

Attitude Instability Due to Ambivalence: A Reconsideration of Recent Evidence

Garrett Glasgow

University of California, Santa Barbara

July 4, 2008

Abstract

A growing body of empirical work suggests that political attitudes are unstable when individuals are ambivalent, or hold opposing considerations about a political matter. Much of the empirical evidence of this attitude instability comes from “indirect” tests of attitude instability due to ambivalence, which demonstrate that measures of ambivalence based on opposing considerations are related to less predictable political attitudes. This article demonstrates that these indirect tests are actually inconclusive. Measures of ambivalence based on opposing considerations can also plausibly be interpreted as measures of strength of preference, and weak preferences can lead to empirical results in the indirect tests identical to those we would expect to see under ambivalence, even if all individuals hold stable preferences on political matters. Thus, much of the empirical support for attitude instability due to ambivalence is open for reinterpretation.

1 Introduction

Do individuals hold stable, well-defined attitudes on political matters that only change systematically, such as in response to new information, or do they hold unstable attitudes, which vary in response to influences that can change from moment to moment? This question of *attitude stability* is at the heart of one of the most enduring debates in political science (e.g., Achen 1975, Campbell et al. 1960, Converse 1964, Erikson 1979, Lacy 2001, Zaller 1992). At stake is our understanding of public opinion, political behavior, and even the normative meaning of democratic representation.

Recent work in this area suggests that political attitudes are unstable when individuals are *ambivalent*. While individual attitudes towards political matters are traditionally thought of as positive, neutral, or negative, some researchers have raised the possibility that individuals can view political matters as *simultaneously* positive and negative – individuals who hold such opposing considerations are termed ambivalent. These opposing considerations mean that when ambivalent individuals are asked to express their attitudes, they draw on a more diverse set of considerations (Zaller 1992), face a more psychologically difficult choice problem (Alvarez and Brehm 1995), and are more likely to have different considerations become salient in response to changes in the choice context (Tourangeau et al. 1989). Therefore, individuals do not hold stable attitudes on those political matters on which they are ambivalent, but instead hold a distribution of possible attitudes, with preferences at any given moment subject to essentially stochastic forces. In short, ambivalence causes attitude instability.

Empirical tests of attitude instability due to ambivalence can be grouped into two categories. The first examines situations where the shifting forces that might influence attitudes can be observed. These tests are typically experiments that directly manipulate the choice context faced by individuals and demonstrate that the attitudes subsequently expressed by

these individuals change in a predictable way. For example, Nelson et al. (1997) demonstrated that individual support for allowing a Ku Klux Klan rally to take place was stronger if the story was framed as a free speech issue than if it was framed as a public order issue. Bassili (1996) showed that individuals who held opposing considerations about their positions on policy issues such as hate speech and job quotas for women were more likely to change their stated positions in response to a counterargument. In an interesting natural experiment, Zaller (1992, p. 97) described how support among Republican activists for wage and price controls more than doubled after Nixon made a surprise announcement that he was imposing such controls (see also Barton 1974-5). Studies of this type might best be described as *direct* tests of attitude instability due to ambivalence.

The second category, and the focus of this article, might best be described as *indirect* tests of attitude instability due to ambivalence. Rather than studying situations where the forces that might influence attitudes can be observed, indirect tests treat these forces as unobserved. As the attitudes of ambivalent individuals are expected to be more strongly influenced by these unobserved (and hence observationally stochastic) forces than the attitudes of unambivalent individuals, the attitudes of ambivalent individuals are expected to be less predictable than those of unambivalent individuals. Indirect tests for attitude instability due to ambivalence thus seek to demonstrate that some measure of ambivalence is related to less predictable political attitudes.

A growing body of empirical work has relied on this indirect approach, and has produced results consistent with preference instability due to ambivalence – relative to individuals holding one-sided considerations, individuals with opposing considerations express preferences that are harder to predict with other observed variables, are less stable over time, and appear to be less influenced by relevant attitudes and information. For instance, Alvarez and Brehm (1995) created a measure of ambivalence toward abortion policy based

on the number of reasons individuals provided for and against allowing abortion through an open-ended survey question. They found that individuals with opposing considerations (who named reasons both to oppose and to allow abortion) had less predictable attitudes towards abortion than individuals with one-sided considerations (who only named reasons to oppose or to allow abortion). Similarly, Zaller and Feldman (1992) found that individuals who provided opposing considerations on policy issues were more likely to change their positions on those issues over time than individuals who provided one-sided considerations. Lavine (2001) created a measure of ambivalence towards US Presidential election candidates through open-ended questions that asked survey respondents to name reasons to vote for and against various candidates, and found that individuals with opposing considerations about candidates had less stable candidate preferences over time and appeared to be less influenced by relevant attitudes and information when forming attitudes towards candidates.

Unlike direct tests of attitude instability due to ambivalence, these indirect tests do not require any special experimental setup – any survey that measures political attitudes and also contains questions that can be used to form a measure of ambivalence is suitable for this approach. This has allowed researchers to expand testing for attitude instability due to ambivalence beyond the relatively limited range of political issues considered in the direct tests to all facets of political life. Evidence of attitude instability due to ambivalence has emerged not only for policy issues (Alvarez and Brehm 1995, Craig et al. 2005b, Feldman and Zaller 1992), but even more fundamental political matters such as attitudes towards social groups (Lavine and Steenbergen 2005), political parties (Basinger and Lavine 2005) and election candidates (Lavine 2001, McGraw et al. 2003, Meffert et al. 2002). Although some have sounded cautionary notes (e.g., Alvarez and Brehm 2002, Jacoby 2005, Steenbergen and Brewer 2002), there appears to be a growing consensus that ambivalence about political matters is widespread, leading much of the public to hold unstable attitudes on even the

most basic political matters.

However, this article demonstrates that these indirect tests of attitude instability due to ambivalence are actually inconclusive. Measures of ambivalence based on opposing considerations can also plausibly be interpreted as measures of strength of preference, and weak preferences can lead to empirical results in the indirect tests identical to those we would expect to see under ambivalence, even if all individuals hold stable preferences on political matters. Thus, much of the empirical support for attitude instability due to ambivalence is open for reinterpretation.

2 Indirect Tests of Attitude Instability Due to Ambivalence

Indirect tests of attitude instability due to ambivalence begin by creating a measure of the ambivalence experienced by individuals on some political matter. Although conceptualizations and definitions of ambivalence vary (Albertson et al. 2005, McGraw et al. 2003), virtually all of the indirect tests have adopted the same basic measurement strategy. These measures of ambivalence are based on a set of positive and negative considerations reported by individuals, with these considerations gathered either through open-ended survey questions, or Likert scales that ask individuals to separately rate the positive and negative dimensions of some political matter. These considerations are then combined by some formula into a measure of ambivalence, with individuals who report opposing considerations coded as more ambivalent than individuals who report one-sided considerations.

For example, Lavine (2001) created a measure of ambivalence about political candidates using the American National Election Study (ANES) “likes/dislikes” items, which allow

individuals to provide up to five positive and five negative considerations when asked if there is “anything in particular about [CANDIDATE] that might make you want to vote [FOR or AGAINST] him?” These positive (P) and negative (N) considerations were then combined into a measure of ambivalence by the formula $[(P+N)/2] - |P-N|$, which increases as the number of positive and negative considerations grows more equal (Thompson et al. 1995). Most indirect tests of attitude instability due to ambivalence have adopted a similar measurement strategy (e.g., Alvarez and Brehm 1995, 2002, Basinger and Lavine 2005, Craig et al. 2005a, 2005b, McGraw et al. 2003, Meffert et al. 2002, Steenbergen and Brewer 2002, Zaller 1992).

The indirect tests then demonstrate that these measures of ambivalence are related to the predictability of political attitudes, with attitudes becoming less predictable as ambivalence increases. Unlike direct tests of attitude instability due to ambivalence, under the indirect tests the forces that might influence the attitudes of ambivalent individuals are unobserved. However, evidence of attitude instability due to ambivalence will still be observable, as the forces that influence attitudes will result in a distribution of possible attitudes for each individual, with more ambivalent individuals having distributions with greater variance (less stable attitudes) than less ambivalent individuals. This is illustrated in Figure 1.

Figure 1 here.

In this figure the propensity of an individual to express a particular attitude is represented on the horizontal axis by a latent variable y^* , with a threshold dividing this latent variable into two choice categories. This could be the choice of whether to agree or disagree with some policy position, a choice between two candidates, or some other decision on a political matter. We do not observe an individual’s position on this latent variable, but we do observe y , which indicates which choice category an individual selects. We observe $y = 0$ for individuals who

are at or below τ , the threshold between choice categories, and $y = 1$ for individuals above the threshold. We also observe X , a set of individual characteristics believed to be related to attitudes on this political matter. Each individual's position on this latent variable (and thus each individual's expected attitude on this political matter) is estimated through $X_i\beta$, which can be obtained through a probit or some other discrete choice model.

The effect of the unobserved forces that can influence the attitudes of ambivalent individuals is represented by a probability distribution over the latent variable centered on $X_i\beta$, with the attitude expressed by an individual at any given moment determined as if the individual took a draw from this distribution (Alvarez and Brehm 2002, p. 62). Two probability distributions are presented in Figure 1, representing two different levels of ambivalence for a hypothetical individual.

Examination of Figure 1 reveals that while an empirical model of choice behavior would estimate a higher probability of selecting the alternative denoted by $y = 0$ than the alternative denoted by $y = 1$ for this hypothetical individual, we are more likely to observe $y = 1$ as ambivalence increases. This means that we will be able to observe evidence of the forces influencing the attitudes of ambivalent individuals, even if these forces themselves are unobserved. Evidence of attitude instability due to ambivalence will emerge in two ways. First, attitude instability over time (switching from $y = 0$ to $y = 1$ and vice-versa) will become more common as ambivalence increases. Second, at any given point in time the relationship between the set of observed characteristics (X) and expressed attitudes (y) will weaken as ambivalence increases. Indirect tests of attitude instability due to ambivalence are based on these two observations.

Tests of attitude instability over time due to ambivalence are relatively straightforward, relying on panel data to relate a measure of ambivalence to changes in attitudes measured

at several points in time. Using either a dependent variable that indicates a change in attitude (e.g., Craig et al. 2005a, Fournier 2005) or correlations between attitudes expressed at different times (e.g., Zaller 1992, Zaller and Feldman 1992), these studies have shown that as a measure of ambivalence increases, individuals are more likely to change their attitudes from one wave of the panel to the next. Similarly, several studies have reported that as a measure of ambivalence increases, individuals report forming a final voting decision later in the political campaign (e.g., Lavine and Steenbergen 2005, Lavine 2001) – this is also consistent with attitude instability due to ambivalence, as ambivalence increases the likelihood that attitudes will be influenced by unobserved forces just before the election.

Evidence of attitude instability due to ambivalence will also emerge in cross-sectional data, as the relationship between expressed attitudes and the observed characteristics thought to influence those attitudes will weaken as ambivalence increases. An examination of Figure 1 reveals that the effect of ambivalence on expressed attitudes will not be reflected through an individual’s expected attitude – if the measure of ambivalence was simply included in $X_i\beta$ we would expect the coefficient on this measure to be 0. Instead, the effect of ambivalence will be reflected through increased variance in expressed attitudes. Thus, studies of attitude instability due to ambivalence that use cross-sectional data are based on the observation that as ambivalence increases, the variance of the distribution of possible attitudes increases, and the probability of expressing either attitude ($y = 0$ or $y = 1$) approaches 0.5. That is, expressed attitudes become less predictable as ambivalence increases.

One way to examine the relationship between a measure of ambivalence and less predictable attitudes in cross-sectional data is through heteroskedastic discrete choice models (e.g., Albertson et al. 2005, Alvarez and Brehm 1995, 2002).¹ These models estimate the variance of the error term (the variance of the distributions in Figure 1) through the probability that individuals will have a value of y_i that is the opposite of that expected given their

observed characteristics ($X_i\beta$) – a higher probability of a mismatch between expected and actual attitudes suggests that the stochastic variance in expressed attitudes is greater.

For instance, the effect of ambivalence on the predictability of expressed attitudes can be estimated through a heteroskedastic probit, which assumes the error term in a probit is normally distributed with mean zero and a variance given by $\sigma_i = \exp(a_i\lambda)$, where a_i is a measure of individual i 's ambivalence, and λ is a coefficient to be estimated. The probability that $y_i = 1$ for this heteroskedastic probit is given by:

$$Pr(y_i = 1|X_i, a_i) = \Phi\left(\frac{X_i\beta}{\exp(a_i\lambda)}\right) \quad (1)$$

Past work has found the coefficient on ambivalence (λ) to be positive and statistically significant, suggesting there is greater stochastic variance in expressed attitudes as a_i increases.² As the term $\exp(a_i\lambda)$ increases, it drives the term $\frac{X_i\beta}{\exp(a_i\lambda)}$ towards 0, which in turn drives the predicted choice probabilities towards 0.5 for either alternative.

Another method for estimating the effect of ambivalence on the predictability of expressed attitudes in cross-sectional data is to interact the measure of ambivalence with some other observed characteristics thought to influence attitudes (e.g., Basinger and Lavine 2005, Craig et al. 2005b, Lavine 2001). For instance, consider a probit model of choice specified to examine the moderating influence of ambivalence (a_i) on some other independent variable in the model expected to influence choice behavior (x_i):

$$Pr(y_i = 1|x_i, a_i) = \Phi(\beta_0 + x_i\beta_1 + a_i\beta_2 + (x_i \times a_i)\beta_3) \quad (2)$$

Past work using models of this type has found the sign of the coefficient on the interaction term (β_3) to be the opposite of that on x_i (β_1), indicating that the variable x has less influence on expressed attitudes as ambivalence increases. In fact, this model operates in

much the same way as the heteroskedastic probit described above – as a_i increases, the opposing signs of β_1 and β_3 work to drive the index function of the probit closer to 0, which in turn pushes the predicted choice probabilities towards 0.5 for either alternative. In some cases this method has been used to test for attitude instability due to ambivalence over time, with x_i representing an individual’s previous attitude (e.g., Lavine 2001).

Thus, for both panel and cross-sectional data, indirect tests of attitude instability due to ambivalence work by demonstrating that a measure of ambivalence based on opposing considerations is related to less predictable attitudes. However, as demonstrated below, the empirical results from these indirect tests are also consistent with a situation where all individuals have stable attitudes on political matters.

3 The Indirect Tests Are Inconclusive

3.1 Are We Measuring Ambivalence or Weak Preferences?

The measures of ambivalence used in the indirect tests are based on the positive and negative considerations individuals report in regard to some political matter, with individuals who report opposing considerations coded as more ambivalent than individuals who report one-sided considerations. However, another plausible interpretation of these measures is *strength of preference* for one choice option over another on that political matter.³ One-sided considerations might indicate an individual more strongly prefers one choice option over another than we would expect given the set of observed characteristics X , while opposing considerations could indicate weaker preferences than expected. The specific positive and negative considerations provided by individuals could be additional information that each individual has factored into their attitude (Kelley and Mirer 1974), or simply post hoc rationalizations

for a pre-existing attitude (Lodge et al. 1989, Rahn et al. 1994, Smith 1989). That is, these measures of opposing considerations may capture factors not included in the set of observed characteristics X that influence the proximity of attitudes to a neutral or indifference point between choice categories (τ in Figure 1).

Several previous studies have noted that measures based on opposing considerations could have interpretations other than ambivalence (e.g., Alvarez and Brehm 1995, Kaplan 1972, Meffert et al. 2002). For this reason, researchers have developed a number of formulas for combining the positive and negative considerations an individual reports into measures of ambivalence that are designed to be distinct from strength of preference, indifference, or neutrality (e.g, Thompson et al. 1995). However, in practice these formulas do little to distinguish these concepts. Thompson et al. (1995) discuss a number of measures of ambivalence, all of which are higher when positive and negative considerations are balanced – yet any measure of strength of preference we would construct with these considerations would also have this property. In fact, the net difference between positive and negative considerations (which could plausibly be considered a measure of strength of preference) is a key component of most measures of ambivalence. Thus, there will always be a strong relationship between measures of ambivalence and measures of strength of preference based on opposing considerations, regardless of the specific ambivalence formula used.

For instance, the “standard practice in political science” (Basinger and Lavine 2005, p. 172) is to measure ambivalence by combining the positive (P) and negative (N) considerations provided by individuals using the formula $[(P+N)/2] - |P-N|$. This is known as the Griffin formula, which is designed to capture both the intensity and the similarity of the positive and negative considerations.

A simple measure of strength of preference with the same numerical range as the Griffin

formula can be calculated by replacing the intensity portion of the Griffin formula with $M/2$, where M is the maximum number of positive and negative considerations an individual can provide – this yields a strength of preference formula of $M/2 - |P - N|$. This measure is simply the net preference for a choice option subtracted from a constant, and the only difference between this formula and the Griffin formula emerges from the number of considerations provided by individuals (which could be a function of respondent verbosity or interviewer aggressiveness in soliciting more considerations (Smith 1989, p. 53)).

Both this strength of preference formula and the Griffin formula increase as the number of positive and negative considerations grows more equal, and in fact they are highly correlated in most data. For example, calculations using considerations gathered from the open-ended “likes-dislikes” items for presidential candidates and political parties in the 2004 American National Election Study (ANES) reveal that the correlations between the Griffin formula and this strength of preference formula were 0.81 for Bush, 0.79 for Kerry, 0.68 for the Democrats, and 0.69 for the Republicans.

The relationship between some other measures of ambivalence and strength of preference is even stronger. For instance, when studying ambivalence about the choice between presidential candidates Lavine (2001) uses the ambivalence formula:

$$\frac{P_1 + P_2 + N_1 + N_2}{4} - [|P_1 - P_2| + |N_1 - N_2|] \quad (3)$$

where P_1 and P_2 are the positive considerations and N_1 and N_2 are the negative considerations for candidates 1 and 2. A measure of strength of preference with the same numerical range as this ambivalence formula can be calculated as:

$$\frac{M_1 + M_2}{4} - [|P_1 - P_2| + |N_1 - N_2|] \quad (4)$$

where M_1 and M_2 are the maximum number of positive and negative considerations an individual can provide for candidates 1 and 2. Calculations using the “likes-dislikes” items in the 2004 ANES reveal a correlation of 0.96 between these two measures when considering the presidential candidates Bush and Kerry, and 0.93 when considering the Democratic and Republican parties.

Other hints of the strong relationship between these measures of ambivalence and strength of preference have emerged in past work. For instance, some studies have found that individuals with opposing considerations about political candidates are more likely to place these candidates near the neutral points of thermometer scales (Lavine 2001, Meffert et al. 2002) and be more moderate in expressions of approval (Meffert et al. 2002). Thus, measures of ambivalence based on opposing considerations could plausibly be interpreted as measures of strength of preference.

3.2 Weak Preferences and Apparent Attitude Instability

Past work has argued that the indirect tests are capturing attitude instability due to ambivalence because many alternative interpretations of the ambivalence measures are not expected to lead to equivalent empirical results. For instance, Alvarez and Brehm (1995) point out that some other interpretations of opposing considerations, such a desire to appear informed, are not expected to lead to less predictable choice behavior. Similarly, Lavine (2001) points out that there is no reason to expect that individuals who report opposing considerations in an attempt to appear informed or evenhanded would delay the formation of their vote intention.

However, if measures of opposing considerations are actually capturing weak preferences, this can lead to empirical results in the indirect tests that are indistinguishable from those

expected under ambivalence, even if all individuals hold stable attitudes on political matters. This is demonstrated in Figure 2.

Figure 2 here

As in Figure 1, the propensity to of an individual to express a particular attitude is represented on the horizontal axis by a latent variable y^* , with a threshold dividing this latent variable into two choice categories. However, in this case each individual's position on this latent variable is stable, only changing in response to new information or some other systematic (rather than stochastic) forces. Under this scenario the latent variable y^* could represent the difference between an individual's "online tallies" (Hastie and Park 1986, Lodge et al. 1989) or utility scores (Downs 1957) for the two choice options.

Although individual attitudes are stable points on this latent variable, and are not subject to the stochastic forces that influence the attitudes of ambivalent individuals, they will still be observationally random due to our inability to perfectly observe everything that influences an individual's attitude. As in Figure 1, we can represent these unobserved influences on attitudes with a probability distribution over the latent variable centered on the estimate of each individual's attitude $X_i\beta$. However, in this case we assume these unobserved influences are independently and identically distributed across individuals (the distributions have equal variance across all individuals).

If measures of ambivalence based on opposing considerations are actually capturing factors that influence strength of preference that are not included in X , in terms of Figure 2 this means these measures are providing us with additional information about each individual's location on y^* – as the number of positive and negative considerations grows more equal, the preference for one choice category grows weaker, and the proximity to the threshold between choice categories τ increases. This is represented in Figure 2 with two different influences

on the strength of preference (w_{i0} and w_{i1}) for a hypothetical individual.

Even though the measure of strength of preference influences the location of this individual on the latent variable y^* , if this measure was included in $X_i\beta$ we would expect the coefficient on this measure to be 0. This is because the values of β tell us how the observed characteristics X affect the probability of $y = 1$ – weakness of preference will not increase or decrease this probability, but instead move individuals on both sides of the choice threshold towards the threshold between choice categories τ . Thus, evidence of weak preferences will emerge in the same way it does for ambivalence, through less predictable attitudes.

Examination of Figure 2 reveals that while an empirical model of choice behavior would estimate a higher probability of selecting the alternative denoted by $y = 0$ than the alternative denoted by $y = 1$ for this hypothetical individual based on the value of $X_i\beta$, we are more likely to observe $y = 1$ as preferences weaken from $X_i\beta + w_{i0}$ to $X_i\beta + w_{i1}$. This will have two consequences for the attitudes we observe. First, individuals with weaker preferences will be more likely to switch their attitudes over time (switching from $y = 0$ to $y = 1$, and vice-versa) in response to new information and other systematic forces. Second, the relationship between the set of observed characteristics (X) and expressed attitudes (y) will be weaker for those individuals with weaker preferences. Together, these observations reveal that weak preferences can also account for the empirical results obtained from indirect tests of attitude instability due to ambivalence.

3.3 Monte Carlo Simulations

A set of simple Monte Carlo simulations was performed in order to demonstrate that both weak preferences and ambivalence can produce equivalent empirical results in indirect tests of attitude instability due to ambivalence.

Each simulation begins by creating a dataset with 1000 observations of “individual attitudes” under two different conditions. Under the “ambivalence” condition, attitudes are given by:

$$y_a^* = 2x + \varepsilon \tag{5}$$

where x and ε are drawn from a normal distribution with mean 0 and variance 1. 500 observations are then selected to be “ambivalent”, and the equation above is modified by multiplying ε for these observations by 2 – this simulates the increased variance in unobserved forces that influence attitudes under ambivalence, as seen in Figure 1. For each observation the observed attitude y_a is coded as 1 if $y_a^* > 0$, and 0 otherwise. A dummy variable is coded 1 for those observations in the ambivalence condition, and 0 otherwise – this variable will be labeled “opposing considerations” in the Monte Carlo results below.

Under the “weak preferences” condition, attitudes are given by:

$$y_w^* = 2x + w + \varepsilon \tag{6}$$

where x and ε are the same variables as in the ambivalence condition and $w = 0$. 500 observations are then selected to have “weak preferences”, and the equation above is modified by setting $w = -x$ – this simulates the increased proximity to the choice threshold under weak preferences, as seen in Figure 2. For each observation the observed attitude y_w is coded as 1 if $y_w^* > 0$, and 0 otherwise. A dummy variable is coded 1 for those observations in the weak preferences condition, and 0 otherwise – again, this variable will be labeled “opposing considerations” in the Monte Carlo results below.

Consider first the indirect tests of attitude instability over time due to ambivalence, which rely on panel data to relate opposing considerations to changes in expressed attitudes. Instability in attitudes over time in the ambivalence condition is simulated by taking a

new draw from ε for each observation, recalculating y_a^* , and calculating a new observed attitude $y_{a'}$ – this simulates the influence of stochastic influences on attitudes over time. Under the weak preferences condition attitudes are stable, but can be updated in response to new information or some other systematic influence. This is simulated by drawing an “information” term from a normal distribution with mean 0 and variance 1, adding this term to y_w^* , and calculating a new observed attitude $y_{w'}$ – this simulates the influence of systematic influences on attitudes over time.

One method for testing for attitude instability due to ambivalence is to examine the correlations between attitudes expressed at different points in time to demonstrate that this correlation decreases as some measure of ambivalence increases (e.g., Zaller 1992, Zaller and Feldman 1992). Here the correlation between y_a and $y_{a'}$ was 0.59 when the ambivalence measure was equal to 0, and 0.33 when this measure was equal to 1. Similarly, the correlation between y_w and $y_{w'}$ was 0.73 when the neutrality measure was equal to 0, and 0.61 when this measure was equal to 1. Thus, both ambivalence and weak preferences can reduce the correlation between attitudes on some political matter expressed at different times.

Another method for testing for attitude instability due to ambivalence is to create a variable that indicates a change in attitude, and demonstrating that this is related to some measure of ambivalence (e.g., Craig et al. 2005a, Fournier 2005). To implement this test a new variable for both the ambivalence and weak preferences conditions was created, coded 1 if attitudes changed over time (if $y_a \neq y_{a'}$ or $y_w \neq y_{w'}$, respectively) and 0 otherwise. These variables were then used as dependent variables in a probit, with x and the “opposing considerations” measure as independent variables. The results of these estimations are presented in Table 1.

Table 1 here

Again, both ambivalence and weak preferences make it more likely that individuals will change attitudes over time. The relationship between measures of opposing considerations and reports for forming a final voting decision later in a political campaign (e.g., Lavine and Steenbergen 2005, Lavine 2001) can also be explained by weak preferences – new information arriving late in a campaign is more likely to change the attitudes of individuals with weaker preferences than those with stronger preferences.

Further, both ambivalence and weak preferences will weaken the relationship between expressed attitudes and other observed characteristics, leading to empirically indistinguishable results in tests of attitude instability that use cross-sectional data. For instance, several studies have linked a measure based on opposing considerations to less predictable attitudes through a heteroskedastic probit (e.g., Albertson et al. 2005, Alvarez and Brehm 1995, 2002). Using the simulated data, heteroskedastic probit models were estimated as described in Equation 1 for both the ambivalence and weak preferences conditions. The results of these estimations are presented in Table 2.

Table 2 here

Examination of Table 2 reveals that both ambivalence and weak preferences can produce similar results in a heteroskedastic probit model. In fact, in this particular case ambivalence and weak preferences produce identical empirical results. This is due to the specific way in which weak preferences were operationalized in the simulations. Since the fit of the probit model to the data depends on a single parameter (the index function), shifting an observation's position on the latent variable halfway to the choice threshold of 0 (by adding $-x$) is equivalent to doubling the variance of the error term – in both cases this reduces the index function of the probit by half, yielding identical results in the heteroskedastic probit (see also Achen 2002, p. 444).

Ambivalence and weak preferences will also have similar effects on models that interact a measure of opposing characteristics with some other observed characteristics thought to influence attitudes (e.g., Basinger and Lavine 2005, Craig et al. 2005b, Lavine 2001). Using the simulated data, interaction models as described in Equation 2 were estimated for both the ambivalence and weak preferences conditions. The results of these estimations are presented in Table 3.

Table 3 here

Examination of Table 2 reveals that both ambivalence and weak preferences can produce similar results in these interaction models, and once again ambivalence and weak preferences produce identical results in this particular case for the same reason as in the heteroskedastic probit example above.

Overall, the results of this simple Monte Carlo study reveal that weak preferences and ambivalence can produce similar empirical results in indirect tests of attitude instability due to ambivalence.

4 Discussion

This article demonstrates that weak preferences can produce empirical findings in indirect tests of attitude instability due to ambivalence that are indistinguishable from those we would expect to see under ambivalence. Further, this article demonstrates that the measures of ambivalence generally used by the indirect tests can also plausibly be interpreted as measures of strength of preference. Thus, indirect tests of attitude instability due to ambivalence are inconclusive, producing empirical results that are also consistent with a situation where all

individuals hold stable attitudes on political matters.

As the indirect tests are inconclusive, researchers must adopt different approaches to testing for attitude instability due to ambivalence. Obviously, one approach would be to expand the use of direct tests of attitude instability due to ambivalence to cover more facets of political life. Evidence that manipulation of the choice context leads to changes in US Presidential vote choice, for instance, would be powerful evidence of the effect of ambivalence on attitude stability in elections. However, direct tests will generally be more costly and more difficult to implement than indirect tests, as they involve specially designed surveys or experiments.

Another possibility is to examine instability in attitudes over several time periods, long enough to distinguish the pattern of changes in attitudes expected under ambivalence from changes due to other forces, such as the resolution of uncertainty. This is essentially the method used by Converse (1964) to test the stability of issue preferences. However, data that has measures of ambivalence, political attitudes, and multiple waves are rare, and might have to be specially designed and collected. Again, cost and difficulty of implementation becomes a factor.

Perhaps a less costly way to expand testing for attitude instability due to ambivalence is to develop measures of ambivalence that are clearly distinct from strength of preference. This task is complicated by the fact that conceptualizations and definitions of ambivalence vary widely (Albertson et al. 2005, McGraw et al. 2003). For those that view ambivalence as a subjective feeling of internal conflict, it might be possible to design survey questions to measure the concept. Note that not all “subjective” measures of ambivalence in past work are designed to capture internal conflict. For instance, McGraw et al. (2003) examine a survey question that asks respondents to indicate on a 7-point scale their agreement with

the statement “I have positive *and* negative feelings about [CANDIDATE]” – this appears to be an alternative measure of opposing considerations rather than a measure of subjective internal conflict. A question that appears to more directly tap into the subjective feeling of ambivalence appears in Albertson et al. (2005), who examine the 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?” However, they note several points of concern that may indicate this question is tapping into something else (for instance, women are more likely than men to report ambivalence under this measure), and others have noted that respondent’s self-reports of mental processes can be unreliable (e.g., Bassili 1996, Nisbett and Wilson 1977). Further, measures of subjective feelings of ambivalence will not capture the alternative view of ambivalence as an objective structural property of the mental representation of attitudes.

Finally, more work must be undertaken on the theory of ambivalence in political choices. A great deal of work has focused on *defining* ambivalence, providing definitions that range from conflicting core values (e.g., Alvarez and Brehm 1995) to simply holding “considerations that might lead [individuals] to decide the issue either way” (Zaller and Feldman 1992, p. 585). However, there has been much less focus on the *types of political choices* that might be subject to ambivalence. For instance, when describing the choice process under ambivalence, Zaller (1992, p. 36) writes “... they make these choices in great haste – typically on the basis of the one or perhaps two considerations that happen to be at the ‘top of the head’ at the moment of response.” This suggests that ambivalence will primarily influence “surprise” political decisions, such as answering survey questions on policy issues that the respondent spends little time thinking about. Will this same model apply in situations where an individual is actively seeking to make a decision on a political matter, such as a vote choice? The answer to this and similar questions remains unknown. While careful attention to the theoretical motivation behind our empirical models is always valuable, it is

likely to be of particular importance here.

Notes

¹ Note that these models do not make inferences about individual-level behavior from aggregate levels of choice variance, as has been suggested elsewhere (e.g., Martinez et al. 2005, p. 66) – like the other indirect tests described here, heteroskedastic discrete choice models relate an individual-level measure of ambivalence to less predictable individual choice behavior.

² Alvarez and Brehm (1995) report negative coefficients on a measure of ambivalence in their heteroskedastic probit models that examine opinions towards abortion in “easy” cases (mother’s health at risk, rape, and birth defect). While two of these coefficients were reported as statistically insignificant, the coefficient on ambivalence in the “mother’s health” model was reported as -0.44 and statistically significant – however, this appears to be a misprint. A replication of this model using data from the ICPSR Publication-Related Archive (Study Number 1113) and the heteroskedastic probit command in Stata 10 produces a statistically insignificant coefficient of -0.04. Statistically insignificant coefficients on the measure of ambivalence are not inconsistent with the description of these indirect tests provided here, and are perhaps unsurprising given the lack of variance in the dependent variable in these models (90.4% favored allowing abortion if the mother’s health was at risk, 83.9% in the case of rape, and 82.1% in the case of birth defects).

³ The term “strength of preference” used here is distinct from the various meanings of the term “attitude strength,” such as attitude accessibility or importance (Miller and Peterson 2004).

References

- Achen, Christopher H. 1975. "Mass Political Attitudes and the Survey Response." *American Political Science Review* 69:1218-1231.
- Achen, Christopher H. 2002. "Toward a New Political Methodology: Microfoundations and ART." *Annual Review of Political Science* 5:423-450.
- Albertson, Bethany, R. Michael Alvarez, and John Brehm. 2005. "Ambivalence as Internal Conflict." In *Ambivalence and the Structure of Public Opinion*, Eds. Stephen C. Craig and Michael D. Martinez. New York: Palgrave Macmillan.
- Alvarez, R. Michael, and John Brehm. 1995. "American Ambivalence Towards Abortion Policy: Development of a Heteroskedastic Probit Model of Competing Values." *American Journal of Political Science* 39:1055-1082.
- Alvarez, R. Michael, and John Brehm. 2002. *Hard Choices, Easy Answers: Values, Information, and American Public Opinion*. Princeton, NJ: Princeton University Press.
- Barton, Alan H. 1974-5. "Consensus and Conflict Among American Leaders." *Public Opinion Quarterly* 38: 507-530.
- Basinger, Scott J., and Howard Lavine. 2005. "Ambivalence, Information, and Electoral Choice." *American Political Science Review* 99:169-184.
- Bassili, John N. 1996. "Meta-Judgmental versus Operative Indexes of Psychological Attributes: The Case of Measures of Attitude Strength." *Journal of Personality and Social Psychology* 71:637-653.
- Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The*

American Voter. New York: Wiley.

Converse, Philip E. 1964. "The Nature of Belief Systems in Mass Publics." In *Ideology and Discontent*, Ed. David Apter. New York: Free Press.

Craig, Stephen C., Michael D. Martinez, and James G. Kane. 2005a. "Ambivalence and Response Instability: A Panel Study." In *Ambivalence and the Structure of Public Opinion*, Eds. Stephen C. Craig and Michael D. Martinez. New York: Palgrave Macmillen.

Craig, Stephen C., Michael D. Martinez, and James G. Kane. 2005b. "Core Values, Value Conflict, and Citizen's Ambivalence about Gay Rights." *Political Research Quarterly* 58:5-17.

Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper and Brothers.

Erikson, Robert. 1979. "The SRC Panel Data and Mass Political Attitudes." *British Journal of Political Science* 9:89-114.

Fournier, Patrick. 2005. "Ambivalence and Attitude Change in Vote Choice: Do Campaign Switchers Experience Internal Conflict?" In *Ambivalence, Politics, and Public Policy*, Eds. Stephen C. Craig and Michael D. Martinez. New York: Palgrave Macmillen.

Hastie, Reid, and Bernadette Park. 1986. "The Relationship Between Memory and Judgment Depends on Whether the Judgment Task is Memory-based or On-line." *Psychological Review* 93:258-268.

Jacoby, William G. 2005. "Is it Really Ambivalence? Public Opinion Toward Government Spending." In *Ambivalence and the Structure of Public Opinion*, Eds. Stephen C. Craig and Michael D. Martinez. New York: Palgrave Macmillen.

- Kaplan, Kalman J. 1972. "On the Ambivalence-Indifference Problem in Attitude Theory and Measurement: A Suggested Modification of the Semantic Differential Technique." *Psychological Bulletin* 77:361- 372.
- Kelley, Stanley, Jr., and Thad W. Mirer. 1974. "The Simple Act of Voting." *The American Political Science Review* 68:572-591.
- Lacy, Dean. 2001. "Nonseparable Preferences, Measurement Error, and Unstable Survey Responses." *Political Analysis* 9:95-115.
- Lavine, Howard. 2001. "The Electoral Consequences of Ambivalence Toward Presidential Candidates." *American Political Science Review* 45:915-929.
- Lavine, Howard, and Marco Steenbergen. 2005. "Group Ambivalence and Electoral Decision-Making." In *Ambivalence, Politics, and Public Policy*, Eds. Stephen C. Craig and Michael D. Martinez. New York: Palgrave Macmillan.
- Lodge, Milton, Kathleen M. McGraw, and Patrick Stroh. 1989. "An Impression-Driven Model of Candidate Evaluation." *American Political Science Review* 83:399-419.
- Martinez, Michael D., Stephen C. Craig, James G. Kane, and Jason Gainous. 2005. "Ambivalence and Value Conflict: A Test of Two Issues." In *Ambivalence, Politics, and Public Policy*, Eds. Stephen C. Craig and Michael D. Martinez. New York: Palgrave Macmillan.
- McGraw, Kathleen M., Edward Hasecke, and Kimberly Conger. 2003. "Ambivalence, Uncertainty, and Processes of Candidate Evaluation." *Political Psychology* 24:421-448.
- Meffert, Michael F., Michael Guge, and Milton Lodge. 2002. "Good, Bad, Indifferent, and Ambivalent: The Consequences of Multidimensional Political Attitudes." In *The Issue of Belief: Essays in the Intersection of Non-attitudes and Attitude Change*, Eds. Willem E.

Saris and Paul Sniderman. Princeton, NJ: Princeton University Press.

Miller, Joanne M., and David A.M. Peterson. 2004. "Theoretical and Empirical Implications of Attitude Strength." *Journal of Politics* 66:847-867.

Nelson, Thomas E., Rosalee A. Clawson, and Zoe M. Oxley. 1997. "Media Framing of a Civil Liberties Conflict and Its Effect on Tolerance." *American Political Science Review* 91:567-583.

Nisbett, Richard E., and Timothy D. Wilson. 1977. "Telling More Than We Know: Verbal Reports on Mental Processes." *Psychological Review* 84:231-259.

Rahn, Wendy M., Jon A. Krosnick, and Marijke Breuning. 1994. "Rationalization and Derivation Processes in Survey Studies of Political Candidate Evaluation." *American Journal of Political Science* 38:582-600.

Smith, Eric R.A.N. 1989. *The Unchanging American Voter*. Berkeley: University of California Press.

Steenbergen, Marco R., and Paul R. Brewer. 2002. "The Not-So-Ambivalent Public: Policy Attitudes in the Political Culture of Ambivalence." In *The Issue of Belief: Essays in the Intersection of Non-attitudes and Attitude Change*, Eds. Willem E. Saris and Paul Sniderman. Amsterdam School of Communication Research.

Thompson, Megan M., Mark P. Zanna, and Dale W. Griffin. 1995. "Let's Not Be Indifferent About (Attitudinal) Ambivalence." In *Attitude Strength: Antecedents and Consequences*, Eds. Richard E. Petty and Jon A. Krosnick. Mahwah, NJ: Lawrence Erlbaum Associates.

Tourangeau, Roger, Kenneth A. Rasinski, Norman Bradburn, and Roy D'Andrade. 1989. "Carryover Effects in Attitude Surveys." *Public Opinion Quarterly* 53:495-524.

University of Michigan, Center for Political Studies, American National Election Study. 2004. *American National Election Study, 2004: Pre- and Post-Election Survey* [Computer file]. Ann Arbor, MI: Inter-university Consortium for Political and Social Research.

Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. New York: Cambridge University Press.

Zaller, John and Stanley Feldman. 1992. "A Simple Theory of the Survey Response: Answering Questions versus Revealing Preferences." *American Journal of Political Science* 36:579-616.

Table 1: Indirect Test of Attitude Instability Over Time

| Independent Variable | <u>Ambivalence</u> | | | <u>Weak Preferences</u> | | |
|--------------------------------|--------------------|------|-------------|-------------------------|------|-------------|
| | Coeff. | S.E. | Coeff./S.E. | Coeff. | S.E. | Coeff./S.E. |
| x | -0.00 | 0.04 | -0.01 | -0.00 | 0.05 | -0.01 |
| Opposing Considerations | 0.40 | 0.09 | 4.61 | 0.25 | 0.10 | 2.65 |
| Constant | -0.83 | 0.06 | -12.94 | -1.11 | 0.07 | -15.70 |

Note: Entries are averages over 1000 estimates using simulated data.

Table 2: Indirect Test of Attitude Instability: Heteroskedastic Probit

| Independent Variable | <u>Ambivalence</u> | | | <u>Weak Preferences</u> | | |
|--------------------------------|--------------------|------|-------------|-------------------------|------|-------------|
| | Coeff. | S.E. | Coeff./S.E. | Coeff. | S.E. | Coeff./S.E. |
| <u>Choice Model</u> | | | | | | |
| x | 2.02 | 0.17 | 12.17 | 2.02 | 0.17 | 12.17 |
| Opposing Considerations | -0.01 | 0.15 | -0.04 | -0.01 | 0.15 | -0.04 |
| Constant | 0.00 | 0.08 | 0.04 | 0.00 | 0.08 | 0.04 |
| <u>Variance Model</u> | | | | | | |
| Opposing Considerations | 0.70 | 0.12 | 5.83 | 0.70 | 0.12 | 5.83 |

Note: Entries are averages over 1000 estimates using simulated data.

Table 3: Indirect Test of Attitude Instability: Interaction Model

| Independent Variable | <u>Ambivalence</u> | | | <u>Weak Preferences</u> | | |
|------------------------------------|--------------------|------|-------------|-------------------------|------|-------------|
| | Coeff. | S.E. | Coeff./S.E. | Coeff. | S.E. | Coeff./S.E. |
| x | 2.02 | 0.17 | 12.17 | 2.02 | 0.17 | 12.17 |
| Opposing Considerations | -0.00 | 0.10 | -0.04 | -0.00 | 0.10 | -0.04 |
| x × Opposing Considerations | -1.01 | 0.19 | -5.37 | -1.01 | 0.19 | -5.37 |
| Constant | 0.00 | 0.08 | 0.04 | 0.00 | 0.08 | 0.04 |

Note: Entries are averages over 1000 estimates using simulated data.

Figure 1: Attitude Instability Due to Ambivalence

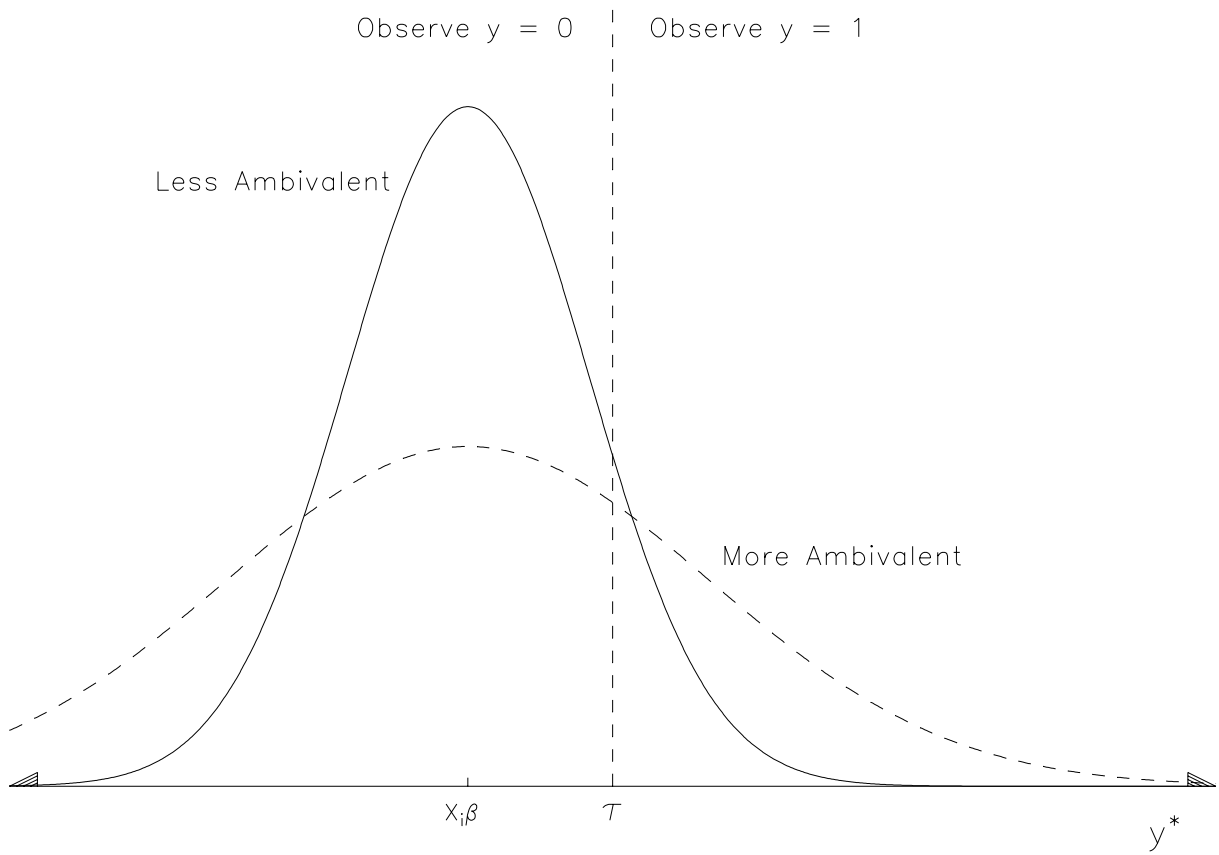


Figure 2: Apparent Attitude Instability Due to Weak Preferences

