

## 2. Ambivalence as Internal Conflict

*Bethany Albertson, John Brehm, and  
R. Michael Alvarez*

Political scientists and psychologists recognize the presence of ambivalence in our attitudes, but conceptions of ambivalence are widely varied. Is ambivalence common or rare? Is it a *subjective* feeling that can only be measured by asking the individual, or is it an *objective* property of an attitude that can be measured without the respondent's knowledge? Answers to this question may depend on the way ambivalence is defined. In the discussion that follows, we compare some of the various definitions of ambivalence that have been offered by scholars in the past. We argue that the concept has been employed too loosely in earlier research, and suggest a number of ways in which it can be defined in a more precise and productive manner. Specifically, we argue that "ambivalence" should be restricted to instances of strong internalized conflict which lead to increased response variability that cannot be reconciled as a function of additional information.

In political science, the term ambivalence is often used to imply value conflict. Using in-depth interviews, Hochschild (1981: 238) found that "given the opportunity, people do not make simple statements; they shade, modulate, deny, retract, or just grind to a halt in frustration." Yet Hochschild was clear that not all value conflicts result in ambivalence. An individual might, for example, sort the importance of different norms among different domains. In Hochschild's work, individuals experienced ambivalence when they weren't able to resolve the conflict; however, she did not separate out similarly conflictual states. Ambivalence was manifested in helplessness, anger, inconsistency, or confusion. Feldman and Zaller (1992) also viewed ambivalence as a manifestation of value conflict. In their study, respondents' answers to open-ended survey questions indicated that liberals

tend to be more ambivalent regarding social welfare issues than are conservatives. The authors concluded that this was due to the difficulty experienced by liberals in reconciling their pro-welfare views with their simultaneous support for individualism and limited government—two sets of values that are widely shared in American society.

Although ambivalence represents a type of conflict in each of these works, neither addresses the question of intensity, or personal importance. For example, one individual could be “conflicted” about whether there should be a flag burning amendment but want more information before making up his or her mind. Another might feel “conflicted” and yet not care a great deal because the issue is thought to have little impact on his or her life. A third person might care deeply while also feeling “conflicted,” perhaps because s/he strongly believes that freedom of expression should be protected *and* that flag burning hurts national pride (the latter being highly valued). When asked about flag burning, then, all three individuals might evince value conflict, and appear ambivalent, under that definition.

To muddy the conceptual waters even further, there has been a tendency in political science to use the term ambivalence less to describe individual citizens and their attitudes than as a characteristic of public opinion as a whole. It is common to read impressionistic reports of poll results in the media, or to hear talking heads debate the “ambivalence” of the public, when the data being discussed actually show disagreement in the aggregate about some policy. Page and Shapiro (1992), for example, noted that aggregate shifts in support for welfare versus support for the poor might reflect ambivalence. Similarly, Myrdal (1944) drew upon aggregate-level analysis to suggest that Americans are internally conflicted over racial issues. However, when half the public supports a policy which the other half opposes, such a division indicates a conflicted nation rather than a nation of conflicted individuals.

Psychologists usually define ambivalence more narrowly. For Cacioppo and Berntson (1994), ambivalence is a state of simultaneous high positive and high negative evaluation of an attitude object. Importantly, they assert that positive and negative evaluations are not necessarily coupled as the traditional bipolar scale implies.<sup>1</sup> People can hold a very positive evaluation and little in the way of negative feelings towards the same attitude object, or they could hold low negative and low positive feelings, or perhaps even high negative and high positive feelings simultaneously. This last state is their version of ambivalence. Bassili (1998) also measured ambivalence by asking respondents about positive and negative feelings separately, and observing the amount of conflict between the two. He found that the higher the conflict (or potential ambivalence), the slower people are to express their opinions.

Some political science conceptions of ambivalence are closer to the perspectives found in psychology. Craig, Kane, and Martinez (2002; also see chapter 4 in this volume), for example, measured ambivalence by asking respondents to rate positive and negative evaluations separately; ambivalence was then calculated by adding positive and negative evaluations (intensity) and then dividing by the difference between the two (similarity). McGraw, Hasecke, and Conger (2003) included subjective and objective measures of ambivalence and uncertainty in a study of on-line and memory-based candidate evaluation. Their objective measure of ambivalence was the intensity–similarity measure used by Craig and his colleagues, while their subjective measure was a simple agree/disagree with the statement, “I have both positive and negative feelings about [candidate].” Interestingly, they found that the subjective experience of ambivalence was related to a memory-based judgment strategy, meaning that people were more likely to rely on information that was readily accessible (as opposed to their on-line tally). They also discovered that the subjective measure of ambivalence was directly related to candidate evaluation for participants low in political sophistication, but not for participants high in political sophistication. In contrast, the objective measures of ambivalence were moderately related to candidate evaluation for more sophisticated participants and unrelated for less sophisticated participants. Though the causal mechanism here is not obvious (does memory-based judgment cause feelings of ambivalence, or do feelings of ambivalence cause memory-based judgment?), the McGraw study points out an interesting relationship between subjective and objective measures of ambivalence and evaluation, as well as compelling evidence that the measures are capturing distinct phenomena.

Alvarez and Brehm (2002) defined ambivalence as strong internalized conflict. It was said to occur when “[c]oincident predispositions induce wider response variability [and when] information widens response variability. Ambivalence results when respondents’ expectations or values are irreconcilable . . .” (p. 58). In our operationalization, we think of ambivalence as a condition experienced by the individual at the moment of an interviewer’s question, which reveals itself because of characteristics of prior information about the person’s choices (in the form of their value orientations and state of informedness) and is detected via an inferential statistical approach (also see Alvarez and Brehm 1995).

Clearly, then, there are important distinctions in the ways that scholars use the term “ambivalence.” Some view it as a general state of confusion, while others restrict it to instances of high evaluative conflict. Depending upon which definition is used, ambivalence is thought to be either common or rare in public opinion. Another key distinction is between the subjective

experience of feeling ambivalent, and ambivalence as a property of an attitude (as measured by combining separate indicators of positive and negative evaluations). Prior research indicates that the correlations between subjective measures of ambivalence and simultaneous positive/negative evaluations are modest in magnitude (Newby-Clark *et al.* 2002; Priester and Petty 2001)—a finding which suggests that ambivalence may have different antecedents and different consequences depending upon which definition and which measurement is used. Newby-Clark, Ian, McGregor, and Zanna (2002) concluded, for example, that both simultaneous accessibility and preference for consistency moderated the relationship between potential ambivalence (separate positive and negative evaluations) and felt ambivalence (measured subjectively). Similarly, Priester and Petty (2001) found that felt ambivalence can be partially explained by interpersonal attitude discrepancy with a liked other.

### WHY THESE CONCEPTIONS COMPETE

These various conceptions of ambivalence drawn from political science and social psychology might strike some readers as a matter of splitting hairs. To the contrary, we argue that they imply quite different things about the state of respondents' or subjects' political attitudes. Furthermore, we continue to believe that it is useful to confine the concept of ambivalence strictly to conditions of internalized conflict.

What does the simple, simultaneous presence of both positive and negative attitudes (or "likes" and "dislikes") encompass that might be at variance from an internalized conflict notion of ambivalence? At a very basic level, simultaneous likes and dislikes about an attitude object might be better characterized as a feeling of being "bittersweet" (Cacioppo and Berntson 1994) than as a sense of conflict. College seniors on graduation day serve as an archetypal example. These young adults typically experience a mix of emotions, including a sense of excitement and anticipation at the prospect of moving to a new phase of their lives combined with a wistfulness borne of the knowledge that they are leaving close friends behind. Save for the extent of actual "conflict" present in one's emotional state, such sentiments meet the classic dictionary definitions of ambivalence, for example, "the simultaneous existence of conflicting emotions, such as love and hate, towards a person or object" (*Webster's New Universal Unabridged Dictionary*, p. 56).

There are perhaps few opportunities in the political realm that might cause people to adopt bittersweet attitude states. Among the exceptions, at

least for partisans who were fans of their respective administrations, the conclusions of the Reagan and Clinton presidencies appear to have been occasions when many citizens experienced both sadness at the end of an era but also a feeling of uplift at what these leaders had accomplished. In fact, three of the last four U. S. presidents have benefited from late upward movement in their approval ratings: Ronald Reagan (despite his involvement in Iran–Contra), George H. W. Bush (despite the nation’s sour economy), and Bill Clinton (despite the Monica Lewinsky scandal). Only Jimmy Carter’s low ratings, which stemmed largely from the ongoing hostage crisis in Iran, persisted through the last month of his Administration (readily observable in Gallup presidential approval data; see Gronke and Brehm 2002).

Elsewhere (see Alvarez and Brehm 2002; Alvarez *et al.* 2003), we have argued that a person’s political attitudes are far more likely to be in a state of *uncertainty* than of true ambivalence. That is, there are hosts of policy questions where individuals might recognize the existence of at least two sides to the debate while still coming quite firmly to one position. Welfare reform, environmental protection, immigration laws, school prayer, and many other topics appear to involve issues where a single dimension of conflict dominates—and where, at best, there are high levels of uncertainty rather than of ambivalence among the general public (Alvarez *et al.* 2003). Most provocatively, we contend that Americans’ attitudes towards race and racial policy are really ones of uncertainty, not ambivalence (Alvarez and Brehm 1997, 2002). Although scholars and citizens have long recognized that the ideals of equality and freedom sometimes conflict with policies that explicitly benefit certain minority groups and not others (Schuman *et al.* 1985), these “principle-implementation” gaps do not appear to stem from an internalized, intra-psychic state in people’s minds so much as from an externalized, inter-psychic conflict among political groups.

Even attitudes about abortion, the quintessential example of internalized conflict, are often better characterized as reflecting states of uncertainty than of ambivalence. In our first article on the subject (Alvarez and Brehm 1995), and in our recent book (Alvarez and Brehm 2002), we explicitly identified circumstances under which respondents would be able to rationalize away one side or another of the potential conflict. Regarding the legality of an abortion sought for purposes of protecting the health of the mother, for example, we noted that supermajorities of respondents to the General Social Survey supported such a position, and did so without any evidence of internalized conflict. At the other end of the spectrum, for an abortion conducted long after the beginning of the third trimester (a time-span outside of protections from *Roe v. Wade*) people generally were

able to rationalize the procedure as being undeserving of moral protection. It is only when abortion was framed as a matter of personal choice, without any external justifications, that respondents displayed the kind of intrapsychic conflict that we argue constitutes ambivalence (Alvarez and Brehm 2002: 88).

For that matter, the simultaneous presence of positive and negative emotional evaluations of an individual or policy problem also need not identify ambivalence. From the 1960s forward, social psychologists have wrestled with the notions of imbalance (Heider 1946) and cognitive dissonance (Festinger 1957) by noting that subjects appear to be willing to carry around such contradictory feelings without a trace of internalized conflict. Although imbalance and cognitive dissonance were thought to be noxious states that people would be motivated to avoid, we actually are equipped with a variety of mental mechanisms to facilitate the separation of seemingly inconsistent cognitions. For example, it was commonly said that many Americans were appalled at President Clinton's conduct in his personal life while at the same time being pleased with his handling of the national economy. Were all of these Americans ambivalent? The two aspects of performance were in conflict, but many citizens probably were able to separate out multiple dimensions of presidential evaluation. Some may have reconciled their conflicting feelings about Clinton by prioritizing those dimensions, for example, by deciding that policies trump character issues or, conversely, that character is what matters most in politics. Others perhaps concluded that a disliked aspect of the president was idiosyncratic while a liked aspect was more enduring. And some individuals may have made a situational attribution for positively evaluated characteristics (a good economy) but a dispositional attribution for negatively evaluated characteristics (little self-control). We contend that characterizing all of these individuals as ambivalent is too loose an application of the concept. Simply holding simultaneous positive and negative evaluations of an attitude object does not necessarily indicate that one is conflicted.

If coexisting positive and negative evaluations do not always reflect ambivalence, then the claim that the dictionary definition presented earlier captures the central core of the concept becomes weaker still. Although one might subjectively label some attitudes held by a respondent or subject as both positive and negative, the individual may put little emotional investment behind those attitudes. For example, we know that people differ substantially in their need for cognition. As subjects are permitted to expand upon their answers to open-ended questions, they become more likely to give both positive and negative assessments of the attitude object almost as

a matter of course (Larsen *et al.* 2001). Prior research also tells us that respondents can be induced to elaborate their answers by incentives (e.g., prompts) provided by the interviewer or experimenter, creating a larger number of responses to such open-ended questions as the traditional candidate and party “likes” and “dislikes” in the American National Election Study surveys (Brehm 1993).

Given relatively easy-to-induce elaborations, it is not surprising that respondents/subjects sometimes invest very little in their offered responses. This means that measures of ambivalence such as response latency are suspect: While these may be terrific measures for assessing the accessibility of attitudes, the idea that they reflect conflict is problematic. Bassili (1995) argued that some attitudes are more potentially conflictual than others, and hence take longer for respondents to access. Yet some attitudes may simply be more obscure or less immediately comprehensible than others, perhaps due to nothing more than the familiarity that the respondent has with politics (see Delli Carpini and Keeter 1996).

To recap our objections to the manner in which this loosely defined concept is typically employed: We prefer to treat ambivalence as an individual-level attribute ascribing internalized conflict, rather than using the term to refer to states of mind that may (1) include psychological states devoid of internalized conflict (e.g., being bittersweet); (2) represent conditions where people are willing to trade off nominally competing predispositions (e.g., being uncertain); (3) invoke states of mind that are easily reconciled; or (4) be stimulated in ways that confound loquacity with internal conflict. Our goal here is to focus the concept of ambivalence upon those necessarily few moments when we are faced with truly difficult choices between incommensurable alternatives.

## ANALYSIS

As we hope is clear from the previous discussion, there are multiple conceptions of ambivalence within the disciplines of both political science and psychology. These conceptions may not all refer to the same thing. How, then, do we adjudicate among them? One approach would be to identify a series of potential confounds of the measures, and to assess the strengths and weaknesses of the various approaches by examining their relative vulnerability to those confounds. To make clear that our difficulties with the concept of ambivalence apply not only to work done by other scholars but also to our own earlier research, we offer three examples drawn from the 1998–99 Multi-Investigator Study.<sup>2</sup> These examples are part of a

larger project on the limited effects of framing in survey responses, though the questions serve to illustrate our broader point.<sup>3</sup>

The central idea in the experiments we conducted was to randomly assign the respondents to two of three broad policy categories.<sup>4</sup> Specifically, we asked the following questions:

1. *Affirmative action and minority set-aside programs*
  - When it comes to setting aside a certain number of government construction contracts for businesses that are owned and operated by minorities, are you for or against this?
  - How do you feel about allowing state universities to have flexible admissions standards in order to promote racial diversity? Are you for or against this?
2. *Women with children and welfare*
  - How do you feel about requiring women with children to work at a job in order to stay on welfare? Are you for or against this?
  - Are you for or against limiting the number of months a woman with children can stay on welfare?
3. *Immigrants and welfare*
  - How do you feel about allowing legal immigrants from other countries, who are here legally, to receive welfare in the U. S.? Are you for or against this?
  - How do you feel about providing public education to the children of illegal immigrants who are in this country illegally? Are you for or against this?

Ambivalence was measured in three distinct ways. First, we relied heavily upon our inferential measure of ambivalence (see Alvarez and Brehm 1995, 2002). Using a variety of maximum likelihood techniques, this measure estimates the implicit variance in the probability of choosing one specific alternative among several possibilities. The idea is to conceive of response variability as the range of plausible responses to a survey question. Respondents with narrower response variability tend to answer questions in largely consistent ways (perhaps reflecting better crystallized belief systems), while those with wider variability tend to answer questions in an inconsistent fashion (appearing to have less crystallized belief systems). This is, of course, an inference about a single respondent's plausible range of responses based upon attributes such as the coincidence of predispositions (here, specific values) and state of political information. To be clear, it is not the variance itself that defines ambivalence, but rather the sign on key covariates: What is the effect of the condition where a respondent exhibits



equal levels of support for two or more predispositions? Does this sign indicate a wider variance (i.e., positive, suggesting ambivalence) or a narrower variance (i.e., negative, suggesting the absence of ambivalence)?

We also employed a second measure of “ambivalence” using response latency timers. As soon as the interviewer finished asking a question, he or she hit a key which initiated a timer; then, once the respondent began to answer, the interviewer hit another key stopping the timer. A longer interval between the two actions (reported in milliseconds) supposedly indicated ambivalence. Finally, a third measure of “ambivalence” was obtained by asking respondents to assess subjectively the difficulty of each attitudinal question: “How hard was it for you to make up your mind on that last question—not hard at all, not very hard, somewhat hard, or very hard?”

Readers may at this point have well-formed opinions about the comparative strengths of these measures, but we wish to point out some areas of concern. Consider first the subjective ambivalence measure, which appears to have the advantage of being a direct evaluation of an attitude report. Presumptively, respondents will find the question either relatively easy to answer or relatively difficult. Yet this mode is fused with other difficulties. For example, the subjective measure confounds the comprehensibility of the question (did the respondent understand the terms?) with his/her difficulty in providing an answer. Although one can imagine a series of follow-up questions (how confusing was this last question? what do you mean by “not very hard” when you answered my last question?), one might also imagine that this approach would further confuse people. Another potential problem with the subjective measure is that respondents’ evaluations need not invoke very deep emotional investment. Research suggests, for example, that this question may be the attitudinal equivalent of asking for directions, with men being less likely than women to admit they are “ambivalent” (Alvarez and Brehm 2000). How much reflection is involved in reporting on the difficulty of the question, and how accurately does that reflection document self-investment?

The response latency approach may appear to have advantages as well. Unlike subjective difficulty, respondents who are identified here as being “ambivalent” differ in physically measurable ways from those who are not “ambivalent,” that is, it takes them longer to conjure appropriate answers to the questions posed. By necessity, however, this approach confounds the accessibility of predispositions with the length of time it takes for people to reconcile multiple predispositions. Indeed, one of the leading scholars of ambivalence uses response latency indicators to assess the accessibility of predispositions, not the degree of conflict between them (see Bassili 1995; Bassili and Fletcher 1991).

These points are readily observable in several related analyses of our data. For the inferential method, we use heteroskedastic probit (see Alvarez and Brehm 1995).<sup>5</sup> Because the subjective ambivalence question asks respondents to place themselves into one of four ordered categories, we rely on ordered probit in our tests of that particular item.<sup>6</sup> And since timers for the response latency approach report results in milliseconds, with values varying from small through large integer numbers, we employ a standard event history method (the Weibull distribution) to model its effects.<sup>7</sup> In each case, what is purportedly “ambivalence” needs to be modeled in such a way that we can observe some basic interactions. Our contention is that ambivalence is indicated when the effect of both additional information and the coincidence of nominally conflicting predispositions tend to *increase* response variability. We measure information by combining respondents’ acquired level of education with a summary tally of their successes in answering a series of questions about politics.<sup>8</sup> Coincidence between two values, ( $v_1, v_2$ ), is measured by

$$1 - |v_1 - v_2|$$

In this regard, we employ an index of egalitarianism and an index of support for law and order<sup>9</sup>—two value dimensions that are nominally in conflict with one another (e.g., Reider 1985).<sup>10</sup> (As the reader will shortly see, however, the evidence suggests that they are not and that a better characterization of people’s attitudes is one of “uncertainty” rather than “ambivalence.”) We also wish to illustrate the potential for gender effects on subjective reports of ambivalence, so that is included in our model as well. Results are presented in three tables, one for each of the measures of ambivalence described earlier.

Table 2.1 documents our inferential measure of ambivalence as modeled with heteroskedastic probit. Heteroskedastic probit *is* conditional on the model for choice here, which we treat as a function of three separate predispositions: egalitarianism, women’s rights, and “law and order.” We also include controls for gender, whether the respondent is currently working, and party identification, as well as the coincidence measure reported in the preceding paragraph. Note that the choice model behaves in a largely sensible manner. Feminists support pro-minority policies like reserving government contracts or adopting flexible admission standards, are less supportive of requiring work for welfare or setting time limits on the receipt of welfare, but tend to be indifferent on immigration. The most interesting story in the choice model concerns the coincidence of egalitarianism and conventional (law-and-order) authoritarianism where those who

Table 2.1 Heteroskedastic probit as measure of ambivalence

<i>Variable</i>	<i>Government contracts</i>	<i>Admission standards</i>	<i>Require work</i>	<i>Limit welfare</i>	<i>Immigrant welfare</i>	<i>Immigrant education</i>
<i>Choice Model</i>						
Constant	0.28 (0.19)	0.02 (0.00)	-0.29 (0.03)	-0.02 (0.01)	-0.22 (0.01)	-0.16 (0.00)
Male	-0.68 (0.07)	-0.31 (0.01)	0.64 (0.03)	0.61 (0.01)	0.37 (0.13)	0.05 (0.00)
Education	0.16 (0.02)	0.06 (0.00)	0.08 (0.00)	-0.02 (0.00)	0.05 (0.00)	0.00 (0.00)
Working	-0.29 (0.02)	-0.05 (0.00)	0.00 (0.00)	0.10 (0.00)	-0.07 (0.00)	-0.03 (0.00)
Party ID	0.27 (0.02)	0.04 (0.00)	0.01 (0.00)	-0.05 (0.00)	0.10 (0.01)	0.03 (0.00)
Women's Rights	0.19 (0.01)	0.06 (0.00)	-0.10 (0.00)	-0.10 (0.00)	0.04 (0.00)	0.01 (0.00)
Egalitarianism	-0.03 (0.01)	-0.04 (0.00)	0.05 (0.00)	0.03 (0.00)	-0.04 (0.00)	-0.01 (0.00)
Law and Order	-0.11 (0.05)	-0.02 (0.00)	0.01 (0.01)	-0.03 (0.01)	0.02 (0.01)	0.00 (0.00)
Coincidence	-1.13 (0.08)	-0.36 (0.01)	1.05 (0.03)	0.83 (0.03)	0.28 (0.01)	0.17 (0.01)
<i>Variance Model</i>						
Education	-0.71 (0.34)	-2.22 (0.42)	-1.27 (0.19)	-1.41 (0.30)	-0.67 (0.34)	-0.69 (0.45)
Information	-0.69 (0.10)	0.28 (0.15)	-0.36 (0.04)	0.10 (0.06)	-0.92 (0.12)	-0.71 (0.32)
Male	0.85 (0.18)	0.68 (0.12)	-0.48 (0.11)	0.20 (0.06)	-0.69 (0.18)	-1.36 (0.58)
Coincidence	0.04 (0.06)	0.29 (0.08)	0.04 (0.02)	-0.12 (0.05)	0.23 (0.08)	-0.16 (0.07)
$\chi^2$	21.06	13.98	52.90	38.89	9.94	7.13
Heteroskedasticity Test	14.33	8.97	8.80	7.55	10.46	12.17
Number of cases	1067	1067	1067	1067	1067	1067

*Note:* Data are from 1998–99 Multi-Investigator Study (see n. 2). Table entries are estimated coefficients and associated standard errors (in parentheses).

experience the greatest degree of coincidence of these two predispositions, controlling for their main effects, demonstrate relatively low levels of support for affirmative action in set-asides and university admissions, and relatively high levels of support for welfare reform and immigration reform. It is also worth noting from the controls that men are more likely to oppose pro-minority policies, but support welfare and immigration reforms.

One can readily understand what many would regard as the “typical” pattern of support or opposition in these related policy domains: Men, for example, tend to fit the stereotype of opposing more generous social policies and favoring more restrictive ones, while feminists are frequently in the reverse. The patterns for egalitarians and law-and-order authoritarians are more complex, yet typify someone who is both socially egalitarian and believes in the importance of social order, opposing policies that benefit outsiders like blacks, the poor, and immigrants.

The lower panel of table 2.1 presents the variance model (our inferential measure). What this rather clearly demonstrates is that the notion that these six questions induce an ambivalent internal conflict between egalitarianism and conventional authoritarianism is a mixed case at best. We define two criteria for determining the presence of ambivalence, that is, information and the coincidence of values should lead to increasing response variance. Two measures of political informedness are employed: education and the respondent’s score on our information scale (see n. 8). In four of the six cases, the higher one’s level of education, the lower the variance: for the pro-minority and anti-welfare policies, the magnitude of the variance coefficients on education are substantial, especially relative to every other coefficient in the model. (Perhaps a more relevant condition is the marginal effects, or partial derivatives of the variance component evaluated at the mean, plus a standard deviation change in the variable. Here the computed marginal effects of information are indeed greater than those of the other variables in these conditions, but only in a very large way for the “admissions standards” and “limited months on welfare” questions.<sup>11</sup>) In the last two conditions, pertaining to anti-immigrant policies, the signs on the coefficients again counter-indicate ambivalence, although the magnitude does not exceed conventional statistical significance thresholds. The effect of political information is not nearly as impressive, and is a bit less consistent. There is, however, only one condition where greater information leads to increasing response variance, and it is for the flexible admission standards question. Thus far, then, we have *no* reason to believe that the respondents experienced ambivalence.

How about the second criterion (which happens to be much closer to many of the competing conceptions of ambivalence found in the literature), that coincidence of values leads to increasing variance? Results in table 2.1 show the signs to be correct in four of the six conditions, but only statistically significant in two: flexible admissions standards and allowing welfare access to immigrants. In the remaining two conditions, coincidence not only leads to decreasing variance but does so to a statistically significant degree. One would have to conclude from the results of the inferential

method of assessing ambivalence over these policy domains that respondents are not ambivalent, but instead are much more likely to be “uncertain” (a condition where additional information is the dominant effect in the inferential model, substantially reducing response variance).

While readily conceding that there are other ways to operationalize what could fairly be dubbed “ambivalence,” we nevertheless wish to speculate about two possible side difficulties associated with measures based on subjective assessments (gender effects) and response latency (accessibility). As documented in tables 2.2 and 2.3, there is very strong evidence that there are serious problems in both instances. Table 2.2 reports the ordered probit models for subjective ambivalence, that is, how hard it was for the respondent to answer the prior questions. The most important finding here is the highly consistent effect of gender: Men are much less likely to profess ambivalence than are women, with five of the six coefficients being negative (though one of these as well as one positive coefficient, each involving welfare reform, fall short of achieving conventional levels of statistical significance). It also is interesting to note that gender has a systematic impact on response latency, with men being quicker to respond. The results here suggest that men may be more accurately reporting the state of their mind, and doing so more quickly, than women.

Table 2.2 Subjective assessment of ambivalence

<i>Variable</i>	<i>Government contracts</i>	<i>Admission standards</i>	<i>Require work</i>	<i>Limit welfare</i>	<i>Immigrant welfare</i>	<i>Immigrant education</i>
Education	0.16 (0.03)	0.02 (0.03)	0.63 (0.03)	0.11 (0.03)	-0.13 (0.03)	0.16 (0.04)
Information	-0.08 (0.03)	0.17 (0.03)	0.26 (0.03)	0.59 (0.03)	0.56 (0.03)	0.27 (0.04)
Male	-0.14 (0.01)	-0.27 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.23 (0.01)	-0.18 (0.01)
Coincidence	0.10 (0.00)	0.09 (0.00)	0.04 (0.00)	0.01 (0.00)	0.06 (0.00)	-0.01 (0.01)
a <sub>1</sub>	0.40 (0.01)	0.50 (0.01)	0.98 (0.01)	0.84 (0.01)	0.68 (0.01)	0.80 (0.02)
a <sub>2</sub>	0.75 (0.01)	0.86 (0.01)	1.31 (0.01)	1.14 (0.01)	1.01 (0.02)	1.13 (0.02)
a <sub>3</sub>	1.77 (0.02)	1.62 (0.02)	2.10 (0.02)	2.05 (0.02)	1.91 (0.02)	1.89 (0.02)
$\chi^2$	13.09	11.49	37.36	25.02	14.29	12.34
Number of cases	1067	1067	1067	1067	1067	1067

Note: Data are from 1998–99 Multi-Investigator Study (see n. 2). Table entries are estimated coefficients and associated standard errors (in parentheses).

Table 2.3 Response latency as measure of ambivalence

<i>Variable</i>	<i>Government contracts</i>	<i>Admission standards</i>	<i>Require work</i>	<i>Limit welfare</i>	<i>Immigrant welfare</i>	<i>Immigrant education</i>
Education	-0.30 (0.03)	-0.25 (0.04)	0.05 (0.03)	-0.19 (0.03)	-0.16 (0.03)	-0.16 (0.04)
Information	-0.19 (0.03)	-0.12 (0.03)	-0.07 (0.03)	-0.09 (0.02)	0.23 (0.03)	-0.36 (0.03)
Male	-0.09 (0.01)	-0.02 (0.01)	-0.07 (0.01)	0.10 (0.00)	-0.20 (0.00)	0.01 (0.01)
Coincidence	0.00 (0.00)	0.03 (0.00)	0.02 (0.00)	-0.07 (0.00)	0.00 (0.00)	0.00 (0.01)
Constant	6.64 (0.01)	6.33 (0.01)	6.21 (0.01)	6.46 (0.01)	5.97 (0.01)	6.32 (0.01)
$\ln(p)$	-0.14 (0.00)	-0.22 (0.00)	-0.19 (0.00)	-0.06 (0.00)	-0.06 (0.00)	-0.24 (0.00)
$\chi^2$	15.08	4.22	3.15	6.12	8.20	7.40
Number of cases	1067	1067	1067	1067	1067	1067

*Note:* Data are from 1998–99 Multi-Investigator Study (see n. 2). Table entries are estimated coefficients and associated standard errors (in parentheses).

Further, we observe an odd but rather consistent effect for the informedness coefficients: Respondents with higher levels of education, and better scores on the political information items, generally profess greater difficulty answering the questions. And those respondents who are *both* egalitarian *and* conventional authoritarians admit to greater subjective ambivalence, though the magnitude of this relationship is rather modest (especially relative to the effect of political information).

Estimates for the response latency model appear in table 2.3, where the pattern of coefficients strongly indicates that response latency is a rather poor method for measuring ambivalence. First, for virtually all coefficients on the information variables (education and political information), we find that as information increases, response latency falls; that is, respondents who are better educated and/or more familiar with elite political discourse simply answer these policy questions much more rapidly. There are two exceptions: (1) Better educated respondents have slightly greater response times for the question on requiring work for welfare recipients; and (2) Individuals scoring higher on political information tend to take longer in expressing their opinions on welfare for immigrants. These relationships do not, however, seem to be part of the larger picture. The effect of the coincidence of predispositions is negligible. As noted earlier, we observe that men are quicker to answer their questions than are women (a finding

consistent with men being either less subjectively ambivalent, as per table 2.2, or less hesitant to answer).

In sum, the record is quite mixed regarding this small assortment of ambivalence measures, and far from clear as to whether they actually are multiple indicators of the same psychological construct.

## DISCUSSION: WHY AMBIVALENCE IS INTERNAL DIFFICULTY

As argued at the outset, the mere fact that an individual holds two separate feelings about an object at the same time does not mean that he or she is ambivalent. We all have experience with holding multiple and distinct feelings about objects. Most of us in our childhoods owned plush toys, but simply because they induced feelings of warmth and feelings of fuzziness does not mean that we felt ambivalent about our stuffed animals. At a minimum, ambivalence would seem to involve a state of mind in which the existence of those two feelings are in opposition to one another—a state of mind that would presumably make it difficult for a person to evaluate the object. Former President Clinton, for example, may have induced in many Americans feelings of loathing for his policies as well as dismay at his personal failings, and yet we could not possibly attribute ambivalence to anyone with this particular configuration of sentiments. Although they represent two distinct feelings about the president, ambivalence surely is not the appropriate term for describing an individual who possesses such uniform (negative) but complex attitudes.

Further, even if the two feelings about the object are in opposition, one would still have to require that there be some kind of tension between those feelings. Feminist Democrats who were able to rationalize their support for the decidedly unfeminist actions of Bill Clinton were not meaningfully ambivalent about him. Likewise, apologists for scandals that occurred during the Nixon (Watergate) and Reagan (Iran–Contra) administrations could simply say, “Everyone does it, this president just happened to be caught.” In both cases, positive feeling toward the incumbent triumphed over negative understandings about their actions in other areas.

Thus, it is not meaningful to talk about an ambivalent subject or respondent without also taking into account that person’s state of informedness. If ambivalence is intended to refer to something more than a muddleheaded frame of mind, the concept needs to explain why some individuals have harder choices the more they think about the nature of that choice, and the more information that they have about its consequences.

Likewise, in our perspective ambivalence should reflect a specific choice or specific evaluation of the attitude object. It is not especially meaningful, in our understanding, to describe as ambivalent a respondent who experiences both positive and negative feelings not simultaneously but in seriatum, alternating between likes and dislikes about parties or candidates or policies.

We therefore contend that the inferential approach to measuring ambivalence is better than its competitors: It has allowed us to document the effect of two policy areas simultaneously, and to demonstrate that additional information served both to make response variability increase and to demonstrably change the nature of choices made by respondents. Moreover, the choices involved had to do with specific policies and conditions. Unlike the subjective measure of ambivalence, gender effects washed away. Unlike the response timers, we did not pick up simply how readily a respondent can make a choice. We can conceive of circumstances where one could modify the subjective ambivalence or response latency measures by purging the effects of gender or of accessibility. For the present, though, the inferential approach offers too many advantages.

## NOTES

1. Norris, Larsen, and Cacioppo (2003) have a novel and interesting way to test the separability of positive and negative evaluations by utilizing something called the "affect matrix." This measurement, which requires a capacity for spatial response, entails the subject locating his or her opinion in a grid where one dimension represents a positive reaction and the perpendicular dimension a negative reaction to the same stimulus. Ambivalence, then, is a state of simultaneous highly positive and highly negative reaction to a particular stimulus. Since our experiments were conducted in a telephone survey, direct reproduction of their method would not have been possible; indeed, we were unaware of this approach at the time of our study.
2. This unique dataset is from a national random-digit telephone survey conducted from June 21, 1998 through March 7, 1999 by the Survey Research Center (SRC) at the University of California, Berkeley. The survey population was defined as all English-speaking adults, eighteen years or older and residing in households with telephones, in the 48 contiguous states. There were 1,067 completed interviews, with a response rate of 55.8 percent.
3. Because of our study design, everyone did not answer each and every question: Respondents were randomly assigned to sets of questions and, within sets of questions, randomly assigned to different treatments. As a result, we have a significant fraction of missing data; although the missingness mechanism is "ignorable" (Little and Rubin 2002), it nevertheless benefits from compensatory



imputation. (Technically, since the missingness is because of random assignment, it falls into the category of being “Missing At Random,” or MAR). We resolved this problem by application of the program *Amelia* (King *et al.* 2001), which replaces missing elements by multiple imputation.

4. Within each category (race, welfare, or immigration), the respondent was assigned to one of four conditions: (a) a single, pro-policy “stem” for the question; (b) a single, anti-policy stem; (c) both stems; or (d) neither. The hypothesis tested here is that the two-sided stems are more likely to induce ambivalence than the one-sided or zero-stem conditions.
5. Heteroskedastic probit is an increasingly common tool which varies the familiar probit model for dichotomous choice, by noticing that the errors of the dichotomous choice model cannot be assumed to be constant (and set to 1 by a scale factor). Instead, the model permits the assumption that choices have a heterogeneous error structure. As with all maximum-likelihood models (and, indeed, a very large class of statistical models generally), the estimates for this model are obtained by iterative search over the parameter space

$$\log L(\beta, \gamma | y) = \sum_i^N \left( y_i \log \Phi \left( \frac{X_i \beta}{\exp(Z_i \gamma)} \right) - (1 - y_i) \log \left[ 1 - \Phi \left( \frac{X_i \beta}{\exp(Z_i \gamma)} \right) \right] \right)$$

where  $y_i$  is the dichotomous dependent variable,  $X_i$  are a family of causal variables for the choice component,  $\beta$  is a vector of coefficients for the choice model variables,  $Z_i$  are a family of causal variables for the variance component, and  $\gamma$  is a vector of coefficients for the variance model variables.

6. Ordered probits are a common and appropriate statistical tool for estimating models with ordered categorical dependent variables. Again, this is a maximum likelihood model where the parameter estimates are obtained by iterative search over

$$\log L(\mu, \beta | y) = \sum_i^N \sum_j^M y_{ij} \log [\Phi(\mu_j | X_i \beta, 1) - \Phi(\mu_{j-1} | X_i \beta, 1)] y_i$$

where  $y_{ij}$  is the categorical dependent variable of respondent  $i$  in category  $j$ ,  $X_i$  represents the variables in the choice function,  $\beta$  are the choice function parameters,  $\mu_j$  are the estimated “thresholds” between choice categories  $j$ , and  $\Phi(a|b,1)$  is the cumulative normal density of  $a$  as a function of  $b$  with variance fixed at 1.

7. Weibull is a respectable approximation for the general event history problem, with the advantage that we can analyze the rate of change in the hazard function instead of assuming, as does the exponential, a constant hazard (or instantaneous probability of a “failure,” in this case, the answer to the question). Weibull

models are a class of models for event count data. The Weibull density assumes a monotonically decaying (or increasing) event history rate, and is a highly suitable method for the analysis of response latencies, which are themselves expressed as counts. We search over

$$\log L(\beta|y) = \sum_i (\beta X_i - 1) \log y - y^{\beta X_i}$$

where  $y_i$  is the count (dependent) variable,  $X_i$  are the variables of the event count model, and  $\beta$  are the coefficients of the event count.

8. The information items asked respondents to indicate (a) which party had the most members in the U. S. House of Representatives; (b) how much of a majority is required for the Senate and House to override a presidential veto; (c) whether the Democratic or Republican Party is more conservative; (d) which branch of government determines whether or not a law is constitutional; (e) how many four-year terms a president can serve; (f) how many members sit on the U. S. Supreme Court; and (g) what office was then held by Al Gore. Correct answers to each question were scored as 1, incorrect answers as 0.
9. Egalitarianism was measured by combining answers to two questions: "Which would you say is more important—narrowing the gap between rich and poor, or economic growth," followed by an indicator of the degree to which this view was held (much more, somewhat more, or only a little more important). Attitudes regarding law and order were measured in a similar fashion: "Which is more important—guaranteeing law and order in society, or securing individual freedom," followed by the degree question. Each scale was coded so that scores ran from  $-1$  (inegalitarian, libertarian) to  $+1$  (egalitarian, authoritarian).
10. There are other conceivable pairings of predispositions that we might have examined, including egalitarianism vs. either libertarianism or economic individualism. The egalitarianism vs. law and order pairing was chosen because the conflict between these two values is allegedly part of the decline of New Deal liberalism, with law-and-order values leading former egalitarians increasingly to reject redistributive social policies that benefit blacks, immigrants, and welfare recipients. See Rieder (1985) for a thoughtful if controversial accounting of this ambivalence in some American communities.
11. We will provide full tables of the marginal effects in an appendix available on our website (see <http://hardchoices.caltech.edu>).