition. Further, the contrast effect condition exhibited a trend in the opposite direction of what was expected. Subject responses indicate a strong preference for opposing same-sex marriage despite the provision of what appeared to be a strong support argument and a weak opposition

argument. The difference, compared to the 2008 findings for civil unions, is substantial: 29% of subjects opposed or strongly opposed civil unions, whereas 51% of subjects opposed or strongly opposed same-sex marriage—the largest figure across all of the frames. Although a preference for opposing same-sex marriage is expected with a conservative-leaning sample, the magnitude of this effect is surprising. This evidence suggests that the ‘majority rule’ frame resonates strongly with the general public on the marriage question, and much more weakly with the same sample on civil unions, or with students generally.

The ‘equality/against religion’ condition also appears much more balanced here than in any of the other experiments, or on the civil unions question. That said, these findings do not appear to support either of the hypotheses about multiple frame environments: subjects do not appear to cluster in the neutral, or at the extremes of the opinion scale. Rather, subjects are distributed relatively evenly, with a moderate preference for opposing same-sex marriage.

The ‘two opposition frame’ exhibits the strongest trend toward opposing same-sex marriage, as expected. However it is not accompanied by a reduction in the number of subjects in the neutral category. Considering the conservative tendency of the sample, and the provision of two frequently-used arguments against marriage, this result is disappointing. It is worth noting that the largest difference between this condition and the control is that subjects clustered in ‘oppose’ for the control and ‘strongly oppose’ for this condition. It suggests that the real power of this condition might be to move people who are predisposed to oppose same-sex marriage into stronger opposition. In practical politics, these findings suggest that this condition might mobilize an opposition rather than convince undecided voters.

The differences between the 2005/2007 samples and the 2008 samples are substantial across both questions. A possible reason for this is that subjects from the 2008 sample differed substantially from the students across a number of demographic

characteristics, the largest of which are: age, ideology, and religious attendance. In order to test whether these demographics are driving the differences between the samples, I reran the analysis for the 2008 sample using only the subjects who identified themselves as between the ages of 18 and 29—those closest to the students. The resulting decision reduced the sample size to 42 subjects for all cells—too small for meaningful analysis. Including those between 30 and 44 produced results no different from the 2008 results reported above.¹⁹

This section has examined several expectations regarding the effects of multiple frame environments on same-sex marriage and civil unions. The first hypothesis suggested that subjects in any framed condition would be more likely to state a positive or negative opinion than subjects in the control. This hypothesis was supported by the 2005 and 2007 datasets which showed that for both same-sex marriage and civil unions subjects in the framed conditions migrated from the neutral category to ‘strongly favor’. The magnitude of this effect is larger for the civil unions question than the marriage question. This is likely due to the difference between the terms ‘marriage’ and ‘civil union’—because individuals better understand what a marriage entails, they are likely to have a stronger opinion on marriage than they would on unions.

The 2008 experiment provided mixed results for the first hypothesis. Subjects in the civil unions condition did act similarly to those in 2005 and 2007, though the magnitude was smaller. This difference might be the result of what Sears (1986) calls less-crystallized attitudes among student samples. If this is true, we would expect student samples to show larger effects than samples of the general public, because the general public, on average, is more likely to have formed an opinion on a given issue than

¹⁹ Using only those subjects who self-reported as ‘liberal’ or ‘very liberal’ provided approximately 50 subjects per cell. Analysis with crosstabs showed a tendency for framed subjects to cluster in ‘strongly favor’ both marriage and unions, however the chi-squared test was not significant, possibly owing to the small number of subjects.

students. In this sense, using a sample of the general public instead of students represents a more difficult test of framing effects. Insofar as this is true, I find framing effects do exist across all samples for the civil unions question. Further, these framing effects are consistent with the work of Sniderman and Theriault, and Hansen, who argue that multiple frame environments should reduce neutral responses to questions in favor of support or opposition opinions.

On the marriage question, the 2008 data does not correspond with any of the expected results. Subjects instead appear to be spread evenly across the response categories (the exception being a 5% shift from ‘favor’ to ‘strongly oppose’) with no reduction in the neutral category responses. As a result, this cell does not correspond to the expectations of either Chong and Druckman or Sniderman and Theriault. It also does not resemble any of the other ‘balanced frame’ cells used in this thesis. At the same time, it is clear that the frames are doing something, in that this condition does not resemble the control—more subjects appear in the support categories and the neutral category than the control. Of course, more subjects also appear in the ‘strongly oppose’ than in the ‘oppose’ category, also. More work is needed to understand exactly what the effect of the frames is for this one condition.

The second hypothesis that was tested here looked for a contrast effect in the ‘equality/majority rule’ condition. This condition only appeared in the 2008 experiment, and the frames were chosen for their mismatch in persuasiveness: equality is a strong argument for marriage and civil unions, while majority rule is a weak argument against. These assertions are supported both by a literature review and frame strength test. Unfortunately, the results for the civil unions question do not strongly support this hypothesis. Instead, they show that the bulk of subjects cluster in the ‘favor’ and neutral categories. This could indicate conservative subjects moving from the opposition frames in the direction of the strong frame; however the magnitude is much smaller than expected.

The 2008 marriage data find a relationship which is the opposite of the hypothesized one: subject responses cluster in the opposition categories. This could be due to an interaction between the ‘majority rule’ frame and the marriage question; however the result does not fit with prior research or evidence from the frame strength test. It is possible that the ‘majority rule’ frame is best employed in specific situations: when there is a clear signal that a majority in the population (at the federal, state, or local level) oppose same-sex marriage. If so, it is possible that the frame strength would increase dramatically, since the costs associated with determining ‘what majority?’ and ‘what the prevailing attitude is’ have been alleviated.

The final set of expectations pertained to the ‘two strong opposition frames’ environment. Evidence for the 2008 civil unions question shows a weak trend in the expected direction. The size of this effect is consistent with those from the ‘balanced frames’ environment for 2008. The marriage question results suggest that the real shift in subject opinion occurred between the opposition categories, with subjects who already opposed same-sex marriage deepening their opposition. Although these effects aren’t as strong as expected, the fact that they appear at all is significant. The results of this work, as well as other research (Kinder and Sanders 1990, Chong and Druckman 2007c) have shown that samples of the general population are a fairly stringent test for finding frame effects. As a result, I believe these conditions suggest limited support for the hypothesis that ‘two opposition frame’ environments behave similarly to single frame environments.

5.4 Framing effects and treatment follow up questions

Apart from direct effects on subject opinion, the differing multiple frame environments could also have an impact on the degree to which subject opinion corresponds across the treatment questions. In sum, subject opinion was consistent across treatment questions. For those subjects who did not, a follow up question was given. In 2005 and 2007, a follow up question was given only if subjects stated that they

supported same-sex marriage, but opposed civil unions. In 2008, a second follow up, which engage subjects who opposed same-sex marriage but supported civil unions, was also added. For both follow ups, subjects were given a choice of two possible rationales for their differing opinions, or could volunteer that the mismatch was due to some other reason.²⁰

Across all three experiments very few subjects suggested that they ‘supported same-sex marriage, but opposed civil unions’, between 16 and 33 in each of the experiments.²¹ The first thing to note is that these are very small numbers to work with. For 2005 and 2007 I combined the framed conditions into one category, since both were balanced frame environments, and they exhibited the same trend above. Even so, the number of subjects was small, and no significant difference in opinion was evident. Combining the cells for 2008 is more problematic, analysis was not conducted due to the small N.

For 2008, the ‘oppose same-sex marriage, support civil unions’ follow up produced very different results. A total of 110 subjects fit into this condition, and were asked to further explain their opinion. Subjects were given a choice between the rationales that civil unions: provided the same benefits as marriage, or that unions allowed each state to decide for itself. Subjects could also volunteer that some other rationale best fit their opinion, or that they did not know. Despite the larger N, the framed conditions were not statistically different from one another. A clear difference did appear for question order, however.

As Table A24 shows, subjects who received the marriage question first were twice as likely to report that they opposed same-sex marriage and supported civil unions

²⁰ Exact question wordings are available in Appendix B.

²¹ Almost all subjects answered the follow up question in 2005, regardless of whether or not they should. The figures reported here come from a manual comparison of reported subject opinions in that dataset.

as subjects who received the civil unions question first. This finding is consistent with the Pew (2003) finding that subjects who were given a chance to reject same-sex marriage first were more likely to support same-sex civil unions. Differences between subjects in terms of their rationale for this opinion are small, however. This makes intuitive sense in that frames, rather than question order, are more likely to cause differences in rationale. Although this evidence is not enough to confirm the question order hypothesis first laid out in Chapter 4, it does suggest that question order effects on same-sex marriage and civil unions seem to persist in some form from 2003 to 2008. This finding is noteworthy insofar as 2008 represents a fundamentally different context for the debate in terms of the arguments used by both sides, and the increased interest in the general population for according at least some recognition to same-sex couples. More work on the exact effect of question order goes beyond the scope of this project, but appears necessary to truly understand its effects on public opinion on legal recognition of same-sex couples.

5.4.1 Explaining differences in multiple frame environments

The preceding sections of this chapter have laid out a solid understanding of the effects of multiple frame environments on public opinion for both same-sex marriage and civil unions. This work has supported some of the hypotheses tested in this chapter, and failed to support others. Among the anomalous findings, two in particular stand out: the subject opinion shift in the ‘balanced frame’ experiments from the neutral category to ‘strongly favor’, and the overwhelming opposition to same-sex marriage in the contrast effects environment. In the former case, the hypothesis suggests that subjects should move out of the neutral category in both directions—both to the strongly favor and the strongly oppose conditions. In terms of the contrast effects hypothesis, the relationship is exactly the opposite of expectations. These findings could be the result of two different

possibilities: the frames themselves are more or less persuasive than expected, or the subjects have some demographic characteristic that causes them to interpret (or fail to interpret) the frames in a manner other than expected. The remainder of this chapter deals with the first possibility, and attempts to gain a greater understanding of the strength of each frame used in this experiment. Chapter 6 carries forward the work on subject demographics by examining political sophistication further.

Few scholars have attempted to tease out the individual effects of single frames used in multiple frame environments. Probably the most successful effort here has been the work of Chong and Druckman (2007c), who's omnibus exploration of multiple frame environments capture 17 different multiple frame conditions in addition to single frame environments. Their experiments rely on a largely student sample (members of the general public were also invited to participate) and attempts to estimate the impact of each frame on public opinion (ibid 641). To determine the independent effect of each frame, Chong and Druckman estimate ordered probit models testing effects of both individual frames and frame pairs on their opinion variables. Unfortunately, including individual frames as distinct treatments in the experiments presented here would have doubled the size of the experiment from eight cells to sixteen. As a result, determining the exact impact of each frame is difficult. However, the most important part of this analysis is to understand frame strength relative to the other frames used in the experiments—to the extent that we can say one frame has the same impact as another, we can comment on the accuracy of the assumptions about frame strength grounded in the literature review and frame strength test. I attempt to determine the relative strength of the in two ways: using ordered logit models and CLARIFY to measure the mean effect of each frame pair, and by estimating the mean impact of each frame.

5.4.2 CLARIFYing frame strength

In order to determine the strength of each frame, dichotomous variables were created for each of the framed conditions. These conditions were then run in ordered logit models for both dependent variables in each experiment. Following this, I used clarify to simulate 1000 cases, and then use those cases to determine the probability of each subject appearing in each category of the dependent variable.²² This approach is not sufficient to determine what the independent impact of each frame is on subject opinion, however it does offer a sense of the strength of each frame relative to its partner for each multiple frame environment.

Table A25 reports the ordered logit coefficients for the 2005 experiment. The coefficients for both the same-sex marriage and civil unions questions are reported and the models are run with and without basic control variables. The result indicate that the framed environments do not have an effect on subject opinion for civil unions, however they do have a statistically significant impact on attitudes toward same-sex marriage even after basic demographics (gender, party identification, and born again status) are controlled for. The figures are also positive, indicating that being placed in either of the treatment categories increased the likelihood that the subject would express a positive opinion of same-sex marriage.

The results for the predicted probabilities of a subject appearing in each category of the same-sex marriage dependent variable are reported in Table A26. These data are derived from simulating 1000 cases by setting the control variables at their means, and altering the cell values between 0 and 1 (indicating presence or absence) to determine the effect of each multiple frame environment. These results are similar in pattern to those reported above for the gay marriage variable in 2005. The difference between the framed conditions and controls here is a higher probability of a subject reporting they ‘strongly

²² For more information on Clarify see King, Tomz, and Wittenberg (2000).

favor' same-sex marriage in the frame conditions. The difference here is that the additional support comes at the expense of the opposition categories rather than the neutral category, which is the same across the framed and control condition. In sum, this suggests that the 'equality' frame is stronger than both the 'against religion' and 'traditional definition' frames for the 2005 subjects on this question. The results for civil unions are not reported here since the treatment cells were not significant in the ordered logit model.

Moving to the 2007 dataset reported in Table A27, it is apparent that both the multiple frame environments, as well as the controls, each play a statistically significant role in subject opinion on both same-sex marriage and civil unions. Unfortunately, interpretation beyond direction and significance is not possible with unstandardized logit coefficients, however the picture presented here suggests that, again, being assigned to a framed condition rather than the control increased a subject's support for same-sex marriage or civil unions. The direction of the other variables is also consistent with expectations: subjects who are male, born again, or identify themselves as Republicans are more likely to oppose same-sex marriage and civil unions than their peers.

Tables A28 and A29 report the predicted probabilities of appearing in each category of the dependent variables (again setting the control variables to their median values and varying the presence or absence of the treatment conditions). It is apparent that the multiple frame environments increase support for both same-sex marriage and civil unions. This provides further support to the finding from the frame strength test that the 'equality' frame is more persuasive than either of the opposition frames used. Taken in conjunction with the 2005 data, these tables also suggest that that the opposition frames are of roughly equivalent strength. If one frame were stronger than the other, we would see that the probabilities for the framed conditions would differ to a greater degree than they do. With this in mind, we can turn to the effects of the framed conditions on opinion in the 2008 experiment.

Table A30 reports the findings for the ordered logits of each multiple frame environment on attitudes toward same-sex marriage and civil unions. These results suggest, whether control variables are added or not, that the frames did not have a statistically significant impact on the dependent variables. As a result, predicted probabilities for each category of the dependent variable are not reported here. Analysis of the 2005 and 2007 experiments suggests that the ‘equality’ frame is stronger than both of the strong opposition frames, and that the two opposition frames are approximately equivalent in strength. To improve our understanding of the relative strength of each of these frames beyond these findings, we must turn to an alternative approach.

5.4.3 Estimating the impact of individual frames

For a final look at the impact of individual frames used in multiple frame environments, I attempted to define the value of each opposition frame as a function of the support frame. Following this, I then plot the value of each opposition frame given the value of the support frame. The value of this approach is that it allows me to rank the variables from most to least supportive of same-sex marriage. The drawback is that it does not provide an exact value for each individual frame.

To begin, I determined the mean value of each multiple frame environment for both of the dependent variables. These values are reported in Table A31. Since reasonable estimates of the effect of each multiple frame environment for the 2005 and 2007 experiments were provided in the last section, they are not included in this analysis. The table does show an interesting trend: the means of all of the conditions are higher (i.e. more supportive of marriage or unions) for the civil unions variable than for the same-sex marriage variable. This finding is consistent with expectations.

In order to set each variable as a function of the ‘equality’ frame (E) the value of each cell was subtracted from all other cells. These differences, provide the baseline for setting each opposition frame as a function of E. The values for each of these frames are

reported in Table A32. As the table shows, the effect of each frame differs slightly across the dependent variables. This is consistent with the expectation that some frames will better ‘travel’ across the response categories, from same-sex marriage to civil unions. What remains is simply to set values for E and compare the values of each frame. In doing so, we should get a sense of how strongly negative each opposition frame is.

At this point, an estimate of the value of E is needed. We know E is positive, therefore it has a minimum value of 0 (which is to say it has no effect at all on opinion). We also know that the scale for opinion varies from 1 to 5, but that the means for each variable clustered within .3 of one another. For that reason, I expect that the true value of E lies between 0 and 1. Any larger an effect and the likelihood that we would see a greater deviation for at least one frame increases, since the frame strength test suggests that the opposition frames are not equal in strength. For these values of E, we find that one of two value hierarchies is possible. They are (from positive to negative): $E > R > T > M$ and $E > T > R > M$.

Figures 1 and 2 show the strength of the frames opposing same-sex marriage and civil unions as a function of the ‘equality’ frame (E). The values of E are further constrained from the 0 to 1 estimate provided above. As the figures show, the range of possible values for E in the 2008 experiment are between .18 and .34. These values were determined by the opposition frames, which should have a value at or below 0. The differences in the formulas used to determine frame strength (either adding or subtracting E) create upper and lower bounds for E.

The figures also show that for both same-sex marriage and civil unions, the ‘majority rule’ frame was actually the strongest single opposition frame for the 2008 experiment. This result is surprising considering the evidence from the literature review, and the frame strength test, however it is consistent with the crosstabs reported above, particularly in the case of same-sex marriage, where the ‘contrast effect’ frame appears to be as strong as the ‘two opposition frame’ condition in opposing marriage.

Also note that the ‘traditional definition’ (T) and ‘against religion’ (R) frames have approximately the same value across the same-sex marriage and civil unions questions. The ‘majority rule’ frame (M), however appears stronger for the same-sex marriage question. M could reduce support for civil unions by as much as -.30, approximately the same strength as E, which has an upper limit at .34 for unions. By contrast, M has maximum value of -.45, compared with E’s .30, for the marriage question. This provides further evidence that frame strength can vary across response options. Specifically, it suggests that E and M are of approximately equal strength on the civil unions question, but that M is a stronger frame than E on the same-sex marriage question.

These findings again raise the specter of student-general population sample differences across these experiments. Another important consideration from looking at these value hierarchies is the closeness of the ‘against religion’ and ‘traditional definition’ frames—at one value for the ‘equality’ frame they switch positions, suggesting that across these values of E the two frames should be reasonably close, and are equivalent at one point. Despite being unable to determine the exact values of each individual frame, this work does support the findings earlier in the chapter which suggest that the suspected strong opposition frames actually perform less well than the intended weak opposition frame for the 2008 data.

5.5 Concluding remarks

This chapter has focused on the impact of multiple frame environments on attitudes toward same-sex marriage and civil unions. In doing so, it has attempted to contribute to ongoing debates over whether these environments serve to moderate or intensify public opinion on these issues. Further, it has moved beyond the discussion of ‘balanced frame’ environments to examine two other multiple frame environments: strong and weak competing frames, and two strong, noncompeting frames. The chapter

closed with an attempt to rank the frames used in these experiments hierarchically, to get a sense of the persuasiveness of each frame. A summary of these hypotheses and findings are available in Table A33.

On balance, the findings in this chapter suggest that ‘balanced frame’ environments do intensify, rather than moderate, opinion. These effects are stronger for all subjects on the civil unions question, than the same-sex marriage question. Effects were also stronger for student samples than the national sample. The ‘two strong opposition frame’ environment also produced the expected effect for both same-sex marriage and civil unions, however the effects were modest—similar in magnitude to those reported for the ‘balanced frame’ environments.

The ‘contrast effects’ hypothesis was not supported by the 2008 experiment. In fact, the effect was the opposite of expectations, with subjects expressing greater degrees of opposition for same-sex marriage than support. Although this finding contradicts expectations that the ‘majority rule’ frame would be unpersuasive when contrasted with an ‘equality’ frame, further analysis calls the original expectation into question. Analysis of the frames suggested that the ‘majority rule’ frame was actually the most strongly negative frame used in the 2008 experiment. It is possible that differences in the context of the debate over same-sex marriage has changed the strength of this frame since its use in Hawaii’s 1998 campaign. Alternatively, it is possible that the frame has not changed in strength, but rather has a different effect on college students than on the general public. More work is needed to determine the precise effect of this frame on the continuing debate.

Although this chapter has provided a clearer sense of the effect of multiple frame environments on public opinion, it has not provided a complete picture. What remains is an understanding of how subjects use frames in their decisionmaking processes, and whether frames enable subjects to report their opinion more accurately than an unframed question. Chapter 6 divides the 2008 sample by levels of political sophistication to

determine whether sophisticates and non-sophisticates use frames in the same manner. It also examines how well subjects are able to link their opinion on same-sex marriage and civil unions to their core values. To the extent frames improve the value-opinion linkage, they can be said to reduce bias in the measurement of public opinion.

CHAPTER 6: CORE VALUE LINKAGES AND POLITICAL SOPHISTICATION

6.1 Subject differences and public opinion

The previous chapter improved upon the basic understanding of frame effects provided in Chapter 4 by attempting to measure the precise effect of each issue frame on public opinion toward same-sex marriage and civil unions. This is only half of the story, however. In order to provide a complete picture of the effect of multiple frame environments on public opinion, we must also look at how subjects receive and process issue frames. Chapter 2 laid out a theory for how differences in subject value hierarchies, or degree of political sophistication affect frame use by subjects, and what effect these differences might have on opinion consistency across gay rights issues. This chapter provides empirical tests of this theory, and answers the remaining four hypotheses proposed in Chapter 2.

6.2 Subject value hierarchies

The preceding chapter has shown that, at least for the balanced cell condition, subjects in all experiments were more likely to state that they support same-sex civil unions rather than remain neutral on the issue. For the 2005 and 2007 experiments, subjects were also more likely to say they supported same-sex marriage instead of remaining neutral. Subjects in the 2008 experiment, on average, were less favorable toward same-sex marriage, with a slim majority saying that they opposed such unions. Across all of these framed conditions, however, we find a commonality in that the framed conditions typically showed similar or reduced rates of neutral (neither favor nor oppose) responses when compared to the control condition. This evidence supports the first part of Sniderman and Theriault's theory of the effects of multiple frame environments.

The second half of their theory suggests that the opinions subjects in the framed conditions provide should be closer to their actual opinion on the issue than those

provided by the subjects in the control condition. In other words, supplying issue frames in survey questions should reduce bias by helping subjects link their opinion on a given issue to their core values. This perspective is the framework for the following hypothesis:

Frame context matters. Subjects in competing frames conditions are more likely to link their responses to core values than those in the unframed conditions.

This hypothesis rests on the assumption that most subjects have a transitive, and reasonably stable hierarchy of values from which their opinions on specific issues derive. Recent work by Jacoby (2006) suggests that this is in fact the case. By employing an online survey which asked subjects to rank groups of values, Jacoby determined that the vast majority of subjects exhibited transitive value hierarchies, and that these hierarchies were “directly relevant” to each subject’s issue attitudes (ibid. 719).

The 2008 experiment employs a slightly different methodology than the one used by Jacoby. Rather than asking subjects to rank three or more different values, subjects were instead asked to choose one of two values. This change was made to facilitate the telephone interview. Since Jacoby’s work was completed by subjects online, they could refer back to the list of values they were asked to rank. By contrast, telephone subjects would only hear the list once before being asked to choose between them. Despite the difference in method, the results of this thesis’ 2008 experiment mirrored Jacoby’s. No more than 3% of the approximately 650 subjects who answered each value question stated that the values being considered were ‘equally important’.²³

²³ Unfortunately, there does not appear to be anything distinct about these subjects. I was unable to find any demographic differences between these subjects and those who selected a specific value. Further, the ‘equally important’ subjects were found at all levels of political sophistication. No more than seven subjects answered ‘equally important’ to more than one values question, and only one subject believed all values were equally important. It is possible that characteristics unique to this group could be found with a larger sample, however the similarity between these subjects and the others is most relevant to this project.

Two of the framed conditions presented in the 2008 experiment provide arguments on both sides of the same-sex marriage/civil unions debate. The third multiple frame environment provides two arguments opposing such unions, however. This treatment evaluates the ability of issue frames to moderate the impact of value hierarchies on issue attitudes. Put another way, overloading subjects with frames which oppose same-sex marriage may reduce the ability of subjects who support the issue to accurately report their opinion on the issue. More formally:

Alternate Frames. Subjects agreeing with the offered alternative, non-competing (frames offering different rationales for the same side of an issue) frames will link their responses to their core values better than those disagreeing with the frames.

Other scholars have engaged this question with incomplete results. Chong and Druckman (2007c, 650) divided the subjects of their ‘urban growth’ experiment into groups based on their general preference for environmental or economic values, and their treatment condition. They then compared each group’s support for an urban growth management proposal. Their findings suggest that frames can reduce value consistency if the frames represent strong arguments from credible sources (*ibid*). However, Chong and Druckman note that their finding relies on a hypothetical issue. They believe that other issues may have positions which are defined well enough that strong frames which are contrary to subject values may not alter opinion (*ibid*).

To put these results into the context of this experiment, prior work suggests that subjects who favor equality over morality should be more likely to oppose same-sex marriage and civil unions in the ‘traditional definition/against religion’ condition than those who favor equality in the control because the framed subjects are given strong evidence contrary to their opinion. Extending this logic, the equality-favoring subjects in that framed condition should also express less consistency across other gay rights issues, again owing to the strength of the contrary evidence presented by the frames.

Alternatively, the nature of the same-sex marriage and civil unions issue could prevent this effect because the issue is sufficiently well known that contrary evidence does not provide new relevant information to the subjects. If this is the case, the equality-favoring subjects in the ‘two strong opposition’ frame condition should resemble those found in the control, both in their opinion on same-sex marriage and civil unions, and in their consistency across other gay rights issues.

6.2.1 Interacting value hierarchies and issue frames

To address both of the hypotheses discussed in the last section, I present crosstabs and chi-squared tests of the control and relevant multiple frame environment for both same-sex marriage and civil unions. Subjects are divided by both treatment condition and preferred value. Only value pairs which are relevant to the multiple frame environment are examined, with the exception of the ‘traditional definition/against religion’ environment.²⁴ In other words, subjects in the balanced multiple frame environment are compared only in terms of their preference for either equality or morality. The inclusion of other values would dramatically increase the number of comparisons and reduce the clarity of the findings. Further work with the hierarchies created by the values questions in the 2008 experiment are beyond the scope of this analysis.

Table A34 shows the distribution of subjects across each of the values questions in the 2008 experiment. A few trends are immediately apparent: across all three questions subjects are not evenly divided between the values questions. Rather, two out of three subjects seem to favor equality over majority rule, and morality over equality and traditional values. It is also worth noting that very few subjects were unable to choose between the values, no more than 3% on any given question.

²⁴ This condition is added to test the hypothesis that subjects presented with frames that contradict their opinion are less consistent than those who agree with the frames.

These trends continue across both the framed and the control condition. This suggests that the opinions captured by the values questions are in fact tapping values: they appear unaffected by the different treatment conditions. That the values are almost exactly the same across all of the multiple frame environments and the control (not shown) also reveals the strength of experimental methodology—random assignment of the subjects to conditions replicated the distributions found in the sample within each of the subsamples. Each of the treatment subsamples has between 162 and 178 subjects in it, the comparisons which follow are between the control and a framed condition, and between subjects who prefer different values in the same framed condition.

The analysis begins with subjects who received the ‘equality’ and ‘against religion’ (balanced frame) treatment. Subjects were divided into groups depending on their preference for equality or morality, which accounts for the difference in Ns reported at the bottom of Table A35. The first thing to note is that, broadly speaking, a difference exists between subjects who favor morality and those who favor equality, irrespective of any received frames. Subjects who prefer equality to morality reported almost 30% more strong support for same-sex civil unions than subjects who prefer morality. This suggests that many subjects are able to link their core value hierarchy to their opinion on this issue without the help of frames.

A comparison of the control group to those who received the balanced frame treatment shows that, for those who preferred equality, frames do appear to improve the value-issue connection. Compared with the control, the framed subjects show a 10% reduction in the neutral opinion category, with those subjects appearing to move to the ‘strongly favor’ category, that is, in the direction of the underlying value. Further, there is a 5% reduction of subjects in the ‘strongly oppose’ category to ‘oppose’ in the framed condition. Although the chi-squared test here is not significant, these differences are substantial, and likely would have proved statistically significant with a larger sample.

It is also worth noting that subjects in the framed condition who favor equality strongly resemble the student subjects across all of the framed conditions in the 2005 and 2007 experiments (see Tables A18 and A19). Unfortunately, data are not available for the value preferences of those subjects, but the descriptive statistics presented in Chapter 3 show that a majority of subjects in those experiments reported either a liberal or very liberal ideology, which would be consistent with a value preference for equality over morality. Between-experiment differences with regard to the reduction of neutral responses and support for civil unions may be the result of the larger number of subjects who prefer morality to equality in the 2008 experiment. If this is true, these findings suggest that the real difference between student and general population samples is not in the degree of attitude ‘crystallization’, but rather in the value hierarchies of a majority of subjects between the two groups.

Turning to morality, it is apparent that the morality frame did not provide same support for the value-issue linkage as the equality frame on this question. Differences between the control and framed conditions are minute, with slight reductions in the ‘oppose’ and ‘strongly oppose’ categories in favor of strongly supporting civil unions. The first thing to note here is that these differences are small enough that there is no statistically significant difference between these conditions. It is highly probable that any differences between the groups are due entirely to random variation.

Why did the same sorting effect not occur for the morality subjects? Several possible explanations exist. It is possible that the value-issue linkage is easier for subjects to make for morality than it is for equality. In this case, the frame would provide little effect on opinion simply because subjects have already made the intended linkage. That said, the number of neutral responses is high across both the control and framed conditions. This suggests either that there is some confusion among subjects for how to feel about civil unions—some might view any state-sanctioned union between

homosexuals as inappropriate, while others may believe civil unions are a reasonable alternative to marriage and support them.

Alternatively, this could be a difference in the strength of the frames. Chapter 5 showed that subjects in this condition expressed the highest mean support for both same-sex marriage and civil unions (see Table A23), which may result from ‘against religion’ being perceived as a weaker argument than equality. Both frames were originally designed for use specifically with same-sex marriage, it is possible that the ‘equality’ frame travels better to the civil unions question, or that the ‘against religion’ frame doesn’t link the issue to its core value as easily as ‘equality’ does.

Turning to subject opinion on same-sex marriage, Table A36 shows that subjects who prefer equality were more likely to support same-sex marriage if they were in the framed condition. Effects here are less pronounced as those for civil unions, but again a reduction in the neutral category and increase in the number of subjects in the ‘strongly favor’ category appears. There is also a slight reduction in the ‘favor’ and ‘oppose’ categories in favor of more extreme opinions, compared to the control. The chi-squared test does not indicate a significant difference between the control and framed conditions here.

The morality subjects exhibit slightly larger differences moving from the control to the framed condition on the same-sex marriage question. Here fewer framed subjects expressed opposition to same-sex marriage, appearing to choose the neutral position instead. This evidence lends support to the theory that differences in response are the result of a mismatch in strength between the frames for and against same-sex marriage. These findings fit with those from the 2005 and 2007 experiments, as well as the frame strength test presented in Chapter 3 (Table A1) which find the ‘against religion’ argument to be less persuasive than the equality argument

Table A37 examines differences between subjects favoring equality and majority rule for the contrast effects framing environment. It shows that subjects who favor

equality were not pushed out of the neutral response category by the framed condition. Instead, subjects seem to gravitate toward this category, with 4% reductions from both the favor and oppose categories compared to the control condition. These findings are curious considering the original belief that the ‘equality’ frame was strong enough to dominate the weaker ‘majority rule’ frame, but are of a piece with findings from the previous chapter. These findings imply that the ‘majority rule’ frame has a more nuanced effect than suggested by the frame strength test.

The findings among subjects who value majority rule over equality do not fit with those from the equality subjects. Instead of seeing a trend toward the center, the ‘majority rule’ subjects show a trend towards supporting civil unions compared to the control. It is worth noting that subjects who prefer majority rule were still less supportive of civil unions than equality subjects. These results are consistent with the ‘contrast effects’ hypothesis: subjects move from the opposition categories to the support categories when comparing the control subjects to the framed. The number of subjects in this frame is small enough that small differences are difficult to evaluate, but the 17% shift from ‘oppose’ to the favor categories is noteworthy. This lends further credibility to the theory that the ‘majority rule’ frame has a more complex relationship with these questions than originally intended.

As Table A38 indicates, the picture does not become any clearer for this treatment group on the same-sex marriage question. For marriage, the equality-preferring subjects show an increase in the number of ‘neutral’ responses, as well as an increase in subjects ‘strongly opposing’ marriage at the expense of those who ‘strongly favor’ it. The difference between the control and framed conditions here is significant. For the ‘majority rule’ subjects, there is a slight trend toward the neutral category, similar to that for the ‘equality’ subjects on the civil unions question.

In sum, the picture provided by the ‘equality/majority rule’ environment is less clear than that from the other environments. In two of the four groups (equality-unions,

majority rule-marriage) there is a trend toward the neutral category. The remaining two groups (majority rule-unions and equality-marriage) show a shift away from the position supported by the subjects' preferred value. The equality-marriage subjects also show an increase in the number of subjects in the neutral category. These findings are not consistent with those from the 'equality/against religion' environment, which found a trend across three groups toward supporting marriage and unions, and an increase in the neutral category responses in the fourth. Nor are these findings consistent with expectations for the 'contrast effect' hypothesis. More work is required to understand the relationship between of the majority rule frame and opinion on these questions.

The final multiple frame environment provides two strong arguments against same-sex marriage and civil unions. Generally speaking, the expectation was that more subjects should oppose marriage and unions compared to the control condition, this expectation was supported by findings from the previous chapter (see tables A20 and A23). Looking at Table A39, the first thing to note is the small number of subjects who preferred 'traditional values' to morality. The small number of subjects here hampers the analysis. Subjects in the framed condition here show a slight preference for 'strongly favoring' same-sex marriage over the control condition, and equal levels of opposition, although opposition for the framed condition is clustered in 'oppose' not 'strongly oppose'. Subjects favoring morality show increasing opposition to civil unions, with an additional 6% of subjects strongly opposing same-sex civil unions compared to the control. The additional subjects in the 'strongly oppose' category appear to come from each of the other four response categories, 1.5% from each. The difference between these cells is not statistically significant, however.

With regard to same-sex marriage, the small number of subjects favoring traditional values again complicates the analysis. Table A40 reports the size of each of these samples. The table also shows that subjects appear to cluster in the 'favor' and neutral categories instead of the 'oppose' in the framed condition. For the morality-

preferring subjects, the trend of increased strong opposition at the expense of each other response category from the civil unions question is magnified here. Although the chi-squared test is not significant, the difference is an 11% increase in subjects in the ‘strongly oppose’ category.

The apparent improvement in the ability of subjects who favor morality to link their opinion on same-sex marriage and civil unions in this multiple frame environment over the balanced frame environment is interesting. It suggests the importance of context in understanding framing effects: when presented with a strong (possibly more persuasive) alternative, the ‘against religion’ appeal appears to assist value-opinion linkages poorly. When presented with another opposition frame, morality subjects appear to improve their value-opinion linkage over the control group.

As another test of the effect of multiple frame environments on value-opinion linkages, I also compared subject responses on the constraint index (Barton and Parsons 1977). The index measures consistency among subjects for the included variables, in this case opinion on: same-sex marriage, civil unions, and gay civil rights. A four-point scale was also created which combined the same-sex adoption and gay service in the military, and then added to the index. This index varies between zero and an indefinite upper bound. The closer a subject’s score is to zero, the more consistent their reported opinion across the questions of interest.

As with the same-sex marriage and civil unions findings presented above, subjects were divided by their treatment condition and value preference. The comparisons yielded no statistically significant results. This finding is due in large part to substantial variance in sample size, between 25 and 125 subjects, depending on value preference and condition. Potentially the most interesting subjects, those who believed the values are of equal importance, were so few in number (three to five per cell) that no meaningful analysis could be conducted. Among the other subjects, findings suggest that subjects

preferring equality to morality or majority rule were slightly more consistent than their peers (results not shown).

Prior work by scholars suggests that dual frame environments, in which the frames are of equal strength can serve to moderate opinion (Chong and Druckman 2007c). Other scholars suggest that these same environments produce results which mirror the control group, and that these environments do not push subjects into nonattitude categories (Hansen 2007, 389-390). The experiment presented here extends beyond the balanced dual frame environment to test multiple frame environments characterized by different levels of frame imbalance. It shows that four of twelve framing environments increased the number of neutral responses from subjects. Three of these findings came from the 'equality/majority rule' environment. Another three value-framing environment pairings show a reduction in nonattitudes, and the remaining five pairings show no change in the number of nonattitudes when compared to the control conditions.

On the basis of these findings I cannot say unequivocally that multiple frame environments facilitate stronger core value-issue opinion linkages. Some value-environment pairings behave consistently with the hypothesis, such as the equality/balanced frame pairings. On balance, the work suggests that these same environments do not consistently alter the number of neutral responses from subjects, however. As a result, I find support for Hansen's contention that multiple frame environments do not consistently increase nonattitudes.

A subset of these value-framing environment pairings are those in which issue frames contradict subject value preferences, creating a mismatch between the information the subject receives and their values. The second hypothesis tested in this chapter examines whether multiple frame environments are able to weaken the value-issue opinion connection. I test this hypothesis in two ways: by examining subject responses to same-sex marriage and civil unions, and by measuring subject consistency across gay

rights issues. In both cases the values question used is ‘equality or morality’, and the framing environment is ‘traditional definition/against religion’. To support the hypothesis, I should find that subjects who favored equality are less able to connect their reported value to their position on marriage and civil unions than subjects who favored morality. Also, the equality subjects should also express less consistent answers across the gay rights index of constraint.

Table A41 presents subject responses to the same-sex marriage and civil unions questions. Subjects are split by response to the ‘equality or morality’ values question, and by framing environment (two strong opposing frames or control). Equality subjects express similar rates of nonattitudes as the control, while morality subjects show a reduction in neutral category responses. Across the sample, more subjects opposed same-sex marriage than civil unions. Morality subjects were more likely to oppose both questions than the control, suggesting the framed conditions improved their value-opinion linkage. Equality subjects were less likely to support same-sex marriage or civil unions than the control condition, suggesting that the opposition frames weakened their ability to connect their core value with their opinion on this issue. These findings support the alternate frames hypothesis.

Table A42 compares self-reported liberal subjects at three levels of political sophistication and framed condition on their consistency of opinion across gay rights issues. Subjects who self-identify as liberals are used here because their value preferences typically contradict the information provided by the ‘traditional definition/against religion’ frames. For this index, lower values indicate greater opinion consistency. Across both conditions it is clear that opinion consistency increases with political sophistication. More to the point, subjects who received two frames which contradict their values expressed less consistency than their peers in the control group. Again, this evidence supports the theory that the presence of contradictory information

reduces subject opinion consistency by weakening the subject's ability to connect their preferred value to their issue opinion.

This evidence contradicts Hansen's (2007, 391-2) finding that political sophisticates were unaffected by information which contradicted their position, whereas unsophisticated subjects were strongly affected by such information. To further explore my findings, I compared subject opinion consistency for the 'two opposition frame' environment by their value preference and level of sophistication. Findings (not shown) suggested that the highly sophisticated equality subjects were the least consistent across the sample (1.23), and that the unsophisticated equality subjects were the most consistent (.66). The morality subjects showed little difference with regard to sophistication (between .93 and .99). Keep in mind that the size of each group in the sample is small, between 12 and 25 for the equality subjects and 22 and 48 for the morality subjects. These findings also fail to support Hansen's work.

Despite the anomalous findings from the values question test, the evidence presented supports the hypothesis that subjects (of all levels of sophistication) who are presented with information which contradicts their beliefs experience a reduction in opinion consistency across gay rights issues. The next section carries this work forward by examining the behavior of subjects at each level of political sophistication across all of the framed conditions.

6.2.2 Subject political sophistication

Chapter 2 briefly detailed the work of several scholars who have found that political sophistication mediates reception and use of issue frames. In this section, I engage this work to determine what effect political sophistication has on frame use and attitude consistency. To review, subjects at the highest level of political sophistication should be able to understand frames, but will not be affected by them, since sophisticates are the most likely to have formed strong opinions on these issues previously. Subjects at

an intermediate level of sophistication will also be able to receive and process frames, and are the most likely to be affected by them, since middle sophisticates are less likely to have fully formed and consistent opinions across many political issues. Finally, the unsophisticated will not be able to perceive and process the issue frames. These individuals are largely uninterested in politics, and are least likely to make connections between specific issue positions and their underlying values.²⁵ The result should be a curvilinear relationship between political sophistication and framing effects: those subjects at the high and low ends of the spectrum should remain relatively unaffected by frames, while those in the middle should be most affected.

This expectation is covered by two formal hypotheses:

Subjects with an intermediate level of political sophistication in the unframed conditions should resemble low sophistication subjects in terms of attitude consistency across gay rights issues.

Intermediate sophisticates in the framed conditions should resemble high sophistication subjects in terms of attitude consistency across gay rights issues.

These hypotheses suggest that if we divide the middle sophisticates into those who received frames and those who did not, the framed group should improve the consistency of their opinions across gay rights issues to levels approaching those of the high sophisticates. By contrast, without the aid of frames, middle sophisticates should resemble the unsophisticated in their attitude consistency. This approach directly addresses a budding debate in the literature surrounding political sophistication and framing effects.

Hansen (2007, 391-2) finds that the most politically aware subjects are unaffected by arguments they disagree with. Further, the least sophisticated subjects were

²⁵ Keep in mind that while the move from a specific issue back to general values is difficult for politically unsophisticated subjects, they were able to establish functional value hierarchies in the context of this experiment, however. This could be the result of the question design—asking subjects to compare more than two values at a time is probably more difficult than choosing between two values.

unaffected by arguments which coincided with their beliefs, but shifted their opinion when presented with frames which contradicted their beliefs. In the context of this experiment, the least sophisticated subjects should exhibit the lowest levels of consistency generally, however they should be even less consistent when they are presented with frames which contradict their beliefs—those which are on the opposite side of same-sex marriage as their preferred value. The easiest place to look for these effects would be among the low sophisticates who prefer equality over morality and are given the ‘traditional definition/against religion’ treatment. In this case the subjects are presented with two strong arguments which contradict their beliefs, therefore they should be the least consistent across any of the experiments in order for this work to support Hansen’s findings.

Other scholars have found the impact of frames on the politically unsophisticated differs from Hansen’s findings. Slothuus (2008, 1) argues that issue frames had no effect on the least sophisticated subjects, as well as those who felt the strongest about the issue being studied. He also contends that both high and middle sophisticates are affected by frames insofar as the presence of a frame can raise the importance of a given argument to deciding an issue. Finally, middle sophisticates are the only group who experience content change resulting from issue frames (*ibid.* 17). To find support for Slothuus’ approach, I would need to find no reduction in consistency among the lowest sophistication subjects resulting from frames which contradict the subject’s preferred value. In terms of the unsophisticated, this perspective is consistent with my theory, outlined above. Slothuus’ approach is also consistent with my theory for the middle sophisticates—the group that should be most affected by multiple frame environments—improving consistency in the balanced condition and weakening it across the others.

Slothuus suggests that frames cause high sophisticates to view their arguments as more important to the issue being discussed. This experiment can measure these ‘importance change’ effects only to the extent that importance change leads to a change

in opinion. It is important to keep in mind that the focus of Slothuus' work here was on single frame environments, however. Importance change for specific arguments may not occur in the same manner as single frame environments among political sophisticates in multiple frame environments. Further, to the extent that the most sophisticated overlap with the most opinionated on these issues, we should see no effect from the issue frames. In sum, I suggest that the most sophisticated subjects in my experiment will be unaffected by the balanced frame condition, and exhibit little to no drop in consistency due to the changing importance of other frames across other conditions.

To test these theories, I used two indices: one for political sophistication, and one for attitude consistency. The attitude consistency index was discussed above. The political sophistication index is comprised of three different component indices: political attention, political knowledge, and political interest. Each component index is made from three questions. Prior to the creation of the component indices, confirmatory factor analyses were run to insure all of the questions loaded on a single factor.²⁶ Each question was then rescaled so that all responses fit a standard zero to one scale. The responses across all nine questions were then summed and divided by the number of questions to create an index of political sophistication that varies between zero and one. Subjects were then divided into three groups using the sophistication index: the upper quartile were coded as highly sophisticated, the lower quartile as unsophisticated, and the remaining subjects as middle sophisticates. The next section employs these indices to resolve questions surrounding the effects of political sophistication and multiple frame environments on attitude consistency.

²⁶ The component questions for each index are: knowledge: which party currently controls the House of Representatives, what position does John Roberts hold, and who is your current member of Congress; interest: how closely have you followed the recent campaigns, how interested in politics are you generally, and how closely have you followed initiatives on your state ballot; attention: how many days last week did you watch tv news, how many days did you read a newspaper, how closely do you follow campaign news. The question 'How many days last week did you go to the internet for news?' loaded on a separate factor than the other attention questions and was dropped.

6.3 Political sophisticates and attitude consistency

To test the relationship between political sophistication and attitude consistency, subjects were divided by their level of sophistication and the multiple frame environment received into twelve separate groups. Each group mean (and standard deviation) is reported in Table A43. As the table shows, there are no statistically significant differences between the highly sophisticated subjects with regard to attitude consistency. The same finding holds true for the middle sophisticates. Among the politically unsophisticated, the ‘equality/majority rule’ subjects express a much lower degree of consistency than the subjects in the other framing environments. This difference is statistically significant.

Although differences between the control and multiple frame environments are generally small within levels of sophistication, looking across levels of sophistication is critical to answering this hypothesis. In three of the conditions: the control, ‘equality/against religion’, and ‘traditional definition/against religion’ the politically unsophisticated subjects report similar levels of opinion consistency as the highly sophisticated. For two of the groups the unsophisticated are actually more consistent than the highly sophisticated. Only the ‘equality/majority rule’ condition conforms to the expectation that the unsophisticated are significantly less consistent than the most sophisticated. That said, the middle sophisticates do not appear to conform to the hypothesis that they will perform like the most sophisticated when in a framed condition. It is possible that the middle sophisticates are more consistent, however the differences between the high and low categories are too small to be certain. The differences between subjects in the control condition are similarly too small to determine whether the middle sophisticates are performing like the unsophisticated subjects.

Table A44 changes the index of consistency from the four gay rights questions to the two most technical questions (civil unions and gay civil rights) and subject ideology. This was done to determine whether inclusion of the most divisive issues: same-sex

marriage and adoption by same-sex couples reduced subject consistency for all subjects.²⁷ Results indicate that differences between the high and low sophisticates remain small. Both the control and the two strong opposing frame groups fail to conform to the hypotheses' expectations. Among the two groups which show a higher consistency among the most sophisticated, the contrast frame condition again appears to show middle sophisticates behaving more like high sophisticates. The balanced frame condition has very small differences between each category, although the middle sophisticates appear to behave more like the unsophisticated than the most sophisticated.

Owing to the small differences in consistency between levels of political sophistication, I undertook a separate analysis substituting 'the importance of same-sex marriage to your vote' for political sophistication. The expectation here is that subjects who feel the most strongly about the issue of same-sex marriage should be the most consistent across gay rights issues. Table A45 reports these findings.

As the table shows, the findings again fail to conform to expectations. Across all four groups, the subjects who report same-sex marriage is 'very important' to their vote are no more (and often less) consistent on the index of gay rights than subjects who report that the issue is 'not at all important' to their vote. On the strength of the evidence provided by these tables, there does not appear to be a relationship between subject political sophistication and attitude consistency on gay rights issues. In a few cases, most frequently for the contrast effects frame, subjects do appear to conform to the hypotheses' expectations, however these differences remain small. Further, the other three groups do not show a difference between high and low sophisticates. As a result, the findings from the 2008 experiment do not support the hypothesis that middle sophisticates behave as if

²⁷ The figures reported in Table A44 are not different from a two question index which uses only the civil unions and civil rights questions.

they were highly sophisticated in framed environments, and as if they were unsophisticated when not presented with issue frames.

6.4 Concluding remarks

The above analysis has attempted to determine what effects subject level characteristics have on attitudes toward same-sex marriage and civil unions, as well as on their consistency across other gay rights issues. Analysis of subjects on both the same-sex marriage and civil unions questions by multiple frame environment and value preference provided mixed support for the hypothesis that subjects in framed environments will better link their opinion on a specific issue to their core values. Subjects who received issue frames which contradicted their preferred value on did exhibit a decline in both opinion consistency on other gays right issues, as well as a reduction in support for same-sex marriage and civil unions themselves. Finally, the lack of substantial differences between subjects at different levels of political sophistication confounded analysis of the hypotheses addressing opinion consistency for these groups. These findings are summarized in Table A46.

The next chapter summarizes the findings across each of the analysis chapters attempting to draw commonalities across these disparate findings. That chapter also comments on the implications of these findings for the recent election results in Arizona, California, and Florida, as well as states that may be facing a referendum on these issues in the next electoral cycle.

CHAPTER 7: SUMMARY AND CONCLUSION

7.1 Short summary

The preceding chapters have attempted to clarify the effects of multiple frame environments on public opinion toward same-sex marriage and civil unions. In doing so, it has tested hypotheses related to: frame effects, frame order, priming effects, question order, subject core value hierarchies, and variables which moderate the reception and use of issue frames, such as individual level-political sophistication. These various hypotheses were tested with data from three survey-experiments conducted between 2005 and 2008. The analysis relied on a range of methods, from simple crosstabs, one-way ANOVA, and difference of means tests to ordered logistic regression.

The purpose of these various tests has been to provide greater insight into the ways in which subjects respond to issue environments in which they are provided with more than one frame. In other words: how do people navigate the currents of public debate to reach an opinion on a given issue? The issues used here remain salient and divisive in public discussion—in the past six months, two states have amended their constitutions to ban same-sex marriages preemptively. Another state has banned same-sex marriages, a reversal of an earlier state supreme court ruling which enabled thousands of same-sex couples to marry. Finally, two more states have amended their laws to permit same-sex marriages, one through a vote in the legislature, and the other by state Supreme Court decision. Clearly this issue persists in public debate, and is best characterized by its lack of consensus across the country.

These characteristics make same-sex marriages, and its corollary, same-sex civil unions, excellent tests of multiple frame environments. Subjects are likely to be aware of same-sex marriage as an issue prior to receiving the experimental treatments, and likely have heard one or two of the arguments about such marriages as well. Beyond this, same-sex marriage is an easily understandable issue, and according to many, a moral

issue. Such issues are often characterized by the ease with which subjects can opine on them, since such issues can be adjudicated with ‘gut reactions’.

Civil unions, by contrast, are the ugly step-sisters to marriage in the debate over same-sex relationships. Although civil unions received attention when legalized by the state of Vermont in 1999, civil unions have received relatively little space in public debate from either side, subsequently. Further, civil unions require a greater grasp of the technical issues which underpin them, than same-sex marriages: are such unions recognized by other states, how do they differ from domestic partnerships, do they grant the same privileges and responsibilities as marriage, etc. As a result, same-sex civil unions are a ‘harder’ issue than marriage for the average member of the public.

Taken together, same-sex marriage and civil unions are excellent, if difficult, tests for measuring the effects of multiple frame environments. Compared with studies of hypothetical issues, they provide greater assurance that the opinions reported by subjects are not created solely by the issue frames provided. This visibility is also the difficulty of testing for framing effects on these issues: to the extent that the public feels very strongly about the issues, the frame effects may be smaller than on other issues. Nonetheless, by spanning both easy and hard issues, same-sex marriage and civil unions invite analysis as a hard test of the ability of issue frames to push subject opinion. Insofar as the two issues are connected, they also enable comparison of the effect of issue frame environments across them: does ‘equality’ resonate as strongly with the public on civil unions as it does on marriage?

What follows builds on the preceding chapters’ analysis of the debate over state-recognized same-sex relationships. The next section identifies commonalities across the many hypotheses to offer a complete picture of the academic contribution provided by this work. Subsequent sections then place these findings in the context of prior and recommend future avenues of research. The chapter closes by returning to the recent

state Supreme Court ruling in Iowa to suggest possible developments in light of this dissertation's findings.

7.2 Commonalities of findings

This dissertation offers findings across several related topics. The last table in each of the analysis chapters lists the results of the tests conducted therein. In doing so, they address the hypotheses articulated in Chapter 2. Rather than simply repeating the findings of these chapters, or providing a reprise of the discussions of the findings offered in each, I will attempt to connect the findings across these chapters to show how they relate to one another. In doing so I will also comment on which findings fit their hypotheses, and which did not, as well as offer a possible explanation for the results. A summary of the results of all the tests used in this dissertation can be found in Tables A47, A48, and A49.

7.2.1 Question order

Comparison of mean support for same-sex civil unions based on question order produced no statistically significant difference across any of the experiments. Nevertheless, I did find support for the findings of the 2003 Pew study that: subjects who first had a chance to oppose marriage did not indicate higher mean support for same-sex civil unions. Among those who stated they opposed same-sex marriage, but supported civil unions, two-thirds of the subjects received the marriage question first.²⁸ This suggests that question order does have an effect on a small group of subjects—those who reported that they ‘neither favor nor opposed’ same-sex marriage. Among these subjects, question order does appear to play a significant role in structuring opinion.

²⁸ In the 2008 experiment, 74 subjects who received the marriage question first reported that they favored marriage and opposed civil unions, compared with 36 subjects who received the civil unions question first.

Part of the explanation for these mixed findings may result from frame-question order interactions. All three of the framed conditions in 2008 show the proper sign and are nearly significant, while the control condition shows a much smaller effect and does not approach statistical significance. A larger sample would likely indicate that subjects in the framed conditions behaved like those in the Pew study.

This explanation does not answer the larger question, however: why don't the control subjects in these experiments behave like those in the Pew study? After all, the control subjects across all three experiments received the same question as the Pew survey subjects. The answer to that question may well be context. Subjects who may have felt that civil unions were an appropriate alternative to marriage in 2003 may have changed their opinion six years later. Evidence from a recent poll suggests that opinion among subjects who favor civil unions is split once the debate shifts to permitting same-sex marriage or passing a constitutional amendment (Hawkeye Poll 2009). To the extent that this represents a decline in opposition to same-sex marriage, it supports the notion that differences in the nature of the debate from 2003 to 2009 can account for differences between my findings and those from Pew.

7.2.2 Priming

As Table A47 shows, issue framing on same-sex marriage and civil unions can prime responses to other gay rights issues. Although no effects were found in the 2007 experiment, both 2005 and 2008 found priming effects which produced differences in the framed subjects' opinions when compared to those of the control subjects. Differences in responses to both the gay rights indices, as well as individual questions on civil rights and adoption by a same-sex couple also resulted when subjects were broken out by frame and question order.

These findings on priming are interesting in that they underscore the situational nature of priming. None of the experiments find a difference between treatment groups

on the question of service by gays in the military. This suggests that opinion on the issue of gays serving openly in the military has reached a consensus. Not surprisingly, the extension of civil rights protections to homosexuals and adoption by same-sex parents remain divisive issues. The 2008 experiment's findings indicate that subjects who received the 'two strong opposition frames' environment and the same-sex marriage question first were consistently the least supportive of the index of rights, as well as the civil rights and adoption questions.

To sum up, this work suggests that mention of same-sex marriage and civil unions can prime opinion on other gay rights issues—particularly if they are mentioned in conjunction with several pieces of negative information. It is not clear whether the provision of the 'traditional definition' frame enabled subjects to see both same-sex marriage and adoption as parts of a 'family values' axis, or the lack of arguments supporting marriage (in the 'two strong opposition frame' environment) caused this result. Nonetheless, these findings suggest that a media environment saturated with information opposing same-sex marriage will likely have spillover effects to other gay rights issues.

7.2.3 Multiple frame environments

The results of these experiments indicate that multiple frame environments do affect attitudes toward same-sex marriage and civil unions. These effects are a function of frame strength and subject value hierarchies. It is also worth noting that the order in which frames are presented had no effect on attitudes toward same-sex marriage and civil unions. This finding is important in that it suggests that any differences in opinion on the treatment questions, or the related follow up questions, are due to the subjects' evaluations of the frames, rather than the design of the survey. This null finding also supports the assertion that multiple frame environments, as they were presented here, do a reasonable job of mimicking public debate.

The multiple frame environments do reduce ‘neutral’ responses on both same-sex marriage and civil unions in the 2005 and 2007 experiments. The framed environments here were initially conceived of as ‘balanced’ frame environments: those which express arguments of equal strength on each side of the issue. Although frame persuasiveness was not tested in the 2005 and 2007 experiments, the literature review and primary analysis of court decisions, political campaigns, and elite commentary suggested the ‘definition’ and ‘religion’ frames were those most frequently used to express opposition to same-sex marriage, and therefore assumed to be roughly equivalent to ‘equality’ in persuasiveness.

Results from the 2008 frame strength test and 2008 experiments call this assumption into question. The frame strength test suggests that the ‘equality’ frame is stronger than any of the negative frames, but that the ‘traditional definition’ and ‘against religion’ frames are more persuasive than the ‘majority rule’ frame. Further, analysis of the results presented in Chapters 5 and 6 suggest that neither the ‘balanced’ frame environments nor the ‘contrast’ frame environment conform to the expectations laid out by my hypotheses in Chapter 2. Interpreting the difference in frame strength between the ‘equality’ and ‘traditional definition’ and ‘against religion’ frames as more substantial than initially suspected suggests that the conditions which include these frames (across all experiments) are better considered ‘contrast effect’ environments: subjects receive a strong argument for same-sex marriage and a weak argument against it.

While this adjustment fits the 2008 results, there is an important caveat for the 2005 and 2007 results. Neither of these experiments asked subjects the value preference questions asked in 2008. I used subject ideology as a proxy for value preferences in answering these questions. Prior work suggests that ideology and value preferences are often highly correlated (Jacoby 2006). Comparison of subject opinions by self-reported ideology for the 2005 experiment (analysis not shown) suggests that subjects do behave similarly to those from 2008, with ‘very liberal’ and ‘liberal’ subjects supporting

marriage and unions at rates of 65% or higher, while subjects who identified as ‘very conservative’ or ‘conservative’ were distributed evenly across the ‘strongly oppose’ to ‘favor’ response categories. The 2007 experiment also corroborates these findings. In sum, the frame strength test and all three experiments suggest that the ‘equality/traditional definition’ and ‘equality/against religion’ environments should be considered ‘contrast’ environments, not ‘balanced’ environments, as I initially believed.

The frame strength test results don’t perfectly fit the findings of the 2008 experiment, however. Table A1 suggests that ‘majority rule’ should be the weakest of all of the issue frames used in the 2008 experiment. Results from both the aggregate and value preference analyses suggest that the ‘majority rule’ frame is equal in strength to the ‘equality’ frame on the civil unions question, but more persuasive than the ‘equality’ argument on the marriage question. In sum, a close reading of both the aggregate (Tables A20 and A23) and value-preference (Tables A35-A38) opinions on same-sex marriage and civil unions suggests that the multiple frame environments are mismatched with their hypotheses. Adjusting the contrast and balanced-frame hypotheses to examine these conditions produce results which are closer to expectations in the literature, and suggest a consistent explanation of the relationship between frame strength and public opinion.

With the adjustments from above in mind, the ‘equality/majority rule’ environment on the same-sex civil unions question becomes the only ‘balanced frame’ environment. This alteration is supported by the Chapter 5 findings on frame strength, which suggests the two frames are approximately equivalent in persuasiveness. Comparing both the aggregate analysis (Table A20) and values-based analysis (Table A37) results in the same trend: subjects across all conditions are pulled toward the neutral category. In other words, I find that subject opinion is moderated similar to Chong and Druckman’s expectation, and contrary to my first hypothesis. This finding is discussed in further detail in the next section, which connects my work with the existing literature on this topic.

Three environments in the 2008 experiment: ‘equality/against religion’ for both the marriage and civil unions question, and ‘equality/majority rule’ for the marriage question are ‘contrast’ environments. All of the framed environments in the 2005 and 2007 experiments are best understood as ‘contrast’ environments as well. To be clear, the ‘equality’ frame is more persuasive than ‘traditional definition’ or ‘against religion’ on both the same-sex marriage and civil unions questions. The ‘majority rule’ frame is more persuasive than the ‘equality’ frame for the same-sex marriage condition only.

The finding that the ‘majority rule’ frame is more persuasive on the same-sex marriage question than it is on the civil unions question fits with expectations regarding variable frame strength discussed in Chapter 2. To the extent that subjects view same-sex marriage and same-sex civil unions differently, and thereby support them at different rates, it is unsurprising that different appeals would vary in persuasiveness. Of the four frames used in the 2008 experiment, the two that were most likely to change in valence were ‘equality’ and ‘majority rule’. Contrary to the other two opposition frames, neither of these frames were rooted in a moral or religious appeal which opposed any form of same-sex relationships. The ‘majority rule’ frame also requires the additional calculation of current public opinion. That the majority rule frame is stronger on the marriage question than it is for civil unions suggests that subjects generally believed that the general public was more likely to support civil unions than same-sex marriage at the time of the survey.

Of these newly identified ‘contrast’ environments, all but one follow the expected pattern: subject opinion shifts in the direction of the stronger frame. This shift is paired with a reduction in neutral opinions among subjects for whom the more persuasive frame is consistent with their underlying value preference (or ideology for the 2005 and 2007 experiments). For subjects who hold a value preference (ideology) which contradicts the more persuasive frame, the frequency of neutral responses increases compared to the control. Only the ‘equality/against religion’ environment on the marriage question does

not fit this pattern. For this condition, subject opinion is spread reasonably evenly across all response categories, with a slight preference for 'strongly oppose'. This is likely due to a unique set of circumstances which are present in this condition: the strong frame contradicts a majority of subject opinions, while the weak frame is consistent with a majority of opinions. All told, these environments support the 'contrast' hypothesis from Chapter 2, and these results are similar in direction with those for the 'alternate frames' hypothesis.

In fact, the 'two strong opposition frames', environment which tests the 'alternate frames' hypothesis, behaved similarly to single issue frame environments by pushing subject opinion in the direction of the issue frames. Unlike many of the 'contrast' environments, the 'alternate frame' environments also increased neutral attitudes when compared to the control. This is unsurprising in that this framing environment was expected to push subjects into the opposition response categories. Insofar as it did, it is clear that the provision of multiple (agreeing) issue frames do push opinion in the same manner as solitary issue frames. The increase in the number of neutral responses here represents subjects who would otherwise support (or possibly strongly support) same-sex marriage and civil unions being pulled away from their preference by the issue frames.

7.2.4 Core values

The core values hypotheses suggest that subjects in the 'balanced frames' environments should be more likely to link their underlying value preference to their opinion on a given issue. In practical terms, this means that subjects should match their value preference with a complimentary position on an issue. This hypothesis assumes that subjects will be influenced by the confirmatory frame and thereby improve their value-opinion consistency. The contradictory frame, since it is equivalent in strength to the confirmatory frame, should have no impact on the opinion-value linkage. Findings from Chapter 6 suggest that only three of the twelve framing environments improve the

value-opinion linkages for subjects. All of these conditions are part of the new ‘contrast’ environments, and the groups which express greater value-opinion consistency agree with the strong frame. In other words, strong frames can improve links between subject values and opinions when presented in conjunction with a weak frame. This finding is different than the hypothesized relationship, which suggested that the ‘balanced frame’ environments would provide this result.

7.2.5 Political sophistication

The final set of hypotheses explored in this dissertation divided the subjects by political sophistication to determine whether multiple frame environments could be used to enhance opinion consistency. Specifically, subjects with an intermediate level of sophistication were expected to behave as consistently as the high sophisticates when presented with issue frames, and as inconsistently as the politically unsophisticated when in the control group. Unfortunately, differences in group means were not statistically significant for any of the relevant comparisons. The underlying assumption from Zaller (1992) and others was often challenged by the sample as well: the least sophisticated subjects often reported more consistent responses than the most sophisticated. In light of these findings, I do not find any support for the political sophistication hypotheses.

This null finding could be due to a number of factors. Most likely, I think, is that the issues used in the 2008 experiment are particularly difficult tests for political sophistication. As the above discussion on question order showed, some subjects who favored civil unions also opposed same-sex marriage. Further, same-sex couple adoption remains a highly divisive issue. These factors, combined with the limited number of variables included in the constraint index, could easily explain the lack of support for the political sophistication hypotheses. Future work that includes a larger number of variables in the gay rights index would improve the likelihood of finding evidence supporting the hypotheses. Also, using an index which included other current issues,

such as: taxation, foreign policy, or the war in Iraq may improve the likelihood of testing the hypotheses definitively.

7.3 Contribution to the literature

The findings of this dissertation contribute meaningfully to a variety of ongoing debates in the framing literature. They also provide insight to a variety of other debates regarding the connection between core values and specific issue opinions, and the use of student subjects. Speaking generally, the primary contribution of this work is the extension of work on multiple frame environments to both easy and hard issues. By focusing attention on the differential effects of issue frames on ‘easy’ and ‘hard’ solutions to the public debate over state recognition of same-sex relationships, this dissertation contributes directly to our understanding of the contexts in which issue frames can have a pronounced affect on public opinion.

This dissertation also serves to connect several disparate strands of research: from multiple frame environments to core values to political sophistication. In doing so, it provides a first look at the relationships between each of these different research agendas, and suggests a variety of future research projects to further improve our understanding of the connections that exist between frame use and reception and political sophistication, between core values and attitude consistency, and the use of issue frames in strengthening public opinion research. The remainder of this section connects specific findings with existing literature to provide clearer examples of how this dissertation fits into ongoing debates in political science.

The debate which first fueled this dissertation pertains to the effect of multiple frame environments on public opinion. Scholars such as Sniderman and Theriault (2004) and Hansen (2007) contend that balanced frame environments should both help subjects link their underlying values to opinions on specific issues, which in turn leads to a reduction in ‘neutral’ and don’t know responses to survey questions. Chong and

Druckman (2007c), by contrast, argue that balanced frame environments moderate opinion as subjects are affected by the logic of each frame that is provided.

My analysis suggests that there is only one truly balanced frame in this project, contrary to expectations. That condition, ‘equality/majority rule’ on the civil unions question supports the findings of Chong and Druckman. Beyond the commonality of findings, there is a resemblance between the balanced environment here and the one employed in their work: both deal with more technical issues (civil unions or urban growth), which often receive less public attention than even their closely-related peers. In this sense, both focus their attention on ‘harder’ issues than moral issues such as same-sex marriage, abortion, and the death penalty. Future work should take a greater look at these issues, which represent fundamentally more difficult tests of the moderation hypothesis by virtue of the fact that they lend themselves more easily to polarized outcomes.

The findings here regarding ‘contrast effects’ extend the work of Chong and Druckman (2007c) by examining the effects of several different multiple frame environments on value-opinion consistency. Their work finds that subjects who receive multiple, balanced frames express opinions which fall between those of subjects who receive one frame consistent with their beliefs, and other subjects who receive one frame which contradicts their beliefs (*ibid.* 650). They contend that this means that both frames have an effect on opinion. By comparing the distributions of subjects across response categories, and testing a greater variety of multiple frame environments on opinion this dissertation provides a greater understanding of which value preferences are susceptible to competing frame environments, and on which issues frames are more likely to have an effect.

A recent article by Slothuus (2008) finds that subjects in single frame environments are affected differently by the issue frames, depending on their level of political sophistication. Although this dissertation attempts to contribute to this

discussion by examining differences in attitude consistency across related issues resulting from different multiple frame environments, subject differences in opinion consistency were not sufficiently large to merit meaningful comparison. Several possibilities exist for expanding this work: subjects in each value preference and framing environment could be divided by their degree of political sophistication and compared in terms of their consistency. Unfortunately, this research would require either fewer manipulations or a larger sample than the 2008 experiment, since the different divisions required for this analysis results in groups roughly $1/24^{\text{th}}$ the size of the initial sample (approximately 12 subjects) for this experiment.

Finally, this thesis provides new evidence on an old debate: the use of student samples for social science research. Sears (1986) suggests that student samples should be used at the researcher's own risk, since students are characterized by 'less-crystallized attitudes' than older members of the general public. The implications of this supposition for this project are that the experiments relying on student samples should exhibit larger effects due to the issue frames than the nationwide experiment. A first look at the tables from 2005 and 2007 suggest that this might in fact be the case.

Disaggregating subjects by value preference provides a dramatically different picture, however. Aggregate differences in subject opinion are a function of differences in the value distributions of the samples, not attitude crystallization. Both the 2005 and 2007 experiments have a much larger percentage of self-identified liberals. These subjects behave similarly to those from the 2008 sample who preferred 'equality' to 'morality'.²⁹ In sum, different ideological distributions across the samples lead to findings which appear to support Sears' work in the aggregate, but in actuality disconfirm his supposition: comparison across the experiments shows only slight differences between subjects of the same ideological bent.

²⁹ See tables A22 and A23 as well as A35 and A36 for comparison. Results are similar when ideology, rather than value preference, is used in the 2008 sample.

7.4 Future directions for research

This thesis also suggests several avenues for future research. This section provides an outline of several different possible future research topics. Although many of the topics touch on several of the literatures discussed above, I attempt to organize the research questions thematically.

The first avenue for future research expands on the choice of issues used in this dissertation. Scholars should study issue framing on topics with multiple possible outcome categories, rather than simply ‘support or oppose’. The expanding literature on multiple frame environments already has a grasp of the effects of issue frames on dichotomous, technical issues. The real area for the future advancement of the literature is in topics which are highly polarized, or encompass several potential solutions. This work could improve our understanding of how frames create linkages between different, related issues, as well as how frame pairs facilitate subject decision-making across a range of possible outcomes.

This dissertation also suggests more work should be done regarding frame strength. As the literature stands, frame strength is currently conceptualized as ‘strong’ or ‘weak’, ‘equivalent’ or ‘unbalanced’. Instead, greater attention could be paid to which subjects are affected by which frames. It is possible that a frame which does not appear to resonate with the general public could prove highly motivating to a minority of subjects. A great example of this is the ‘against religion’ frame used in this experiment. The frame resonated most strongly with those subjects who were adherents of a religion which opposed same-sex marriage, and among those who most frequently attended religious services. Greater work can be done to understand the variety of frames that exist in public debate, and distinguish their effects on public attitudes by exploring who is affected by the frames, and how the frames affect their beliefs about the issue and its importance, as well as their actions on that issue.

Also of interest is how frames travel across related topics. The experiments presented here relied on an easy case: comparison of frames across both same-sex marriage and civil unions. The range of potential issues on which frame travelling can be tested is much larger. How well does a ‘public safety’ message travel from smoking bans to use of safety belts while driving? To what extent does an ‘environmental protection’ differ in impact across local, national, and global environmental issues?

Another important question has to do with persistence effects. To what extent do issue frames presented today influence beliefs tomorrow, two weeks from today, or a Tuesday 2012? Do frames persist based on the number of connections subjects make with personal beliefs, the newness of the information, or the number of other issues they believe the frame may be related to? Are persistence effects moderated by the salience of the issue to subjects, or by other individual level characteristics, such as political sophistication?

Finally, greater attention is needed for a complete understanding of the connection between value hierarchies and opinion consistency. The findings of this work suggest that frames can enhance or reduce the linkage between core values and a specific issue, but what about other issues which are related to that same value? In other words, would an argument about equality in same-sex marriage translate into greater support for immigrant rights, or social welfare programs?

7.5 Returning to Iowa

This dissertation opened with by highlighting recent developments in Iowa regarding same-sex marriage. This is by no means the end of the debate. A recent poll conducted by the University of Iowa found that subjects who supported same-sex civil unions (but not marriages) prior to the state Supreme Court ruling were sharply divided on an appropriate course of action in light of the recent decision. While this is not a representative sample of current Iowan opinion on same-sex marriage, nor does it predict

how opinion in response to this issue will change in the coming months, it does offer an interesting snapshot of the individuals who will have a strong impact on the success of any future constitutional amendment. The survey found that 56.4% of subjects who supported only civil unions would support a constitutional amendment banning same-sex marriage. Another 33.8% would support the ruling of the Court, and 9.8% didn't know (Hawkeye Poll 2009). At the same time, the ruling seemed to have little effect on individuals who supported same-sex marriage, or opposed any state recognized same-sex relationships.

Although it is too early to predict the eventual course that this debate will take in Iowa, or in other states across the country that are still considering statutory or constitutional alterations, this project's findings can provide some insight into how different framing environments may shape public opinion on the issue. It suggests that the primary factor in affecting opinion on this issue is the strength of the issue frames used. To the extent that a side can produce a frame which is generally perceived as more persuasive than the other side's, it should see the opinion of like-minded voters intensify, as well as moderate members of the opposition.

Beyond the arms race of frame strength, this dissertation suggests that frames which link the issue to other related issues can have an impact. Linking marriage to other divisive gay rights issues such as adoption by same-sex couples could enhance support for a constitutional amendment, while linking same-sex marriage to gay rights issues which have achieved a de facto consensus within the public, such as service by gays in the military, could reduce such support.

Finally, this work suggests that value preferences play an important role in forming issue opinions. To the extent that a group is able to articulate a frame which encapsulates a most preferred value, the group should see support for its position grow among the general public.

APPENDIX A: TABLES AND FIGURES

Table A1. Frame Strength Test.

Mean evaluations of arguments for and against state-sanctioned same-sex relationships.				
Frame	Civil Unions	Z	Marriage	Z
...a matter of equality.	7.59 (2.22)	.67 (.81)	7.02 (2.76)	.57 (.89)
...will not harm opposite sex relationships.	7.00 (2.50)	.49 (.98)	6.75 (2.75)	.54 (.77)
...only fair to allow for committed same-sex partners.	5.83 (2.69)	.02 (.87)	5.00 (3.16)	-.14 (.94)
...should be allowed because the freedom to marry is fundamental to our society, just like the freedoms of religion and speech.	6.15 (2.94)	.18 (1.06)	6.22 (3.08)	.26 (.96)
...are against many religions' beliefs.	5.56 (2.77)	.03 (.93)	4.73 (2.94)	-.05 (.89)
...should not be allowed because marriage has traditionally been defined as between a man and a woman.	4.76 (2.62)	-.26 (.88)	4.87 (3.12)	-.09 (.99)
...not favored by a majority of the population.	4.65 (2.68)	-.33 (.85)	4.11 (2.82)	-.31 (.88)
...banning them protects children.	3.33 (2.51)	-.81 (.84)	2.89 (2.68)	-.76 (.95)

Note: data were collected between Dec. 2nd and Dec 4th. N=110. The figures in parentheses are standard deviations.

Table A2. Frames Used, by Experiment.

	1 Sided (exposure to one side's frames only)	Dual (exposure to both side's frames)
Strong	Traditional Definition/Against Religion (2008)	Equal Rights/Against Religion (2005, 2007, 2008) Equal Rights/Traditional Definition (2005, 2007)
Strong and Weak	Not studied	Equal Rights/Majority Rule (2008)
Reversed Frame Order	Not studied	Equal Rights/Against Religion (2007) Equal Rights/Traditional Definition (2007)

Note: Text in each cell are labels for the specific frames used in the treatment. The experiments which use each frame combination are listed in parentheses.

Table A3. Descriptive Statistics 2007 and 2008 Experiments.

Characteristics	Spring 2005		Spring 2007		Fall 2008	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Sex						
Female	126	50.5%	863	55.5%	361	52.5%
Male	124	49.6%	691	44.2%	327	47.5%
Race						
White	228	91.6%	1408	90.9%	594	87.6%
Black	2	0.8%	12	0.8%	34	5.0%
Asian	6	2.3%	49	3.2%	8	1.2%
Mixed	13	5.0%	75	4.8%	42	6.2%
Hispanic Origin	7	2.8%	54	3.5%	100	14.7%
Ideology						
Conservative	64	26.3%	299	19.3%	261	38.6%
Moderate	86	35.4%	422	27.1%	210	31.1%
Liberal	93	38.3%	834	53.7%	205	30.3%
Partisanship						
Democrat	104	41.8%	669	43.0%	251	37.5%
Republican	86	34.5%	306	19.7%	244	36.4%
Independent	41	15.8%	439	28.2%	175	26.1%
Religious Attendance						
More than once a week	45	18.2%	303	19.5%	274	39.8%
Less than once a week	174	70.5%	926	59.5%	319	46.4%
Never	28	11.3%	327	21.0%	91	13.3%
Age						
18-29	248	99.6%	1249	81.0%	42	6.1%
30-44	1	0.4%	226	14.7%	79	11.5%
45-60	--	--	62	4.0%	232	33.7%
60+	--	--	2	0.1%	335	48.7%
Total	259	100%	1565	100%	680	100%

Note: 58.3% of the 2008 sample reported either 'some college' or 'college' as the end point of their education.

Table A4. Question Order Effects: Civil Unions Question, All Experiments.

Independent Samples t-Test			
Civil Unions Question asked before Marriage - asked after Marriage			
	t	df	Prob
2005 Experiment			
Traditional Definition	-.01	83	.99
Against Religion	-.72	83	.47
Control	-.75	79	.45
2007 Experiment			
Traditional Definition	1.03	340	.31
Against Religion	-.78	308	.44
Control	2.06*	291	.04
Traditional Definition (Con first)	-1.87!	322	.06
Against Religion (Con first)	1.01	294	.31
2008 Experiment			
Equality/Against Religion	-1.39	163	.17
Equality/Majority Rule	-2.42*	180	.02
Traditional Definition/Against Religion	-1.31	162	.19
Control	.17	174	.87

Note: **p<.01; *p<.05; !p<.1

Table A5. Question Order Effects: Marriage Question, All Experiments.

Independent Samples t-Test			
Marriage Question asked before Civil Unions – asked after Civil Unions			
	t	df	Prob
2005 Experiment			
Traditional Definition	-1.25	84	.21
Against Religion	-.36	82	.72
Control	-.06	79	.95
2007 Experiment			
Traditional Definition	-1.05	340	.30
Against Religion	-.18	308	.86
Control	.52	291	.61
Traditional Definition (Con first)	.52	315	.60
Against Religion (Con first)	-.54	294	.59
2008 Experiment			
Equality/Against Religion	-.79	162	.43
Equality/Majority Rule	2.12*	183	.04
Traditional Definition/Against Religion	-.015	161	.99
Control	-1.21	174	.23

Note: **p<.01; *p<.05; !p<.1

Table A6. Frame Effects: Civil Unions Question, All Experiments.

	One Way ANOVAs		
	2005	2007	2008
Control – Equality/Against Religion	-.30 (.18)	-.38** (.10)	-.20 (.15)
Control – Equality/Traditional Definition	-.25 (.18)	-.26** (.10)	--
Control – Equality/Against Religion (Con first)	--	-.34** (.10)	--
Control – Equality/Traditional Definition (Con first)	--	-.32** (.10)	--
Control – Equality/Majority Rule	--	--	-.04 (.14)
Control – Traditional Definition/Against Religion	--	--	.14 (.15)
Equality/Against Religion – Equality/Traditional Definition	.05 (.18)	.07 (.07)	--
Equality/Traditional Definition – Equality/Against Religion (Con first)	--	-.02 (.10)	--
Equality/Religion – Equality/Majority Rule	--	--	.16 (.14)
Equality/Religion – Traditional Definition/Religion	--	--	.35* (.15)
Equality/Majority Rule – Traditional Definition/Religion	--	--	.19 (.15)

Note: ** $p < .01$; * $p < .05$; ! $p < .1$ The first frame listed is the reference frame. Negative values indicate higher levels of support for Civil Unions. Nearly significant: $p = .106$; comparison based on question order was then run—neither the civil unions first nor the marriage first subsamples produced significant results—both were further from significance than this figure.

Table A7. Frame Effects: Marriage Question, All Experiments.

One Way ANOVAs			
	2005	2007	2008
Control – Equality/Against Religion	-.33 (.21)	-.11 (.12)	-.18 (.15)
Control – Equality/Traditional Definition	-.29 (.21)	-.15 (.11)	--
Control – Equality/Against Religion (Con first)	--	-.09 (.182)	--
Control – Equality/Traditional Definition (Con first)	--	-.15 (.12)	--
Control – Equality/Majority Rule	--	--	.15 (.15)
Control – Traditional Definition/Against Religion	--	--	.12 (.15)
Equality/Against Religion – Equality/Traditional Definition	.04 (.21)	-.04 (.11)	--
Equality/Traditional Definition – Equality/Against Religion (Con first)	--	-.07 (.12)	--
Equality/Religion – Equality/Majority Rule	--	--	.33* (.15)
Equality/Religion – Traditional Definition/Religion	--	--	.31* (.16)
Equality/Majority Rule – Traditional Definition/Religion	--	--	-.02 (.15)

Note: **p<.01; *p<.05; !p<.1 The first frame listed is the reference frame. Negative values indicate higher levels of support for Civil Unions.

Table A8. Comparison of Mean Support For Same-Sex Marriage by Treatment Group.

Independent Samples t-Tests			
	t	Df	Prob.
Same-Sex Marriage Question			
Traditional Definition-Marriage	.79	350	.43
Against Religion-Marriage	-.31	298	.76
Traditional Definition-Unions	-.77	312	.44
Against Religion-Unions	.07	304	.95
Civil Unions Question			
Traditional Definition-Marriage	1.94	350	.05
Against Religion-Marriage	-1.21	298	.23
Traditional Definition-Unions	-1.00	312	.32
Against Religion-Unions	.60	304	.55

Note: the treatment group receiving the support frame first is the reference category. N varies by cell pairing, approximately 300 student subjects per pairing.

Table A9. Priming Effects, 2005 Experiment.

	Mean Differences Between Frames			
	Frame Cell Difference?	Value	Question Order Cell Difference	Value
Guarantee Equal Rights	Y	.18*	Y	.12!
	Against Religion/Control	(.07)		(.07)
Strength of Civil Rights Protection	N		Y	.30!
				(.16)
Guarantee Job Rights	N		N	--
Guarantee Equal Housing	Y	.36*	N	--
	Traditional Definition/Control	(.18)		
Gay Military Service	N		N	--
Index of Support	N		Y	.63!
				(.37)

Note: The control group is the reference category for the Frame effects tests. Marriage First is the reference category for the Question Order tests. ** $p < .01$; * $p < .05$; ! $p < .1$. Cronbach's $\alpha = .72$.

Table A10. Priming Effects, All Questions 2005 Experiment.

	Mean Differences Between Frames				
	Rights Index	Minrts	Minrts 2	Job Rts.	Housing
Traditional Definition, Unions first	--	--	--	--	--
Against Religion. Unions first	--	--	--	--	--
Control, Unions first	-1.30* (.63)	-.18! (.11)	-.44! (.26)	--	--
Traditional Definition, Marriage first	-1.40* (.66)	-.23* (.11)	-.59* (.27)	--	--
Against Religion, Marriage first	--	--	--	--	--
Control, Marriage first	-1.52* (.66)	-.28* (.11)	-.65* (.27)	-.48! (.25)	-.43! (.25)

Note: "Traditional Definition/Unions First" is the reference category. Cronbach's $\alpha=.72$ for the Gay Rights Index. ** $p<.01$; * $p<.05$; ! $p<.1$. The between-subjects differences for all cells are not significant, $p=.167$. Against Religion/Unions First and Control/Marriage First also showed a significant difference for the Minrts question [mean difference $-.26$; $se=.11$; $p=.02$].

Table A11. Priming Effects, 2007 Experiment.

	One Way ANOVAs		
	Frame	Question Order	Frame and Question Order
Guarantee Equal Rights	None	None	None
Strength of Civil Rights Protection	None	None	None
Guarantee Job Rights	None	None	None
Guarantee Equal Housing	None	None	None
Gay Military Service	None	None	None
Index of Support	None	None	None

Note: Cronbach's $\alpha=.84$ for the Gay Rights Index.

Table A12. Priming Effects, by Frame, 2008 Experiment.

Mean Differences		
	Frame	Value
	Cell Difference?	
Gay Rights Index	Trad Def/Against Rel – Control	.56* (.23)
	Trad Def/Against Rel – Equality/Against Rel	.75** (.23)
	Trad Def/Against Rel – Equality/Majority rule	.38! (.22)
Same-Sex Couple Adoption	Trad Def/Against Rel – Control	.16** (.06)
	Trad Def/Against Rel – Equality/Against Rel	.17** (.06)
	Trad Def/Against Rel – Equality/Majority rule	.11* (.05)
Extending Civil Rights to Homosexuals	Trad Def/Against Rel – Equality/Against Rel	.29! (.15)

Note: The reference category received the 'Traditional Definition' and 'Against Religion' frames. Cronbach's $\alpha=.62$ for the Gay Rights Index. ** $p<.01$; * $p<.05$; ! $p<.1$.

Table A13. Priming Effects, by Frame and Question Order, Gay Rights Index, 2008.

	Mean Differences							
	C/M	ER/M	EM/M	TR/M	C/U	ER/U	EM/ U	TR/U
Control, Marriage First	--	--	--	--	--	--	--	--
Equality/Religion, Marriage First	.57! (.33)	--	--	--	--	--	--	--
Equality/Majority Rule, Marriage First	--	--	--	--	--	--	--	--
Trad Def/Against Rel, Marriage First	--	-.90** (.33)	-.64* (.32)	--	--	--	--	--
Control, Unions First	.59! (.32)	--	--	.92** (.33)	--	--	--	--
Equality/Religion, Unions First	--	--	--	.74* (.32)	--	--	--	--
Equality/Majority Rule, Unions First	--	-.63* (.32)	--	--	-.65* (.31)	--	--	--
Trad Def/Against Rel, Unions First	--	-.77* (.33)	--	--	-.79* (.33)	-.61! (.32)	--	--

Note: Cells across the top are the reference categories. The values in parentheses are standard errors. Cronbach's $\alpha=.62$ for the Gay Rights Index. ** $p<.01$; * $p<.05$; ! $p<.1$.

Table A14. Priming Effects, by Frame and Question Order, Gay Adoption Question, 2008.

	Mean Differences							
	C/M	ER/M	EM/M	TR/M	C/U	ER/U	EM/ U	TR/U
Control, Marriage First	--	--	--	--	--	--	--	--
Equality/Religion, Marriage First	--	--	--	--	--	--	--	--
Equality/Majority Rule, Marriage First	--	--	--	--	--	--	--	--
Trad Def/Against Rel, Marriage First	--	- .22** (.08)	-.15* (.08)	--	--	--	--	--
Control, Unions First	.18* (.08)	--	.13! (.08)	.28** (.08)	--	--	--	--
Equality/Religion, Unions First	--	--	--	.19* (.08)	--	--	--	--
Equality/Majority Rule, Unions First	--	--	--	--	-.16* (.08)	--	--	--
Trad Def/Against Rel, Unions First	--	-.16* (.08)	--	--	- .22* * (.08)	--	--	--

Note: Cells across the top are the reference categories. The values in parentheses are standard errors. Cronbach's $\alpha=.62$ for the Gay Rights Index. ** $p<.01$; * $p<.05$; ! $p<.1$.

Table A15. Priming Effects, by Frame and Question Order, Civil Rights Question, 2008.

	Mean Differences							
	C/M	ER/M	EM/M	TR/M	C/U	ER/U	EM/ U	TR/U
Control, Marriage First	--	--	--	--	--	--	--	--
Equality/Religion, Marriage First	.36! (.21)	--	--	--	--	--	--	--
Equality/Majority Rule, Marriage First	.40! (.21)	--	--	--	--	--	--	--
Trad Def/Against Rel, Marriage First	--	--	-.36! (.21)	--	--	--	--	--
Control, Unions First	--	--	--	--	--	--	--	--
Equality/Religion, Unions First	--	--	--	--	--	--	--	--
Equality/Majority Rule, Unions First	--	-.35! (.21)	-.39! (.20)	--	--	--	--	--
Trad Def/Against Rel, Unions First	--	--	-.37! (.21)	--	--	--	--	--

Note: Cells across the top are the reference categories. The values in parentheses are standard errors. Cronbach's $\alpha=.62$ for the Gay Rights Index. ** $p<.01$; * $p<.05$; ! $p<.1$.

Table A16. Priming Effects, by Frame and Question Order, Gays in the Military Question, 2008 Experiment.

	One Way ANOVAs							
	C/M	ER/M	EM/M	TR/M	C/U	ER/U	EM/ U	TR/U
Control, Marriage First	--	--	--	--	--	--	--	--
Equality/Religion, Marriage First	--	--	--	--	--	--	--	--
Equality/Majority Rule, Marriage First	--	--	--	--	--	--	--	--
Trad Def/Against Rel, Marriage First	--	--	--	--	--	--	--	--
Control, Unions First	--	--	--	--	--	--	--	--
Equality/Religion, Unions First	--	--	--	--	--	--	--	--
Equality/Majority Rule, Unions First	--	--	--	--	--	--	--	--
Trad Def/Against Rel, Unions First	--	--	--	--	--	--	--	--

Note: Cells across the top are the reference categories. The values in parentheses are standard errors. Cronbach's $\alpha=.62$ for the Gay Rights Index. ** $p<.01$; * $p<.05$; ! $p<.1$.

Table A17. Summary of Findings.

Hypothesis	Finding
<i>Question Order:</i> Subjects (across all conditions) who had an opportunity to oppose same-sex marriage first should be more likely to indicate support for civil unions than those receiving the civil unions question first.	<i>Not supported.</i> The one significant control finding (2007, civil unions) is in the wrong direction. Only one framed condition (same) is significant and exhibits the proper sign.
<i>Framing Effects:</i> Subjects in the framed conditions will express different responses than those in the control, based on the frames received.	<i>Limited support.</i> The balanced cells in the 2007 experiment are significantly more supportive of civil unions than the controls. Differences also appear between the framed conditions in 2008.
<i>Frame Order:</i> Subjects will disproportionately agree with the first frame they receive, regardless of their actual opinion on the issue.	<i>Not supported.</i> No significant differences exist between subjects on the same-sex marriage question. Only one significant difference exists for civil unions.
<i>Priming:</i> Subject opinions on other gays rights issues will be influenced by the issue frames they received.	<i>Supported.</i> Priming differences do exist between some groups of subjects. These differences appear to be a function of the interaction between frame and question order manipulations.

Table A18. Opinions on Same-Sex Civil Unions, by Frame 2005 Experiment.

	Crosstab		
	Civil Unions Question		
	Equality- Against Religion	Equality- Traditional Definition	No Frame
Favor Strongly	31.8%	36.5%	18.5%
Favor	31.8%	23.5%	29.6%
Neither Favor nor Oppose	22.4%	22.4%	35.8%
Oppose	8.2%	9.4%	11.1%
Oppose Strongly	5.9%	8.2%	4.9%

Note: Values in table are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=10.84$ (df=8, p=.21 two-tailed); Kendall's tau-c=-.11 p=.07. N=251 subjects.

Table A19. Opinions on Same-Sex Civil Unions, by Frame 2007 Experiment.

	Crosstab		
	Civil Unions Question		
	Equality/ Against Religion	Equality/ Traditional Definition	No Frame
Favor Strongly	44.7%	44.3%	29.4%
Favor	26.9%	24.3%	28.0%
Neither Favor nor Oppose	13.9%	15.8%	24.9%
Oppose	8.7%	6.9%	8.5%
Oppose Strongly	5.8%	8.7%	9.2%

Note: Values in table are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=35.76$ (df=8, p=.00 two-tailed); Kendall's tau-c=-.07 p=.01. N=1565 subjects.

Table A20. Opinions on Same-Sex Civil Unions, by Frame, 2008 Experiment.

	Crosstab			
	Civil Unions Question			
	Equality/ Against Religion	Equality/ Majority Rule	Traditional Definition/Against Religion	No Frame
Favor Strongly	23.0%	13.7%	14.6%	15.9%
Favor	26.1%	28.6%	23.3%	25.0%
Neither Favor nor Oppose	18.8%	28.0%	20.1%	23.9%
Oppose	16.4%	11.5%	21.3%	17.6%
Oppose Strongly	15.8%	18.1%	20.7%	17.6%

Note: Values in table are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=16.65$ (df=12, p=.163 two-tailed); Kendall's tau-c=-.04 p=.22. N=687 subjects.

Table A21. Opinions on Same-Sex Marriage, by Frame 2005 Experiment.

	Crosstab		
	Marriage question		
	Equality/ Against Religion	Equality/ Traditional Definition	No Frame
Favor Strongly	28.6%	32.6%	16.0%
Favor	23.8%	16.3%	24.7%
Neither Favor nor Oppose	19.0%	16.3%	22.2%
Oppose	15.5%	23.3%	23.5%
Oppose Strongly	13.1%	11.6%	13.6%

Note: Values in table are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=9.00$ (df=8, p=.342 two-tailed); Kendall's tau-c=-.84 p=.15. N=251 subjects.

Table A22. Opinions on Same-Sex Marriage, by Frame 2007 Experiment.

	Crosstab		
	Same-Sex Marriage Question		
	Equality/ Against Religion	Equality/ Traditional Definition	No Frame
Favor Strongly	42.6%	45.6%	35.8%
Favor	20.0%	18.8%	23.5%
Neither Favor nor Oppose	13.9%	13.5%	18.8%
Oppose	11.4%	8.9%	8.2%
Oppose Strongly	12.2%	13.2%	13.7%

Note: The values reported are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=14.51$ (df=8, p=.07 two-tailed); Kendall's tau-c=-.04 p=.02. N=1565 subjects.

Table A23. Opinions on Marriage, by Frame 2008 Experiment.

	Crosstab			
	Same-Sex marriage Question			No Frame
	Equality/ Against Religion	Equality/ Majority Rule	Traditional Definition/Against Religion	
Favor Strongly	20.7%	9.2%	14.1%	13.6%
Favor	14.6%	16.2%	14.1%	17.0%
Neither Favor nor Oppose	19.5%	23.2%	17.2%	16.5%
Oppose	19.5%	20.5%	21.5%	28.4%
Oppose Strongly	25.6%	30.8%	33.1%	24.4%

Note: The values reported are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=18.281$ (df=12, p=.107 two-tailed); Kendall's tau-c=-.049, p=.124. N=688 subjects.

Table A24. Follow Up Questions, by Question Order 2008 Experiments.

	Subjects who Oppose Same-Sex Marriage, Favor Civil Unions	
	Marriage Question First	Unions Question First
Civil Unions provide the same rights as marriage.	37.8%	41.7%
Civil Unions allow each state to decide on its own.	37.8%	27.8%
Other	4.1%	8.3%
Don't Know	18.9%	22.2%
N	74	36

Note: The values reported are the percentage of subjects in each category. Differences across cells are not significant, $\chi^2=2.23$ (df=4, p=.69 two-tailed). N=110 subjects.

Table A25. Ordered Logit Coefficients for the Experimental Cells and Dependent Variables, 2005 Experiment.

	Same-Sex Marriage		Civil Unions	
	Model 1	Model 2	Model 1	Model 2
Party ID	--	.01 (.68)	--	.02 (.02)
Male	--	-.02 (.02)	--	.02 (.03)
Born Again	--	-.01 (.01)	--	-.01 (.01)
Equality / Against Religion	.51! (.28)	.55* (.28)	.43 (.27)	.42 (.28)
Equality/Traditional Definition	.50! (.28)	.50! (.28)	.39 (.27)	.39 (.28)
N	251	251	251	251
Wald Chi2	4.48	6.38	3.04	5.39
Log likelihood	-366.44	-365.50	-396.44	-395.27

Note: The numbers reported here are ordered logit coefficients. Figures in parentheses are standard errors. **p<.01; *p<.05; !p<.1.

Table A26. Predicted Means, 2005 Experiment.

	Same-Sex Marriage Question		
	Equality/Against Religion	Equality/Traditional Definition	Control
Favor Strongly	.29 (.04)	.28 (.05)	.21 (.03)
Favor	.22 (.03)	.22 (.03)	.20 (.03)
Neither Favor nor Oppose	.18 (.02)	.19 (.02)	.19 (.02)
Oppose	.19 (.03)	.19 (.03)	.23 (.03)
Oppose Strongly	.11 (.03)	.12 (.03)	.16 (.03)

Note: Values are the probability of a respondent being in each cell. Values in parentheses are standard errors.

Table A27. Ordered Logits of Experimental Cells and Dependent Variables, 2007 Experiment.

	Same-Sex Marriage		Civil Unions	
	Model 1	Model 2	Model 1	Model 2
Party ID	--	.50**	--	.37**
Male	--	-.92**	--	-.61**
Born Again	--	-2.21**	--	-1.57**
Equality / Against Religion	.16	.30*	.57**	.69**
Equality/Traditional Definition	.26*	.34*	.49**	.57**
N	1565	1520	1565	1520
Wald Chi2	4.15	291.25	23.96	178.62
Log likelihood	-2279.86	-2038.17	-2199.09	-2034.14

Note: The numbers reported here are ordered logit coefficients. Figures in parentheses are standard errors. **p<.01; *p<.05; !p<.1.

Table A28. Predicted Means 2007 Experiment.

	Civil Unions Question		
	Equality/Against Religion	Equality/Traditional Definition	Control
Favor Strongly	.43 (.02)	.45 (.02)	.32 (.02)
Favor	.26 (.01)	.26 (.01)	.26 (.01)
Neither Favor nor Oppose	.16 (.01)	.16 (.01)	.20 (.01)
Oppose	.07 (.01)	.07 (.01)	.11 (.01)
Oppose Strongly	.07 (.01)	.07 (.01)	.11 (.01)

Note: Values are the probability of a respondent being in each cell. Values in parentheses are standard errors.

Table A29. Predicted Means 2007 Experiment.

	Same-Sex Marriage Question		
	Equality/Against Religion	Equality/Traditional Definition	Control
Favor Strongly	.54 (.02)	.55 (.02)	.47 (.03)
Favor	.21 (.01)	.21 (.01)	.22 (.01)
Neither Favor nor Oppose	.13 (.01)	.12 (.01)	.15 (.01)
Oppose	.07 (.01)	.06 (.01)	.08 (.01)
Oppose Strongly	.06 (.01)	.05 (.01)	.07 (.01)

Note: Values are the probability of a respondent being in each cell. Values in parentheses are standard errors.

Table A30. Ordered Logits of Experimental Cells and Dependent Variables, 2008 Experiment.

	Same-Sex Marriage		Civil Unions	
	Model 1	Model 2	Model 1	Model 2
Party ID	--	-.42** (.03)	--	-.32** (.03)
Age	--	-.02** (.00)	--	-.02** (.00)
Male	--	.04 (.14)	--	-.11 (.14)
Born Again	--	.00001! (.00)	--	.00001* (.00)
Equality / Against Religion	.21 (.20)	.06 (.20)	.29 (.20)	.15 (.20)
Equality/Majority Rule	-.18 (.18)	-.24 (.18)	.05 (.18)	.06 (.19)
Traditional Definition/Against Religion	-.19 (.19)	-.17 (.21)	-.19 (.19)	-.17 (.20)
N	688	670	687	668
Wald Chi2	5.18	186.89	5.38	119.09
Log pseudolikelihood	-1082.40	-954.76	-1091.46	-995.93

Note: The numbers reported here are ordered logit coefficients. Figures in parentheses are standard errors. **p<.01; *p<.05; !p<.1.

Table A31. Mean Support for Same-Sex Marriage and Civil Unions, 2008 Experiment.

	Group Means	
	Same-Sex Marriage	Civil Unions
Control (1)	2.67	3.04
Equality/Against Religion (2)	2.85	3.24
Equality/Majority Rule (3)	2.52	3.08
Against Religion /Traditional Definition (4)	2.55	2.90

Table A32. Mean Support for Same-Sex Marriage and Civil Unions, 2008 Experiment.

		Group Means				
		Marriage	Civil Unions	Cell Value	Marriage	Civil Unions
K1	1 vs 4	2.55-2.67=-.12	2.90-3.04=-.14			
K2	1 vs 2	2.85-2.67=.18	3.24-3.04=.20	R=k2 - E	R=.18-E	R=.20-E
K3	1 vs 3	2.52-2.67=-.15	3.08-3.04=.04	M=k3 - E	M=-.15-E	M=.04-E
K4	2 vs 3	2.52-2.85=-.33	3.08-3.24=-.16	T=k5 + E	T=-.30+E	T=-.34+E
K5	2 vs 4	2.55-2.85=-.30	2.90-3.24=-.34			
K6	3 vs 4	2.55-2.52=.03	2.90-3.08=-.18			

Note: Columns 3 and 4 report the difference in mean support for same-sex marriage or civil unions. Column 5 reports the formula for determining the value of a single frame in terms of another. E=equality, R=Against Religion, M=Majority Rule, T=Traditional Definition. Columns 6 and 7 report the precise formula for each frame as a function of the equality frame for Marriage and Civil Unions. The value for E is positive for the formula for frame T because that frame does not appear with E for any of the framed conditions. In order to set T as a function of E, substitution was used. For marriage, the effect of R +T=-.12. R= .18-E. Substituting (.18-E) for R we find (.18-E)+T=-.12, which becomes T=-.30+E.

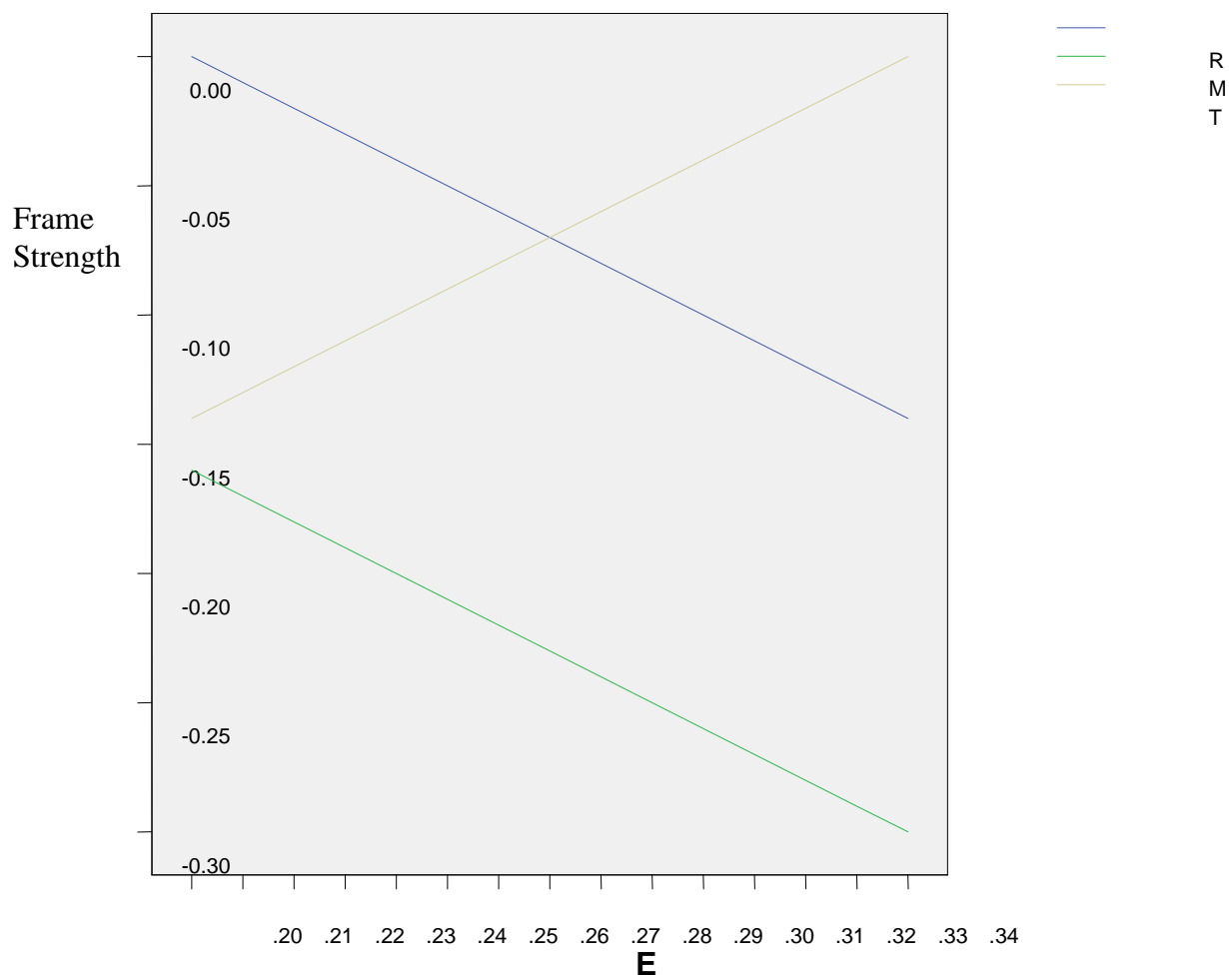


Figure A1. Frame Strength: Same-Sex Civil Unions

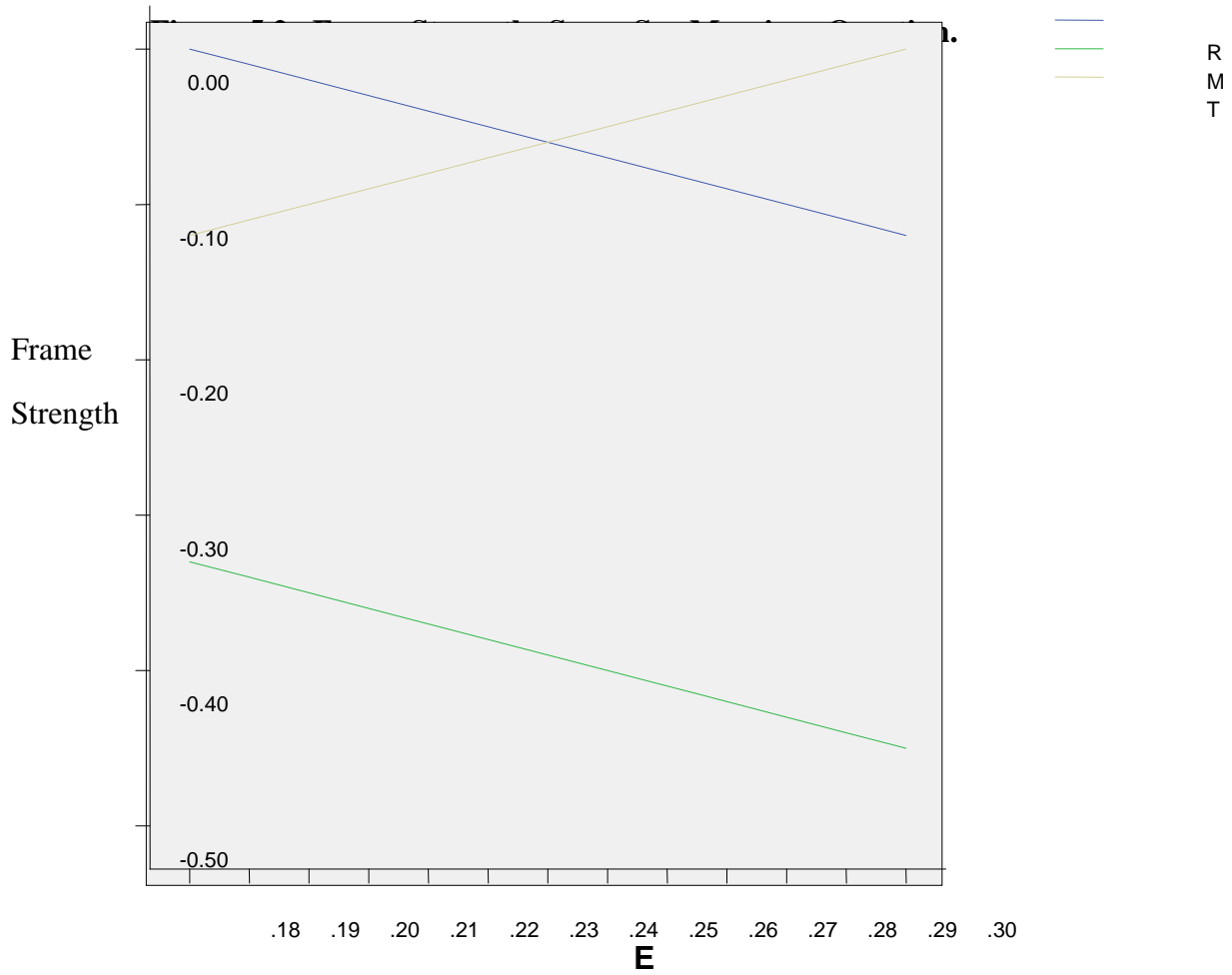


Figure A2. Frame Strength: Same-Sex Marriage

Table A33. Summary of Findings.

Hypothesis	Finding
<i>Multiple-frame environments:</i> (regardless of frame direction) strengthen, rather than moderate opinion. Subjects in multiple-frame environments are more likely than control group subjects to express favor or opposition to same-sex marriage and civil unions.	<i>Supported.</i> Subjects in the ‘balanced frame’ environment moved from the neutral category to ‘strongly favor’. Larger effects on the civil unions question and in 2005, 2007 experiments.
<i>Contrast Effects.</i> Subjects will disproportionately support the position advocated by the strong frame in ‘strong and weak competing frames’ environments.	<i>Not supported.</i> Possible contrast effect for civil unions question (2008), but the marriage question shows the opposite relationship.
<i>Alternate Frames:</i> Multiple, noncompetitive frame environments behavior similarly to single frame environments in direction and magnitude of effect.	<i>Limited support.</i> Effects, though small, were found for the civil unions and same-sex marriage conditions. For marriage, the shift in subject opinion occurred between the ‘oppose’ and ‘strongly oppose’ response categories.
<i>Question Order:</i> Subjects who receive the marriage question first are more likely to support civil unions than those who receive the civil unions question first.	<i>Limited support.</i> Twice as many subjects supported civil unions and opposed same-sex marriage when they received the marriage question first.
<i>Frame Strength:</i> Individual frame strength can be measured and compared.	<i>Limited support.</i> Opposition frame strength can be measured as a function of the support frame, and frames can be ranked hierarchically. Exact values for each frame could not be determined.

Table A34. Descriptive Statistics: Values Questions, 2008 Experiment.

	Frequencies		
	Equality/Morality	Majority Rule/Equality	Morality/Tradition
Equality	34.6%	67.2%	--
Morality	62.0%	--	83.8%
Traditional Values	--	--	14.3%
Majority Rule	--	31.3%	--
Same	3.4%	1.5%	1.9%
Total	684	674	684

Table A35. Comparison of Value-Opinion Linkages: Equality and Morality.

	Crosstab			
	Civil Unions Question			
	Equality		Morality	
	Control	Framed	Control	Framed
Strongly Favor	35.0%	45.9%	6.4%	10.9%
Favor	25.0%	24.6%	23.9%	23.9%
Neither Favor nor Oppose	23.3%	11.5%	23.9%	23.9%
Oppose	6.7%	13.1%	22.9%	19.6%
Strongly Oppose	10%	4.9%	22.9%	21.7%
N	60	61	109	92

Note: For equality the Chi2 test is not significant (5.55, df=4, p=.226). For morality the Chi2 test is not significant (1.46, df=4, p=.83).

Table A36. Comparison of Value-Opinion Linkages: Equality and Morality.

	Crosstab			
	Same-Sex Marriage Question			
	Equality		Morality	
	Control	Framed	Control	Framed
Strongly Favor	28.3%	41.9%	6.4%	7.8%
Favor	23.3%	17.7%	12.8%	10.0%
Neither Favor nor Oppose	20.0%	16.1%	14.7%	23.3%
Oppose	23.3%	14.5%	30.3%	25.6%
Strongly Oppose	5.0%	9.7%	35.8%	33.3%
N	60	62	109	90

Note: For equality the Chi2 test is not significant (4.48, df=4, p=.35). For morality the Chi2 test is not significant (2.94, df=4, p=.57).

Table A37. Comparison of Value-Opinion Linkages: Equality and Majority Rule.

	Crosstab			
	Civil Unions Question			
	Equality		Majority Rule	
	Control	Framed	Control	Framed
Strongly Favor	21.3%	15.7%	4.3%	8.0%
Favor	28.7%	30.6%	17.0%	26.0%
Neither Favor nor Oppose	18.9%	26.4%	31.9%	32.0%
Oppose	13.9%	11.6%	27.7%	10.0%
Strongly Oppose	17.2%	15.7%	19.1%	24.0%
N	122	121	47	50

Note: For equality the Chi2 test is not significant (3.00, df=4, p=.56). For majority rule the Chi2 test is not significant (5.79, df=4, p=.22).

Table A38. Comparison of Value-Opinion Linkages: Equality and Majority Rule.

	Crosstab			
	Same-Sex Marriage Question			
	Equality		Majority Rule	
	Control	Framed	Control	Framed
Strongly Favor	18.7%	12.2%	2.2%	3.9%
Favor	18.7%	20.3%	10.9%	7.8%
Neither Favor nor Oppose	15.4%	24.4%	17.4%	25.5%
Oppose	26.8%	16.3%	34.8%	23.5%
Strongly Oppose	20.3%	26.8%	34.8%	39.2%
N	123	123	46	51

Note: For equality the Chi2 test is significant (8.53, df=4, p=.07). For morality the Chi2 test is not significant (2.40, df=4, p=.66).

Table A39. Comparison of Value-Opinion Linkages: Traditional Values and Morality.

	Crosstab			
	Civil Unions Question			
	Tradition		Morality	
	Control	Framed	Control	Framed
Strongly Favor	20.0%	31.8%	15.3%	11.7%
Favor	36.0%	31.8%	23.6%	21.9%
Neither Favor nor Oppose	16.0%	9.1%	23.6%	22.6%
Oppose	12.0%	22.7%	19.4%	19.7%
Strongly Oppose	16.0%	4.5%	18.1%	24.1%
N	25	22	144	137

Note: For tradition the Chi2 test is not significant (3.37, df=4, p=.50). For morality the Chi2 test is not significant (2.01, df=4, p=.73).

Table A40. Comparison of Value-Opinion Linkages: Traditional Values and Morality.

	Crosstab			
	Same-Sex Marriage Question			
	Tradition		Morality	
	Control	Framed	Control	Framed
Strongly Favor	20.8%	13.6%	13.1%	11.1%
Favor	20.8%	31.8%	15.2%	14.8%
Neither Favor nor Oppose	0%	22.7%	18.6%	16.3%
Oppose	41.7%	13.6%	27.6%	21.5%
Strongly Oppose	16.7%	18.2%	25.5%	36.3%
N	24	22	145	135

Note: For tradition the Chi2 test is significant (9.53, df=4, p=.05). For morality the Chi2 test is not significant (4.15, df=4, p=.39).

Table A41. Comparison of Value-Opinion Linkages: Equality and Morality.

	Crosstab					
	Traditional Definition/Against Religion Condition					
	Equality			Morality		
	Control	SSM	CU	Control	SSM	CU
Strongly Favor	35.0%	21.2%	22.6%	6.4%	9.6%	10.6%
Favor	25.0%	25.0%	34.0%	23.9%	9.6%	17.3%
Neither Favor nor Oppose	23.3%	25.0%	24.5%	23.9%	12.5%	16.3%
Oppose	6.7%	13.5%	11.3%	22.9%	25.0%	26.9%
Strongly Oppose	10.0%	15.4%	7.5%	22.9%	43.3%	28.8%
N	60	52	53	109	104	104

Note: Values for the control condition come from the civil unions question. Generally speaking, the values for the marriage question resembled those for civil unions, with a slightly greater bias toward the opposition categories. For equality the Chi2 test is not significant (26.49, df=8, p=.001). For morality the Chi2 test is not significant (23.82, df=8, p=.002). For 'Trad def/Against Rel' condition.

Table A42. Measures of Constraint Among Self-Reported Liberals by Frame and Sophistication.

	Control			Traditional Definition/ Against Religion		
	High	Medium	Low	High	Medium	Low
Mean	.59	.66	.99	.83	.86	1.07
Standard Deviation	(.69)	(.79)	(1.21)	(.76)	(.94)	(1.26)
N	13	19	13	13	22	12

Note: The figures reported are group means, the figures in parentheses are standard deviations

Table A43. Group Means of Constraint (gaym, civun, gaycr, adoptmil), by Subject Political Sophistication.

	Crosstab			
	Index of Constraint			
	Equality/ Against Religion	Equality/Majority Rule	Traditional Definition/ Against Religion	Control
High Sophistication	.88	.99	1.04	.99
	(1.14)	(.93)	(1.09)	(.97)
Middle Sophistication	1.06	1.12	1.05	.97
	(1.09)	(.99)	(1.08)	(1.10)
Low Sophistication	.95!	1.45	.84*	.92*
	(1.05)	(1.34)	(1.11)	(1.08)

Note: The figures reported are group means, the figures in parentheses are standard deviations. Every case at the Low Sophistication level is significantly different from the 'Equality/Majority Rule' condition—no other cell differences are significant.

Table A44. Group Means of Constraint (ideo5rcd, civun, gaycr), by Level of Sophistication.

	Crosstab			
	Index of Constraint			
	Equality/ Against Religion	Equality/ Majority Rule	Traditional Definition/ Against Religion	Control
High Sophistication	.88 (.93)	.85 (1.08)	1.00 (.94)	.84 (.96)
Middle Sophistication	.96 (.83)	.89 (.90)	.84 (1.01)	.77 (.79)
Low Sophistication	.98 (.96)	1.25 (1.30)	1.02 (1.47)	.96 (1.06)

Note: The figures reported are group means, the figures in parentheses are standard deviations. No significant differences across the sample.

Table A45. Group Means of Constraint (gaym, civun, adoptmil, gaycr), by Level of Importance Attached to Gay Marriage as a Campaign Issue.

	Crosstab			
	Index of Constraint			
	Equality/ Against Religion	Equality/Majority Rule	Traditional Definition/ Against Religion	Control
Very important	1.01 (1.18)	.87 (.96)	.91 (1.03)	.68 (1.01)
Somewhat important	.96 (1.10)	1.27 (1.22)	.93 (1.07)	1.19 (1.30)
Not very important	1.12 (1.03)	1.37 (1.15)	1.03! (1.05)	1.19 (1.04)
Not at all important	.84 (1.01)	.89 (.83)	1.13 (1.34)	.78 (.76)

Note: The figures reported are group means, the figures in parentheses are standard deviations

Table A46. Summary of Findings.

Hypothesis	Finding
<i>Frame context:</i> Subjects in competing frames conditions are more likely to link their responses to core values than those in the unframed conditions.	<i>Limited support.</i> Although some value-environment pairings fit the hypothesis, the majority of findings suggest frames do not alter the number of nonattitudes reported.
<i>Alternate Frames:</i> Subjects agreeing with the offered alternative, non-competing frames will link their responses to their core values better than those disagreeing with the frames.	<i>Supported.</i> Subjects who preferred equality to morality were less able to link values with opinion for same-sex marriage and civil unions.
<i>Sophistication:</i> Subjects with an intermediate level of political sophistication in the unframed conditions should resemble low sophistication subjects in terms of attitude consistency across gay rights issues.	<i>Not supported.</i> Differences in group means were not large enough to determine whether any group was significantly more consistent than another.
<i>Sophistication:</i> Intermediate sophisticates in the framed conditions should resemble high sophistication subjects in terms of attitude consistency across gay rights issues.	<i>Not supported.</i> Differences in group means were not large enough to determine whether any group was significantly more consistent than another.

Table A47. Summary of Findings: Question Order and Priming.

Hypothesis	Finding
<i>Question Order:</i> Subjects who receive the marriage question first are more likely to support civil unions than those who received the unions question first.	<i>Limited support.</i> Comparisons in mean support between groups yielded no differences. However, twice as many subjects supported unions and opposed marriage when they received the marriage question first, than those who received the unions question first.
<i>Priming:</i> Subject opinions on other gay rights issues are influenced by the issue frames they receive.	<i>Supported.</i> Priming effects do appear as a function of frame and question order manipulations.
<i>Core Values:</i> Subjects in competing frames conditions are more likely to link their responses to core values than those who do not receive frames.	<i>Limited support.</i> Some value-environment pairings fit the hypothesis, others do not appear to reduce nonattitudes.
<i>Alternate Frames:</i> Subjects who agree with the received frames will better link their opinions to their values than those who disagree with the frames.	<i>Supported.</i> Subjects favoring equality over morality were less able to link their values to their opinion for both same-sex marriage and civil unions.
<i>Political Sophistication:</i> Intermediate sophisticates express opinions that are as consistent as high sophisticates when they receive frames, and as inconsistent as the politically unsophisticated when they do not.	<i>Not supported.</i> Differences in group means were not large enough to determine whether any group was significantly more consistent than another when divided by sophistication or issue importance.

Table A48. Summary of Findings for Multiple Frame Environments.

Hypothesis	Finding
<i>Frame Order:</i> Subjects disproportionately agree with the first frame they receive, regardless of their actual opinion on the issue.	<i>Not supported.</i> No differences exist for either treatment. This null finding supports the argument that multiple frame environments mirror public debate.
<i>Frame Effects:</i> Subject opinions will vary with the frames they receive.	<i>Supported.</i> Differences appear between framed and control groups in the 2007 and 2008 experiments. Effects are smaller in the 2008 aggregate analysis.
<i>Multiple Frame Environments:</i> Subjects in framed conditions will express fewer ‘neutral’ responses.	<i>Limited support.</i> Subjects in the ‘equality/against religion’ and ‘equality/traditional definition’ environments across all experiments exhibited a decline in neutral responses. Effects are larger for the civil unions treatment, and in the 2005 and 2007 experiments.
<i>Contrast Effects:</i> Subjects will disproportionately support the position of the strong frame over the weak.	<i>Supported.</i> Subjects in all three experiments disproportionately favor same-sex civil unions. Effects are smaller but follow the same pattern for 2005 and 2007 on the marriage question, and for the ‘equality/majority rule’ environment in 2008.
<i>Balanced Frame Effects:</i> Subjects receiving frames of equal strength (on different sides of an issue) will move toward the extremes, rather than moderate their opinions.	<i>Not supported.</i> The ‘equality/majority rule’ environment shows opinion moderation both in the aggregate and when broken down by value preference.
<i>Alternate Frame Effects:</i> Multiple frames on the same side of an issue will influence behavior in the same manner as individual frame environments.	<i>Supported.</i> Subjects in the ‘traditional definition/against religion’ environment in 2008 disproportionately opposed same-sex marriage and civil unions in the aggregate and values-based analysis. Effects are larger for the civil unions question.

Table A49. Summary of Findings: Core Values, and Political Sophistication.

Hypothesis	Finding
<i>Core Values:</i> Subjects in competing frames conditions are more likely to link their responses to core values than those who do not receive frames.	<i>Limited support.</i> Some value-environment pairings fit the hypothesis, others do not appear to reduce nonattitudes.
<i>Alternate Frames:</i> Subjects who agree with the received frames will better link their opinions to their values than those who disagree with the frames.	<i>Supported.</i> Subjects favoring equality over morality were less able to link their values to their opinion for both same-sex marriage and civil unions.
<i>Political Sophistication:</i> Intermediate sophisticates express opinions that are as consistent as high sophisticates when they receive frames, and as inconsistent as the politically unsophisticated when they do not.	<i>Not supported.</i> Differences in group means were not large enough to determine whether any group was significantly more consistent than another when divided by sophistication or issue importance.

APPENDIX B: 2005, 2007, AND 2008 SURVEY EXPERIMENT
QUESTIONS

B.1 2005 and 2007 Surveys

Treatment Group A:

Some people say that allowing same-sex civil unions, which extend some legal rights and protections short of marriage, is an issue of equality and should be supported. Others say that since same-sex civil unions violate the traditional definition of marriage as between a man and a woman they should not be allowed. What about your opinion—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Some people say that recognition of same-sex marriages is an issue of equality and should be supported. Others say that since same-sex marriages violate the traditional definition of marriage as between a man and a woman they should not be allowed. What about your opinion—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Treatment Group B:

Some people say that allowing same-sex civil unions, which extend some legal rights and protections short of marriage, is an issue of equality and should be supported. Others say that since same-sex civil unions are against their religion, they should not be allowed. What about your opinion—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Some people say that recognition of same-sex marriages is an issue of equality and should be supported. Others say that since same-sex marriages are against their

religion, they should not be allowed. What about your opinion—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Treatment Group C:

Do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Do you think the U.S. made the right decision or the wrong decision in using military force against Iraq?

Right decision

Wrong decision

How well is the U.S. military effort in Iraq going?

Not at all well

Not too well

Fairly well

Very well

Do you think the U.S. should keep military troops in Iraq until a stable government is established there, or do you think the U.S. should bring its troops home as soon as possible?

Keep troops in Iraq

Bring troops home

Don't know/Refused

Some people say they are basically content with the federal government, others say they are frustrated, and others say they are angry. Which of these best describes how you feel?

Basically content

Frustrated

Angry

Some people say, "The federal government should guarantee equal rights for homosexuals in terms of job opportunities." Do you Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, or Strongly Disagree?

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

No Opinion/Don't Know

How much of the time do you think you can trust the government in Washington to do what is right? Just about always, most of the time, or only some of the time?

Just about always

Most of the time

Only some of the time

Never

Some people say, “The federal government should NOT guarantee equal rights for homosexuals in terms of housing.” Do you Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, or Strongly Disagree?

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

No Opinion/Don't Know

Do you think that the laws which protect the civil rights of racial or religious minorities should be used to protect the rights of homosexuals?

Yes

No

No Opinion/Don't Know

Some people say “Homosexuals should get protection under civil rights laws in the way racial minorities and women have been protected.” Do you Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, or Strongly Disagree?

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

No Opinion/Don't Know

In general, do you think that free trade agreements like NAFTA, and the World Trade Organization, have been a good thing or a bad thing for the United States?

Good thing

Bad thing

Do you think homosexuals should or should not be allowed to serve in the military?

Should be allowed to serve

Should not be allowed to serve

Don't know/no opinion

What is your sex?

Female

Male

What is your age?

_____ years

Are you, yourself, of Hispanic origin or descent, such as Mexican, Puerto Rican, Cuban, or some other Spanish background?

Yes

No

What is your race? Are you white, black, Asian, or some other?

White

Black

Asian

Other or mixed race

What is your religious preference — Protestant, Roman Catholic, Jewish, Muslim, Mormon, or an orthodox church such as the Greek or Russian Orthodox Church?

Protestant (including Baptist, Lutheran, Methodist, Presbyterian, Episcopalian, Pentecostal,

Jehovah's Witness, Church of Christ, etc.)

Roman Catholic

Jewish

Mormon (including Church of Jesus Christ of Latter Day Saints)

Orthodox Church (Greek or Russian)

Islam/Muslim

Other religion, Please Specify _____

No religion, not a believer, atheist, agnostic

Would you describe yourself as a "born again" or evangelical Christian, or not?

Yes, would

No, would not

Aside from weddings and funerals, how often do you attend religious services... more than once a week, once a week, once or twice a month, a few times a year, seldom, or never?

More than once a week

Once a week

Once or twice a month

A few times a year

Seldom

Never

In politics today, do you consider yourself a Republican, Democrat or Independent?

Republican

Democrat

Independent

No Preference

Do you consider yourself a STRONG [Republican/Democrat] or NOT a strong [Republican/Democrat]?

Strong

Not strong

Not applicable

In general, would you describe your political views as...

Very conservative

Conservative

Moderate

Liberal

Very liberal

B.2 2008 Survey

Form One: [Randomize order of Q1 and Q2; place a few unrelated questions between questions]

Q1. Do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Q2. Do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Form Two: [Randomize order of Q1 and Q2; place a few unrelated questions between questions]

Q1. Some people say that allowing same-sex civil unions, which extend some legal rights and protections short of marriage, is an issue of equality and should be

supported. Others say that same-sex civil unions are against their religion and should not be allowed. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Q2. Some people say that recognition of same-sex marriages is an issue of equality and should be supported. Others say that same-sex marriages are against their religion and should not be allowed. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Form Three: [Randomize order of Q1 and Q2; place a few unrelated questions between questions]

Q1. Some people say that allowing same-sex civil unions, which extend some legal rights and protections short of marriage, is an issue of equality and should be supported. Others say that same-sex civil unions are not favored by a majority of the population and should not be allowed. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Q2. Some people say that recognition of same-sex marriages is an issue of equality and should be supported. Others say that same-sex marriages are not favored by a majority of the population and should not be allowed. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Form Four: [Randomize order of Q1 and Q2; place a few unrelated questions between questions]

Q1. Some people say that allowing same-sex civil unions, which extend some legal rights and protections short of marriage, should not be allowed because marriage has traditionally been defined as between a man and a woman. Others say that same-sex civil unions are against their religion and should not be allowed. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex civil unions?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Q2. Some people say that same-sex marriages should not be allowed because they violate the traditional definition of marriage as between a man and a woman. Others say that same-sex marriages are against their religion and should not be allowed. What about you—do you strongly favor, favor, neither favor or oppose, oppose, or strongly oppose same-sex marriage?

Strongly favor

Favor

Neither favor nor oppose

Oppose

Strongly oppose

Don't Know/Refused (vol.)

Follow Up question [ALL FORMS; ONLY IF marriage supported, unions opposed; must follow Q1/2]

Q3. You said you favor same-sex marriage but you also oppose civil unions. Which of the following is closest to your opinion on these issues?

Civil unions do not go far enough in providing equality for gay and lesbian couples.

Civil unions create a 'special right' different from marriage.

Other (vol)

Don't know/Refused (vol)

Follow Up question [ALL FORMS; ONLY IF marriage opposed, unions supported; must follow Q1/2]

Q3. You said you oppose same-sex marriage but you also favor civil unions. Which of the following is closest to your opinion on these issues?

Civil unions provide all the same rights as marriage.

Civil unions allow each state to decide the matter for themselves.

Other (vol)

Don't know/Refused (vol)

CORE VALUES [ALL FORMS; must appear somewhere after Q1/Q2]

Now I'd like to ask you about some things that are important for our society, such as tradition,

equality, morality, and majority rule. First, here is what I mean by these ideas:

TRADITION means handing down beliefs and customs across generations.

EQUALITY means narrowing the gap in inequalities between members of society.

MORALITY means people living according to the rules that constitute decent human behavior.

MAJORITY RULE means people abiding by the will of most members of society.

All four of these ideas are important, but sometimes we have to choose between what is more important and what is less important. And, the specific choices we make sometimes depend upon the comparisons we have to make.

I will ask you to consider pairs of these ideas. For each pair, please tell me which idea you think is most important:

Q4. Equality or Morality...

Equality

Morality

Equally important (vol)

Don't Know (vol)

Q5. Morality or Tradition...

Morality

Tradition

Equally important (vol)

Don't Know (vol)

Q6. Tradition or Majority Rule...

Tradition

Majority Rule

Equally important (vol)

Don't Know (vol)

Q7. Majority Rule or Equality...

Majority Rule

Equality

Equally important (vol)

Don't Know (vol)

POLITICAL SOPHISTICATION [ALL FORMS; can appear anywhere]

Q8. How interested are you in information about what's going on in government and politics?

Extremely interested

Very interested

Moderately interested

Slightly interested

Not interested at all

Don't know/Refused (vol)

Q9. How closely do you follow news about politics either in the newspaper, on television, radio, or the internet?

Very closely

Somewhat closely

Not very closely

Not at all

Don't know/Refused (vol)

Q10. To the best of your knowledge, which party currently has the majority in the House of Representatives?

Democrats (vol)

Republicans (vol)

Other (vol)

Don't know/Refused (vol)

Q11. John Roberts is an important political figure in the United States. Do you know what office he currently holds?

Chief Justice of the Supreme Court (vol)

On the Supreme Court (vol)

Other (vol)

Don't know/Refused (vol)

GAY RIGHTS [ALL FORMS; must appear somewhere after Q1/Q2]

Q12. Do you think gay or lesbian couples, should be legally permitted to adopt children?

Yes

No

Don't know/Refused (vol)

Q13. Some people say "Homosexuals should get protection under civil rights laws in the way racial minorities and women have been protected." Do you Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, or Strongly Disagree?

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

Don't know/Refused (vol)

Q14. Do you think homosexuals should or should not be allowed to serve in the military?

Should be allowed to serve

Should not be allowed to serve

Don't know/Refused (vol)

Contact [ALL FORMS; must appear somewhere after Q1/Q2]

Q15. Do you have a close friend or family member who is gay?

Yes

No

Don't know/Refused (vol)

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