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5. Meta-Psychological Versus Operative Measures of Ambivalence

Differentiating the Consequences of Perceived Intra-Psychic Conflict and Real Intra-Psychic Conflict

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In building theories about the inner workings of political actors' minds, political psychologists often posit the existence of latent constructs such as attitudes, beliefs, and personality dispositions. Although no one has ever directly seen an attitude, belief, or personality disposition, assuming that these constructs exist helps scholars to explain political behavior. In this sense, psychological constructs are similar to physical constructs (such as energy) that have been proposed by physicists, chemists, and other scientists to explain the observable phenomena of interest to them.

A variety of methods have been employed over the years to measure psychological constructs, varying in the extent to which they rely on people to describe those constructs themselves. Self-report questions in surveys ask respondents to characterize their own mental states, processes, and structures, whereas other measures (e.g., of reaction time, see Fazio *et al.* 1995; or subtle movements of facial muscles, see Cacioppo and Petty 1979) do not rely on individuals' subjective perceptions of their psychological states at all. Alternatively, some indicators use people's self-reports of one construct to create measures of another; for example, the accuracy of answers to factual quiz questions has been used to build indices of political knowledge (Delli Carpini and Keeter 1996).

Attitudinal ambivalence is a particularly interesting construct in this regard, because it can be measured either by asking people how ambivalent they feel toward an object or by asking people to report how positive and how negative they feel toward an object and mathematically building an index from these reports (Kaplan 1972).¹ These are examples of what we call meta-psychological (MP) and operative (OP) measures, respectively.² Political psychologists studying ambivalence have employed both sorts of indicators, seemingly as if they are equivalent vehicles for assessing the same construct.

In this chapter, we describe a program of research comparing MP and OP measures of ambivalence and exploring two questions: (1) Do MP and OP measures of attitude ambivalence assess a single construct or different constructs? (2) Are the effects of MP and OP attitude ambivalence on political cognition and action the same or different? We begin by defining MP and OP measures of ambivalence, reviewing evidence about the relation between the two, and discussing reasons why they might be only moderately positively related to one another. We then propose a set of hypotheses about the distinct consequences that the two types of measures may have for various aspects of political cognition and behavior. This is followed by a review of past research findings regarding the consequences of ambivalence, and a description of results from a new study conducted to test our hypotheses. Finally, we discuss the implications of these findings for research in political psychology.

DEFINING MP AND OP MEASURES OF AMBIVALENCE

Meta-psychological (MP) measures of ambivalence, where people are asked to report the degree to which they feel ambivalent or conflicted, tap the subjective experience of evaluative conflict regarding an object. Priester and Petty (1996), for example, asked respondents to report the extent to which they felt conflict, indecision, and mixed reactions, while Thompson, Zanna, and Griffin (1995) used ten questions developed by Jamieson (1988) to probe whether people were "confused" or "torn" about the attitude object. Similarly, Cacioppo and his colleagues have asked people to report the extent to which their reactions to an object were muddled, divided, tense, contradictory, jumbled, conflicted, consistent, uniform, and harmonious (Cacioppo *et al.* 1997; Cacioppo *et al.* 1996; Gardner 1996).

Operative (OP) measures of ambivalence tap the extent of a person's favorable and unfavorable reactions to an object and then determine

whether these reactions are in conflict with one another. Thus, the greatest OP ambivalence occurs when a person feels both very favorable and very unfavorable toward an object. At least six mathematical formulas have been proposed for calculating OP ambivalence using separate measures of positivity and negativity toward an object (Priester and Petty 1996; Thompson *et al.* 1995).³ These formulas make slightly different assumptions about how conflicting reactions combine to yield ambivalence, but the numbers they yield are typically very strongly correlated with one another (Breckler 1994; Priester and Petty 1996; Riketta 2000; Thompson *et al.* 1995).

THE RELATION BETWEEN MP AND OP AMBIVALENCE

Many studies have assessed the relation between MP and OP measures of ambivalence and found only a modest degree of covariation; Thompson, Zanna, and Griffin (1995) found correlations ranging from 0.21 to 0.40, while Priester and Petty (1996) reported coefficients of similar magnitudes. There are several possible explanations for these results. First, MP and OP measures of ambivalence may assess the same underlying construct but with substantial random measurement error (Bassili 1996b). For example, self-perceptions reported on rating scales certainly entail some error due to ambiguities in people's internal cues and ambiguities in the meanings of the scale points, both of which would attenuate the observed relations. Second, the mathematical formulas used to calculate OP ambivalence may misrepresent the way favorable and unfavorable evaluations combine psychologically to yield operative ambivalence.

Third, discrepancies between MP and OP measures of ambivalence could be due to respondents' intentional choices to distort their MP reports (Bassili 1996b). Being viewed favorably by others often brings more rewards and fewer punishments than being viewed unfavorably, so some individuals are motivated (even if by deceit) to construct favorable images of themselves. A great deal of evidence has been accumulated documenting such systematic and intentional misrepresentation when people respond to questionnaires that tap other constructs (e.g., Paulhus 1984; Sigall and Page 1971; Warner 1965), and this may be true for measures of ambivalence as well.

If ambivalence has social desirability connotations, then MP measures of ambivalence may be biased as a result. A number of psychological theories suggest that individuals strive to be internally consistent, that they are uncomfortable with inconsistencies between their attitudes and behaviors,

for example, and that they strive to reduce such inconsistencies (e.g., Festinger 1957; Heider 1958); they also experience social pressure to appear consistent and want others to see them as consistent (Tedeschi *et al.* 1971). Some people may therefore be reluctant to admit that they are ambivalent, particularly those who are concerned about the impressions they make on others. As a result, self-presentational distortions in MP ambivalence reports could lead such reports to diverge from OP measures.

An alternative explanation for the moderate relation between MP and OP measures of ambivalence is that the two types of measures may tap separate constructs that are both meaningful and consequential. For example, OP measures are based only on the extent of conflict between a person's positive and negative evaluative reactions to an object, but MP perceptions of ambivalence may also reflect interpersonal discrepancies such as that between one's own attitude and the attitudes of liked others (Priester and Petty 2001).⁴ The latter may be unique variance not present in OP measures. Additionally, people who are high in OP ambivalence may not be aware of or uncomfortable with the conflicting elements of their attitudes, so their perceptions of internal conflict may be much lower (Newby-Clark *et al.* 2002; Thompson and Zanna 1995). Thus, it may make sense to think not of MP and OP measures as tapping a single underlying construct (i.e., ambivalence) but rather of these measures as tapping two distinct constructs: MP ambivalence and OP ambivalence.

If MP and OP ambivalence are separate constructs, it seems likely that the latter is a *cause* of the former. That is, people's subjective experiences of conflict about an object are probably at least somewhat reflections of the co-presence of both positive and negative evaluative reactions toward that object. It is also possible, however, that MP and OP ambivalence will each have unique causes and unique effects on individual thought and action. In fact, prior research suggests that people's subjective experiences can indeed be meaningful and consequential even when they are inaccurate (see Bless and Forgas 2000). For example, people take steps to correct judgments to the extent they *perceive* those judgments to be biased, not to the extent they are *actually* biased (Petty and Wegener 1993; Wegener *et al.* 2000; Wegener and Petty 1995). Similarly, people take steps to resolve inconsistencies among their beliefs, attitudes, and behaviors to the extent they are *perceived* to be inconsistent, not to the extent they *actually* are inconsistent (e.g., Zanna and Cooper 1974). Even if inaccurate, then, perceptions of attitude features can be important for understanding people's cognition and behavior.

Our goal in conducting the research reported here was to investigate the possibility that MP and OP measures of ambivalence might tap distinct

constructs. We did so partly by examining the underlying factor structure of these two sorts of ambivalence measures. In particular, we conducted confirmatory factor analyses to determine whether (1) MP and OP measures of ambivalence reflect a single underlying factor, or (2) MP measures of ambivalence reflect one latent factor, and OP measures of ambivalence assess a second.

COGNITIVE AND BEHAVIORAL CONSEQUENCES OF AMBIVALENCE

Even if confirmatory factor analyses were to suggest that MP and OP measures assess different constructs, a single-construct conceptualization may nonetheless be more parsimonious if MP and OP ambivalence have the same effects on cognition and behavior. That is, even if MP and OP ambivalence are not highly related, they may be functionally interchangeable. If treating the two as distinct provides no additional information regarding how and why people think and act as they do, it makes sense to proceed as though they reflect a single construct. We therefore explore whether MP and OP ambivalence have the same or different effects on individual thoughts and action.

Hypothesized Consequences of Ambivalence

If MP and OP ambivalence are separate constructs, they seem likely to have somewhat different impacts by virtue of exerting effects through different mechanisms. In this section, we propose how MP and OP ambivalence might be differently related to a broad range of cognitive and behavioral phenomena: resistance to attitude change, information gathering, the false consensus effect, the hostile media phenomenon, the process of forming evaluations of presidential candidates, and attitude-expressive activism.

Resistance to attitude change. An attitude's ability to withstand attack has been extensively studied, most often by assessing the extent to which an attitude changes in response to a stimulus such as a counter-attitudinal persuasive message (Mutz *et al.* 1996; Petty and Cacioppo 1986a). As people consider a message, they often retrieve relevant considerations from memory that are then used to evaluate the merits of the message. Those ranking higher in OP ambivalence are more likely to generate thoughts consistent with any message, regardless of whether the latter is favorable or unfavorable toward the object. These individuals may therefore be more likely to

accept the plausibility of a persuasive message and to change their attitudes in response to it.

MP ambivalence should also be negatively related to resistance, but via a different mechanism. Individuals who feel conflicted about an object may want to reduce that feeling; as a result, when exposed to attitude-relevant information, they may be especially motivated to accept it in the hope of reducing their sense of conflict. These individuals may, consequently, be particularly likely to embrace a persuasive message that attempts to push their attitudes, regardless of the direction of the push.

Information gathering. People are constantly bombarded with information in their environments, but have only limited capacity to attend to and remember that information. It is therefore often necessary to choose what cues one will attend to, though individuals do not always have time to plan their selective attention carefully and deliberately. When cognitively busy or overloaded, the process of choosing which information to "orient to" and remember sometimes happens automatically, without awareness. Accordingly, information-gathering strategies differ depending on whether an individual (1) can choose which pieces of information to attend to, in a manageable information environment; or (2) must choose only some of the available information to attend to, in a complex information environment when they do not have time to plan their selections carefully and deliberately.

MP ambivalence may be related to choices to attend to and learn attitude-relevant information. One possibility is that people who feel conflicted will be motivated to reduce that conflict and attempt to do so by learning new information about the object. It is also possible, however, that individuals high in MP ambivalence will try to avoid situations that make their sense of conflict salient. Thus, MP ambivalence may lead people actively to stay away from object-relevant information in order to avoid ensuing discomfort. If some ambivalent individuals attempt to reduce their feelings of conflict by accumulating attitude-relevant information, while others avoid such information to prevent discomfort, this would yield the appearance of no net association between MP ambivalence and information choices.

OP ambivalence seems unlikely to be associated with attention to information, regardless of the amount of information in the environment or the time and resources required to make decisions about attention. Specifically, we see no reason to expect that having both positive and negative beliefs about an object will affect a person's motivation to learn attitude-relevant information. We also doubt that OP ambivalence will

result in an automatic or chronic tendency to acquire attitude-relevant information.

Perceptions of social support. The false consensus effect (FCE) is the tendency for people to overestimate the proportion of others who share their opinions, relative to the judgments made by people who hold different attitudes. This phenomenon may be attributable to a number of social and psychological processes and instigators (see Fabrigar and Krosnick 1995; Marks and Miller 1987; Ross *et al.* 1977), including (1) the salience of one's own attitude; (2) the motivation to maintain one's self-esteem; (3) the need for social support; (4) the presumption that liked others have good qualities (including sharing one's own attitudes); (5) the presumption that one's own attitudes are attributable to situational forces that will affect others equivalently; (6) different people construing objects differently; and (7) selective affiliation with others who have similar attitudes.

There are reasons to anticipate that MP ambivalence will tend to decrease the FCE, and other reasons to expect just the opposite. For example, people who feel conflicted about an object may be less likely to see their attitude as a positive quality if ambivalence is unpleasant. Under these circumstances, people who are meta-psychologically ambivalent presumably would manifest weaker false consensus effects. Alternatively, if people high in MP ambivalence are readily influenced by the opinions of others, high ambivalence could lead them to adopt the attitudes of others they know, thereby yielding a stronger FCE. And if it is true that "misery loves company," people high in MP ambivalence may be motivated to believe that many others share their ambivalence, which also would strengthen the FCE. Finally, if MP ambivalence has different effects for different people in opposite directions, these effects may cancel out in the aggregate, leading to the appearance of no association between MP ambivalence and the magnitude of the FCE.

Considering the possible moderating effect of OP ambivalence suggests another possible mechanism for the FCE. Measures of false consensus ask people to judge how many others share their own opinions. But if a person has a mix of favorable and unfavorable feelings toward an object, then he or she will share, by definition, some views with people who are favorable toward the object and others with people who are unfavorable toward the object. This may lead these ambivalent individuals to experience a frequent sense of commonality with others regarding the object, thus possibly yielding overestimation of the prevalence of one's own views. That is, people high in OP ambivalence may experience an exaggerated sense of the number of others who share their attitudes.

Hostile media phenomenon. The hostile media phenomenon (HMP) is one in which individuals interpret a relatively balanced news media story about an issue as being hostile to their own point of view. Two mechanisms have been proposed to account for this effect (Vallone *et al.* 1985). First, if most of the knowledge a person possesses about the issue is consistent with his or her attitude and very little is inconsistent, a story containing equal amounts of consistent and inconsistent information may appear to be biased. Alternatively, if the neutral attitudinal position implied by a balanced news story is within someone's "latitude of rejection," perceptual contrast may lead that individual to perceive the story as more different from his or her attitudes than its information balance implies (see Sherif and Hovland 1961).

People high in OP ambivalence genuinely have a balance between their favorable and unfavorable evaluations of an object, thus matching balanced news stories' balance to a more substantial degree and yielding a lower likelihood of the HMP. Likewise, if OP ambivalence reduces resistance to change, then a balanced news story should pull operatively ambivalent people's attitudes toward neutrality, yielding more of a match between the story and the person, and less perceived bias in the story. Similarly, if MP ambivalence reduces resistance to change, those high in MP ambivalence may adjust their attitudes to be in line with a balanced news story, thereby yielding a greater perceived match and less perceived bias.

The ingredients of political candidate evaluations. People form evaluations of political candidates on the basis of many considerations, including candidates' positions on policy issues. They like a candidate to the extent that the candidate's attitude on an issue is similar to their own (Krosnick 1988b), consistent with the more general finding that people like similar others more (Byrne 1961, 1971). However, not everyone uses every issue equally to evaluate candidates. Some issues are weighted more heavily than others, and these weights vary across individuals (Anand and Krosnick 2003; Krosnick 1988b, 1990).

A person high in OP ambivalence may be especially likely to perceive resonance between his or her own feelings on an issue and the views of all candidates, no matter what the latter's positions happen to be. This perceived resonance should reduce the weight attached to the issue, because the issue does not offer a useful handle for differentiating among candidates. Likewise, MP ambivalence may lead people to hesitate before using an issue to evaluate a candidate, because these individuals recognize their own inability to settle comfortably into an evaluation of the policy in question. Higher MP ambivalence may therefore be associated with a lower weight attached to an issue.

Activism. People can express their attitudes toward policies to government officials by joining others in signing petitions, attending rallies, and the like. When offered an opportunity to take such an action to express a particular attitude, people may assess the extent to which the proposed activity matches their own views. Individuals higher in OP ambivalence are perhaps more likely to have reasons for agreeing with the position being expressed by any petition or rally, so these individuals should be more inclined to accept such invitations. On the other hand, operatively ambivalent individuals may also be better able to see inconsistencies between their attitudes and the agendas of activist behaviors, and this might reduce the probability that these people will engage in activist behaviors. Operative ambivalence could, of course, make some individuals more likely to act and others less likely, thereby giving the appearance of no relation between OP ambivalence and activism at the aggregate level.

It is possible that MP ambivalence affects the decision to engage in attitude-expressive activism as well. People who feel conflicted about an attitude object may also be conflicted about whether or not a particular act will accurately communicate their attitudes to government leaders, and about whether or not to express their attitude. Under such circumstances, MP ambivalence should lead to less activism.

Evidence from Past Research

Most prior research has examined either OP ambivalence or MP ambivalence, but not both. Many studies have shown that operatively ambivalent attitudes have all the defining characteristics of weak attitudes, including openness to change, instability over time, and little impact on thinking and action. Specifically, people higher in OP ambivalence appear to be more likely to change their attitudes in response to consensus information about the attitudes of their peers (Hodson *et al.* 2001), more likely to change their attitudes in response to a persuasive message (Armitage and Connor 2000), and more likely to manifest attitude instability over time (Bargh *et al.* 1992; Lavine 2001; also see chapter 4 in this volume). On the other hand, Armitage and Connor (2000) and Bassili (1996b) found OP ambivalence to be unrelated to attitude stability.

OP ambivalence has been shown to have effects on cognition and behavior in line with the characterization of this construct offered above. For example, being operatively ambivalent toward a parent is associated with less secure attachment to the parent (Maio *et al.* 2000). OP ambivalence toward a low-status in-group is positively related to out-group favoritism (Jost and Burgess 2000). OP ambivalence toward a stigmatized

group is associated with more extreme responses to members of that group (Hass *et al.* 1991). Operatively ambivalent people are more susceptible to priming effects on behavior (MacDonald and Zanna 1998). People higher in operative ambivalence toward political candidates have less extreme attitudes toward those candidates and are less confident in their perceptions of the candidates' stands on policy issues (Guge and Meffert 1998). Operatively ambivalent people tend to decide which presidential candidate to support later in the course of campaigns, and are less likely to use candidates' personalities and issue positions to evaluate them (Lavine 2001). And the impact of attitudes on behavioral intentions and behaviors is weaker among individuals who are more operatively ambivalent (Armitage and Connor 2000; Lavine 2001; Moore 1973, 1980; Priester 2002; Sparks *et al.* 1991).⁵

MP ambivalence has been examined in only a couple of studies in terms of its effects on attitude crystallization and consequentiality. Tourangeau, Rasinski, Bradburn, and D'Andrade (1989b) found that people with attitudes higher in MP ambivalence (and also higher in personal importance) manifested stronger question order effects in attitude measurement than did those lower in MP ambivalence, while Bassili (1996b) found no effect of MP ambivalence on attitude stability and pliability.⁶ MP ambivalence is clearly under-studied in this particular domain, and the evidence that does exist raises questions concerning its utility for explaining cognition and action.

We found only one study that estimated the unique effects of MP and OP ambivalence simultaneously. McGraw, Hasecke, and Conger (2003) found that MP ambivalence led to more negative candidate evaluations, but OP ambivalence did not. This divergence is consistent with the notion that OP and MP measures of ambivalence may assess different constructs with distinct consequences. The McGraw study did not, however, address the consequences that we outlined earlier. As a result, we know almost nothing about the separate effects of these two types of measures when examined simultaneously.

The Need to Distinguish MP and OP Ambivalence Empirically

If MP and OP ambivalence are distinct but related constructs, it is important to understand how these constructs are different for purposes of theory building, methodology, and the interpretation of results. Rather than assuming that all measures of ambivalence are interchangeable, this perspective suggests that researchers need to consider carefully whether their theory applies to MP or OP ambivalence (or both), to make appropriate

decisions when measuring ambivalence, and to interpret results accordingly. Furthermore, because MP and OP ambivalence are likely to be related, controlling for one is a critical step in identifying the unique consequences of the other.

If MP and OP ambivalence are distinct constructs, a failure to treat them as such could result in researchers employing measures that do not match their theories, the illusory appearance of inconsistent results (reflecting differences in the indicators used in different studies), and the over-generalization of results. Researchers who think of MP and OP measures of ambivalence as interchangeable also may combine both types into a single index (e.g., Hanze 2001) and, in so doing, run the risk of masking dissimilar effects of MP and OP ambivalence.

A NEW STUDY OF ATTITUDES ABOUT ABORTION AND CAPITAL PUNISHMENT

Our investigation is the first to use confirmatory factor analysis to test whether OP and MP measures of ambivalence reflect different constructs, and to examine the unique effects of MP and OP ambivalence on a wide range of cognitions and behaviors. Respondents visited a laboratory, and completed an extensive questionnaire about a policy issue that included indicators of both OP and MP ambivalence, in addition to measures of resistance, information gathering, perceptions of social support for one's own attitude, perceptions of media bias, the ingredients of political candidate evaluations, and activism.⁷

Method

A total of 654 undergraduates at Ohio State University participated in this study during the fall of 2000 to partially fulfill an introductory psychology course requirement. Three hundred and twenty-five respondents were assigned to answer questions about one target issue (abortion), while the remaining 329 answered questions about a second target issue (capital punishment). Each person completed a questionnaire alone on a computer for approximately one hour.

The questionnaire included items assessing both OP and MP ambivalence regarding the target issue. MP ambivalence was measured via three questions that asked respondents how mixed their feelings were about the issue, how much conflict they felt about it, and how decisive their feelings about the issue were. OP ambivalence was measured by asking respondents to report their positivity and negativity toward the target

policy. Two calculation methods were used to estimate ambivalence: the gradual threshold model (Priester and Petty 1996), and the negative acceleration model (Scott 1966). These two measures were chosen because they are based on slightly different conceptual ideas about how positivity and negativity combine to form ambivalence, and because a model using these variables as indicators of OP ambivalence fit the data well.⁸ Coding was such that higher numbers indicated greater ambivalence.

Resistance to attitude change was measured in two ways. First, respondents were asked three questions about how easy it would be for someone to change their attitudes, how firm their attitudes were, and how firm their attitudes were relative to their other attitudes (MP measures). Second, resistance was assessed operatively by measuring attitude change in response to a persuasive message. Participants answered four questions assessing their attitudes on the issue, read a counter-attitudinal essay, and then reported their attitudes a second time.⁹ Attitude change was coded such that less change in the direction of the message (greater resistance) is indicated by higher numbers. The pre-message attitude measures yield an assessment of attitude extremity.

Deliberate gathering of attitude-relevant information was assessed via two meta-psychological measures. First, respondents rank-ordered pieces of information about a variety of topics, indicating which of these they would most and least like to learn; each list contained one piece of information about the target issue, and responses were coded such that larger numbers reflect a greater preference for information regarding that issue. In addition, respondents were asked three direct questions designed to gauge their interest in learning more about the target issue.

We also implemented an operative measure of information gathering, tapping automatic attention to attitude-relevant information and referred to as "orienting" (Roskos-Ewoldson and Fazio 1992). Respondents were briefly shown four lists of words, then asked to recall as many of these words as they could. Each list contained one word related to the target issue. Because the exposure time was brief, recalling attitude-relevant information from these lists is a measure of how quickly and automatically people noticed and paid attention to that information. For each of the four lists, respondents who recalled the information about the target issue were coded 1, while those who did not were coded 0. Recall scores from the first two lists were averaged to create one index of orienting; recall scores from the third and fourth lists were averaged to create a second index.

Respondents answered a series of questions about the opinions of others on the target issue to gauge the false consensus effect. These questions

assessed the extent to which people thought they were in the majority on the issue, their beliefs about the proportions of others who agreed with them, and their perceptions of the attitudes of "most" Americans. All these variables were coded so that greater perceived consensus is indicated by larger numbers.

To assess perceptions of media bias, respondents were asked about the extent to which they thought media coverage of the target issue was biased; those who said they perceived any bias were then asked the direction of the bias. This variable was coded to range from 1 to -1. For respondents asked about legalized abortion, positive numbers indicate a bias in media coverage toward endorsing the view that abortions should be easy to obtain; negative numbers indicate a bias in favor of the view that abortions should be difficult to obtain. For respondents asked about capital punishment, positive numbers indicate a bias in media coverage toward endorsing the view that capital punishment should be used more often; negative numbers indicate a bias in favor of the view that capital punishment should be used less often. In both cases, a negative association between this measure and attitudes reflects perceived hostile media bias.

To assess the extent to which they used candidates' policy stands as a basis for evaluation, respondents were asked to specify then-Texas Governor George W. Bush's and Vice President Al Gore's positions on the target issue. Respondents also reported their own attitudes toward each of these candidates. Two variables were created from the answers to these questions. First, candidate preferences were calculated by subtracting respondents' attitudes toward Gore from their attitudes toward Bush; positive numbers indicate a preference for the former, negative numbers a preference for the latter. Second, an issue discrepancy variable was calculated by subtracting the absolute value of the difference between the respondent's position and Bush's position from the absolute value of the difference between his or her position and Gore's position. Positive values mean that a person's attitude was more similar to Bush's than to Gore's, while negative numbers indicate that a respondent's attitude was more similar to Gore's than to Bush's.¹⁰ Issue discrepancy and candidate preference should be positively correlated if people tended to prefer candidates with attitudes similar to their own.

Activism was measured in two ways. Respondents were asked general questions about how involved they were in activities related to the target issue, and also whether they had performed a series of specific activist behaviors to express their attitudes on the issue. Both sets of questions were aggregated to yield separate measures of activism, which were coded so that larger numbers indicated more activism.

Analysis Strategy

To examine the relation between MP and OP ambivalence, parameters of two structural equation models were estimated. The first model posited that all five measures of ambivalence (three MP and two OP; see appendix) are indicators of a single latent construct (figure 5.1). In the second model, MP measures were posited as indicators of one latent construct and OP measures as indicators of a second latent construct, with the two being allowed to covary (figure 5.2). We evaluated these models by examining their goodness-of-fit statistics. The second model also yielded an estimate of the relation between MP and OP measures of ambivalence, disattenuated to correct for measurement error.

To assess the impact of MP and OP measures on cognition and behavior, we estimated the parameters of structural equation models positing that OP and MP ambivalence influenced resistance, information gathering, perceptions of social support, and activism. In these models, each thought and behavior was predicted by three latent variables, indicated by (1) the three MP measures of ambivalence, (2) the two OP measures, and (3) attitude

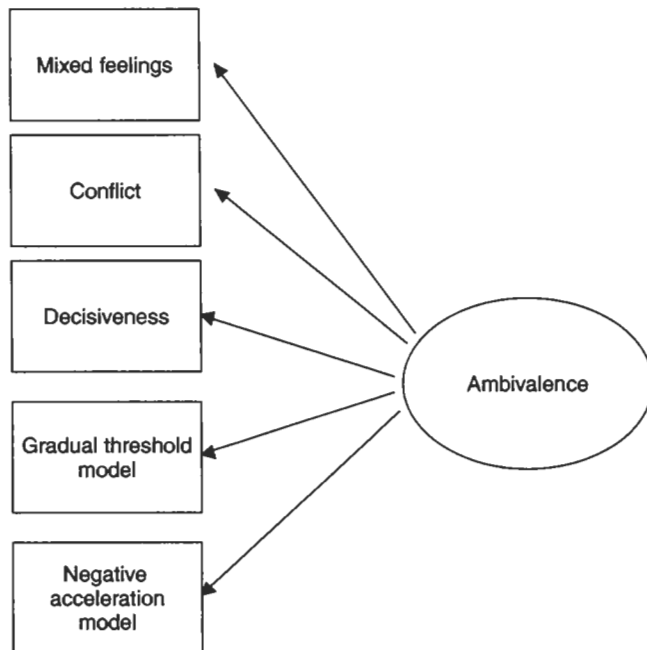


Figure 5.1 One-construct model of ambivalence

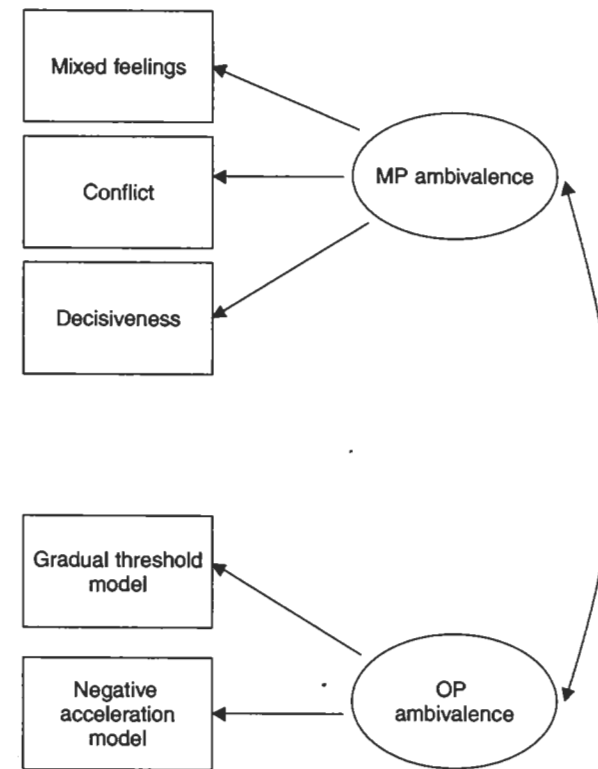


Figure 5.2 Two-construct model of ambivalence

extremity. Each dependent variable was also a latent variable with multiple indicators, in order to allow for disattenuating the parameter estimates to correct for measurement error.

Two of the hypothesized effects of MP and OP ambivalence (moderation of the hostile media phenomenon, use of candidates' issues positions to evaluate them) were tested by interactions. In order to test these interactions, we used a procedure described by Jöreskog *et al.* (2001) and based upon a model first proposed by Kenny and Judd (1984). All measured variables were centered (see Cohen *et al.* 2003 for a discussion of centering), and LISREL 8.51 and PRELIS were used to estimate factor scores for all latent variables (MP ambivalence, OP ambivalence, attitude extremity, and in the case of the hostile media phenomenon, attitudes toward the target policy). Data for manifest variables and factor scores for the latent variables were then imported into SPSS, where OLS regressions were

estimated. Using this approach, we tested whether MP ambivalence, OP ambivalence, and extremity moderated the relation between attitudes and perceived media bias, and the impact of issue discrepancies on candidate preferences.

RESULTS

Factor Structure

For the factor analyses, three goodness-of-fit statistics were examined: the ratio of the χ^2 statistic to degrees of freedom (df), RMSEA, and GFI. χ^2/df ratios smaller than 3.0 indicate acceptable fit (Gefen *et al.* 2000). RMSEAs of 0.05 or less represent good fit, RMSEAs of 0.05 to 0.07 represent adequate fit, and RMSEAs of 0.08 or greater represent poor fit (Browne and Cudeck 1992; Byrne 1998). GFIs of 0.90 or higher indicate acceptable fit (Byrne 1998; Hair *et al.* 1998).

Abortion. For abortion, the model treating all five measures of ambivalence as indicators of a single latent factor fit the data very poorly: $\chi^2/df = 29.46$, RMSEA = 0.30, and GFI = 0.85, suggesting that the five measures of ambivalence do *not* reflect a single latent factor. The model with two correlated factors representing MP and OP ambivalence fit the data well: $\chi^2/df = 1.41$, RMSEA = 0.04, GFI = 0.99, and a relation between MP and OP ambivalence significantly larger than zero but moderate in size ($\beta = 0.49$, $p < 0.01$). The pattern here suggests that MP ambivalence and OP ambivalence are two separate but related constructs.

Capital punishment. Similar results were obtained for capital punishment. The model in which all five measures of ambivalence regarding capital punishment were indicators of a single latent factor fit the data very poorly: $\chi^2/df = 36.82$, RMSEA = 0.34, GFI = 0.81. Again, the model with separate MP and OP factors fit the data much better: $\chi^2/df = 0.98$, RMSEA = 0.00, GFI = 1.00. The relation between MP and OP ambivalence was significantly larger than zero but only moderate in size ($\beta = 0.43$, $p < 0.01$).

Differences across issues. To test whether the factor structure of ambivalence was consistent across both issues, multiple group analyses were conducted comparing unconstrained models for the two respondent groups with models that constrained the factor loadings, variances, and covariances to be equal across issues. The fit of the one-factor model did not differ across

issues ($\Delta\chi^2(5) = 6.11$, n.s.), nor did that of the two-factor model ($\Delta\chi^2(6) = 8.92$, n.s.). We therefore concluded that the structure of MP and OP ambivalence seems equivalent for abortion and capital punishment.

Consequences of Ambivalence

Next, we examined the effects of MP and OP ambivalence on resistance, information gathering, the magnitude of the false consensus effect, perceptions of media bias, the ingredients of candidate evaluations, and activism. Data for the two target issues were combined for these analyses because our results were consistent when they were analyzed separately.

Resistance. Individuals higher in MP ambivalence tended to manifest less OP resistance ($\beta = -0.32$, $p < 0.01$, see row 1 of column 1 in table 5.1). Consistent with past research, resistance was lower among respondents higher in OP ambivalence as well ($\beta = -0.12$, $p < 0.05$; see row 2 of column 1 in table 5.1). A regression predicting MP resistance manifested the same effects (see column 2 of table 5.1): Greater MP ambivalence ($\beta = -0.57$, $p < 0.01$; see row 1 of column 2 in table 5.1) and greater OP ambivalence ($\beta = -0.10$, $p < 0.05$; see row 2 of column 2 in table 5.1) were both associated with less MP resistance.

Information gathering. Respondents scoring higher on MP ambivalence tended to report less interest in learning information about the issue measured meta-psychologically ($\beta = -0.17$, $p < 0.01$; see row 1 of column 3 in table 5.1). However, OP ambivalence was not associated with MP interest ($\beta = -0.03$, n.s.; see row 2 of column 3 in table 5.1). Neither MP ambivalence nor OP ambivalence significantly predicted information choices ($\beta = -0.07$ and -0.00 , respectively; see rows 1 and 2 of column 4 in table 5.1). Likewise, neither was related to the operative measure of information gathering, that is, orienting ($\beta = -0.04$ for MP ambivalence and -0.07 for OP ambivalence; see rows 1 and 2 of column 5 in table 5.1).

The false consensus effect. Greater MP ambivalence predicted a stronger false consensus effect ($\beta = 0.12$, $p < 0.05$; see row 1 of column 6 in table 5.1). In contrast, OP ambivalence was not associated with the magnitude of the false consensus effect ($\beta = 0.06$, n.s.; see row 2 of column 6 in table 5.1).

Perceptions of media bias. Replicating Vallone *et al.*'s (1985) finding, attitudes predicted perceived media bias ($\beta = -0.20$, $p < 0.01$; see column 1 of table 5.2): respondents more favorable toward abortion or capital

Table 5.1 Effects of ambivalence on resistance, information gathering, false consensus, and activism

Predictor	Consequence						Specific activist behaviors
	OP resistance	MP resistance	Reported interest in learning attitude-relevant information	Choices to learn attitude-relevant information	Orienting to attitude-relevant information	Magnitude of false consensus effect	
MP ambivalence	-0.32**	-0.57**	-0.17**	-0.07	-0.04	0.12*	0.03
OP ambivalence	-0.12*	-0.10*	-0.03	-0.00	-0.07	0.06	0.11*
Extremity	-0.43**	0.04	0.15	0.21*	0.08	-0.32**	0.24**
χ^2	267.82	146.69	110.39	89.06	81.26	261.30	111.97
df	59	48	48	48	38	48	48
χ^2/df	4.54	3.06	2.30	1.86	2.14	5.44	2.33
RMSEA	0.08	0.06	0.05	0.04	0.04	0.09	0.05
GFI	0.94	0.96	0.97	0.98	0.98	0.93	0.97
Squared multiple correlation	0.13	0.41	0.09	0.06	0.02	0.19	0.04
N =	593	601	602	624	621	613	602

Note: ** $p \leq 0.01$; * $p \leq 0.05$. Data are from a 2000 study of undergraduate students at Ohio State University. Table entries are standardized LISREL parameter estimates. Note that OP Resistance is coded so that higher numbers indicate less attitude change.

Table 5.2 Effects of ambivalence on hostile media bias and ingredients of candidate evaluation

Predictor	Consequence			
	Hostile media bias		Candidate preferences	
	Main effects model	Moderation model	Main effects model	Moderation model
Attitude	-0.20**	-0.14*	n/a	n/a
Issue discrepancy	n/a	n/a	0.27**	0.23**
MP ambivalence	n/a	-0.05	n/a	0.00
OP ambivalence	n/a	0.02	n/a	0.10*
Attitude extremity	n/a	0.00	n/a	0.14**
MP ambivalence \times attitude	n/a	0.09 [†]	n/a	n/a
MP ambivalence \times issue discrepancy	n/a	n/a	n/a	-0.11*
OP ambivalence \times attitude	n/a	0.01	n/a	n/a
OP ambivalence \times issue discrepancy	n/a	n/a	n/a	-0.08 [†]
Attitude extremity \times attitude	n/a	-0.02	n/a	n/a
Attitude extremity \times issue discrepancy	n/a	n/a	n/a	0.00
$R^2 =$	0.04	0.05	0.07	0.11
Number of cases =	606	606	606	606

Note: ** $p \leq 0.01$; * $p \leq 0.05$; [†] $p \leq 0.10$. Data are from a 2000 study of undergraduate students at Ohio State University ($N = 654$). Table entries are standardized OLS coefficients from regressions using latent variable factor scores.

punishment perceived media coverage to be more biased against these views. The interaction between MP ambivalence and attitudes indicates, however, that individuals higher in ambivalence were less likely to perceive media bias against their position ($\beta = 0.09$, $p < 0.10$; see row 6 of column 2 in table 5.2). The impact of attitudes on perceived media bias among individuals who reported high levels of MP ambivalence (above the median) was nonsignificant ($\beta = -0.06$, n.s.), whereas the impact of attitudes on perceived media bias was strong and significant among individuals who reported low levels of MP ambivalence (below the median, $\beta = -0.23$, $p < 0.001$). The interaction between OP ambivalence and attitudes was not significant ($\beta = 0.01$, n.s.; see row 8 of column 2 in table 5.2), meaning OP ambivalence did not moderate this effect.

Candidate evaluations. As expected, respondents who agreed more with President Bush on the target issue were more likely to support him

($\beta = 0.27, p < 0.01$; see column 3 of table 5.2). MP ambivalence moderated the impact of issue positions on candidate preferences ($\beta = -0.11, p < 0.05$; see row 7 of column 4 in table 5.2). Respondents low in MP ambivalence (below the median) used the issue to evaluate candidates a great deal ($\beta = 0.72, p < 0.001$), whereas respondents high in MP ambivalence used the issue much less ($\beta = 0.27, p < 0.05$). OP ambivalence also was a marginally significant moderator of the impact of issues on candidate preferences ($\beta = -0.08, p < 0.10$; see row 9 of column 4 in table 5.2). Respondents low in OP ambivalence (below the median) used the issue to evaluate candidates more ($\beta = 0.33, p < 0.001$) than did respondents high in OP ambivalence ($\beta = 0.25, p < 0.001$).¹¹

Activism. MP ambivalence did not predict involvement in activities related to the target issue ($\beta = 0.03, n.s.$; see row 1 of column 7 in table 5.1), but OP ambivalence was positively associated with participation in such activities ($\beta = 0.11, p < 0.05$; see row 2 of column 7 in table 5.1). Neither MP nor OP ambivalence affected the likelihood of performing specific attitude-expressive activist behaviors ($\beta = 0.05$ and -0.04 , respectively; see rows 1 and 2 of column 8 in table 5.1).

DISCUSSION

Confirmatory factor analyses suggested that MP and OP ambivalence measures represent distinct constructs, while subsequent analyses indicated that the two have different impacts on cognition and behavior.

Effects of Meta-Psychological (MP) Ambivalence

High MP ambivalence was found to be associated with less resistance, less reported interest in learning issue-relevant information, a stronger false consensus effect, less perceived hostile media bias, and a reduced tendency to use candidates' issue positions to evaluate them. We hypothesized that individuals high in MP ambivalence would feel discomfort when exposed to information that brings to mind their sense of conflict about the issue, and that they might use either of two strategies to deal with this discomfort. First, when possible, they might avoid any stimuli that brings their discomfort to mind. Consistent with this reasoning, our data showed MP ambivalence to be negatively associated with interest in attitude-relevant information (though not with choices to learn attitude-relevant information). Furthermore, we saw that people high in MP ambivalence were less

likely to use candidates' issue positions as a basis for evaluation. This may reflect an attempt to avoid discomfort by not thinking about the issue.

Even if people who are high in MP ambivalence about an issue try to avoid thinking about their ambivalent attitudes, this may not always be possible; thus, when issue-relevant information cannot be avoided, these individuals may be particularly influenced by such information. Indeed, we found people scoring high in MP ambivalence to be less resistant to change when exposed to a counter-attitudinal essay they could not choose to avoid. Two other observed effects of MP ambivalence also may reflect a lack of resistance. First, respondents higher in MP ambivalence perceived that greater proportions of others agreed with their opinion on the target issue and, second, perceived that media coverage of the issue was less biased. If the false consensus effect occurs because people are persuaded to adopt the attitudes they perceive most others to hold, then we would expect high-ambivalence individuals to manifest a stronger false consensus effect. And if those high in MP ambivalence are more persuaded by the news media stories they encounter, these individuals would presumably be less likely to perceive those stories to be biased against their own positions.

Effects of Operative (OP) Ambivalence

The effects of OP ambivalence on thoughts and behaviors distinguish this construct from its MP counterpart. Our data showed OP ambivalence to be negatively related to resistance, which is consistent with past research (Armitage and Connor 2000; Hodson *et al.* 2001). We also found two new effects: greater OP ambivalence was associated with less use of candidates' issue positions to evaluate them, and with increased reports of general activism (though not reports of specific activist behaviors).

We hypothesized that OP ambivalence will primarily influence how people perceive attitude-relevant information around them. Individuals with a great deal of OP ambivalence feel both positivity and negativity toward the attitude object, so they may be likely to see a broad range of information as consistent with their own attitudes. The diversity of information about the attitude object thus leads them to see elements of their own position in a persuasive message (resulting in less resistance), and in candidates' issue positions (leading respondents to perceive smaller differences between the candidates and using their positions less to evaluate them).

Greater OP ambivalence also was found to be associated with reports of more general involvement in activities related to the issue. This may occur because people high in OP are biased toward thinking of reasons why a

possible activist behavior is consistent rather than inconsistent with their attitudes (reflecting a general bias towards confirmatory thinking that has been observed in other contexts; see Hoch 1984; Klayman and Ha 1987; Koriat *et al.* 1980; Tschirgi 1980; Wason and Johnson-Laird 1972; Yzerbyt and Leyens 1991).

Mediation

It is possible that OP ambivalence is a cause of MP ambivalence, in which case the latter would be expected to mediate any observed effects of the former. If this were so, then OP ambivalence alone would have significant effects that all but disappear when controlling for MP ambivalence. Our evidence that OP ambivalence had unique effects on cognition and behavior challenges a complete mediation hypothesis. Furthermore, in models predicting resistance, activism, information gathering, perceived consensus, perceived media bias, and the ingredients of candidate evaluations, the effect of OP ambivalence changed in only one instance when MP ambivalence was excluded as a predictor: Higher OP ambivalence was associated with a modest false consensus effect ($\beta = 0.09$, $p < 0.05$) when MP ambivalence was not included as a predictor, and had a slightly weaker effect ($\beta = 0.06$, n.s.) when MP ambivalence was added to the equation. A Sobel test of mediation (Baron and Kenny 1986) disconfirmed the hypothesis that this drop indicated significant mediation (Sobel test statistic = 1.48, n.s.). Therefore, our analyses produced no evidence that the effects of OP ambivalence were suppressed due to mediation via MP ambivalence.

Consistency with Prior Findings

Although most of the hypotheses set forth here have not been tested before, a few of them have; as noted, our results are generally consistent with past findings. There is, however, one exception: Our analysis found that high MP ambivalence predicted less resistance to persuasion, but Bassili (1996b) did not. We examined MP ambivalence while controlling for OP ambivalence and attitude extremity, whereas Bassili looked only at the single order correlation of MP ambivalence and resistance. Yet when we examined the relation of MP ambivalence to resistance without controlling for OP ambivalence or extremity, MP ambivalence was associated with both the OP measure of resistance ($\beta = -0.13$, $p < 0.05$) and the MP measure ($\beta = -0.63$, $p < 0.01$) in our data; consequently, different control variables do not explain the discrepancy.

We also measured MP ambivalence with multiple indicators and thus were able to correct for measurement error, whereas Bassili used a single measure. It is possible, then, that the relation we observed may have been attenuated in Bassili's data. However, when the single-order correlations between each of our three measures of MP ambivalence and the three measures of MP resistance were examined, all were highly significant; this suggests that measurement error alone cannot account for the discrepancy between our results and Bassili's.

Finally, our measures of resistance were also somewhat different from Bassili's measure of pliability. The latter involved asking respondents whether they would change their attitudes if particular consequences occurred. For example, those who said that large companies should have quotas to ensure that a fixed percentage of women are hired were asked, "Would you feel the same even if this means not hiring the best person for the job?" Respondents who said they would not feel the same were coded as pliable. There is, however, no evidence that these individuals actually changed their minds or believed they were likely to. Specifically, a person could say that he or she would feel differently if quotas meant not hiring the best person for the job, but not believe that this would be a consequence of quotas. It is therefore unclear how Bassili's measure of pliability would be related to our measures of OP and MP resistance, so the difference in measurement may explain the discrepancy in our findings. Our measure of attitude change is the more conventional one, so our finding that MP ambivalence predicts resistance seems compelling.

CONCLUSION

Meta-psychological (MP) ambivalence reflects individuals' subjective experience of conflict about an object, whereas operative (OP) ambivalence reflects the extent to which people have both favorable and unfavorable orientations toward an object. Thus, the terms "MP ambivalence" and "OP ambivalence" seem more appropriate than MP and OP "measures" of a single ambivalence construct. This insight has important implications for the way that ambivalence is conceptualized in theory building and for interpretation of empirical findings: Researchers studying ambivalence should choose their measures carefully, based on theory rather than simply convenience. A theory about perceptions of ambivalence should be tested using measures of MP ambivalence, and the findings of such research should not be generalized to OP ambivalence. Likewise, a theory concerning the mixture of favorable and unfavorable reactions to an object stored

in memory should be tested using OP ambivalence measures. Furthermore, combining measures of OP and MP ambivalence into a single index may lead to illusory conclusions. We therefore suggest that political psychologists assess both MP and OP ambivalence as often as possible and explore their causes and effects side by side in order to build richer and more accurate theories.

APPENDIX

Question wordings and codings for questions employed in our analysis are shown here. For some constructs, everyone was asked the same questions; for others, questions were asked either about abortion or about capital punishment, with respondents being randomly assigned to the particular target issue.

MP ambivalence. (1) "People's thoughts and feelings about an issue can be all one-sided or very mixed. How mixed are your thoughts and feelings about [legalized abortion/capital punishment]—extremely mixed, very mixed, somewhat mixed, a little mixed, or not at all mixed?" (2) "How much conflict do you feel about your opinion about [legalized abortion/capital punishment]—none at all, a little, a moderate amount, quite a bit, or a great deal?" (3) "People can be very decisive or very indecisive in their thoughts and feelings about an issue. How indecisive are your thoughts and feelings about [legalized abortion/capital punishment]—extremely indecisive, very indecisive, somewhat indecisive, a little indecisive, or not at all indecisive?" [Scores range from 0 to 1, with higher numbers indicating more ambivalence.]

OP ambivalence. (1) "Please ignore any unfavorable thoughts or feelings you might have about [legalized abortion/capital punishment] and just think about the favorable thoughts and feelings you have about [legalized abortion/capital punishment]. How many favorable thoughts and feelings do you have about [legalized abortion/capital punishment]—none at all, a few, some, a lot, or many?" (2) "Please ignore any favorable thoughts or feelings you might have about [legalized abortion/capital punishment] and just think about the unfavorable thoughts and feelings you have about [legalized abortion/capital punishment]. How many unfavorable thoughts and feelings do you have about [legalized abortion/capital punishment]—none at all, a few, some, a lot, or many?" [See n. 8 for calculation formulas; scores range from 0 to 1, with higher numbers representing a greater number of favorable or unfavorable thoughts.]

MP resistance. (1) "How easy do you think it would be for someone to change your opinion about the issue of [legalized abortion/capital punishment]—extremely easy, very easy, somewhat easy, somewhat difficult, very difficult, or extremely difficult?" (2) "How firm is your opinion about [legalized abortion/capital punishment]—not at all firm, slightly firm, somewhat firm, very firm, or extremely firm?" (3) "Compared

to other issues, how firm is your opinion about [legalized abortion/capital punishment]—less firm than other opinions, more firm than other opinions, or about as firm as other opinions? (If Less): Much less firm or somewhat less firm? (If More): Much more firm or somewhat more firm? (If About As Much): Do you lean toward thinking your attitude about [legalized abortion/capital punishment] is less firm than your attitudes about other issues, lean toward thinking it is more firm, or don't you lean either way?" [Scores range from 0 to 1, with higher numbers indicating more resistance.]

Attitudes. (1) "Do you favor [legalized abortion/capital punishment], oppose it, or neither favor nor oppose it? (If Favor): Do you strongly favor it or somewhat favor it? (If Oppose): Do you strongly oppose it or somewhat oppose it? (If Neither): Do you lean toward favoring [legalized abortion/capital punishment], lean toward opposing it, or don't you lean either way?" (2) "Do you think [legalized abortion/capital punishment] is good, do you think it is bad, or do you think it is neither good nor bad? (If Good): Do you think it is very good, or somewhat good? (If Bad): Do you think it is very bad, or somewhat bad? (If Neither): Do you lean toward thinking [legalized abortion/capital punishment] is good, lean toward thinking it is bad, or don't you lean either way?" (3) "Do you think [legalized abortion/capital punishment] is wise, do you think it is foolish, or do you think it is neither wise nor foolish? (If Wise): Do you think it is very wise, or somewhat wise? (If Foolish): Do you think it is very foolish, or somewhat foolish? (If Neither): Do you lean toward thinking [legalized abortion/capital punishment] is wise, lean toward thinking it is foolish, or don't you lean either way?" (4) "Do you think [legalized abortion/capital punishment] is beneficial, do you think it is harmful, or do you think it is neither beneficial nor harmful? (If Beneficial): Do you think it is very beneficial, or somewhat beneficial? (If Harmful): Do you think it is very harmful, or somewhat harmful? (If Neither): Do you lean toward thinking [legalized abortion/capital punishment] is beneficial, lean toward thinking it is harmful, or don't you lean either way?" [Scores ranged from 0 to 1, with higher numbers indicating more positive attitudes.] Note: These questions were asked before and after a persuasive message in order to assess resistance operatively. Attitude change was coded so that greater resistance (i.e., less change) was represented by higher numbers. Pre-message answers to the first attitude question were used to calculate issue discrepancies for assessing the ingredients of candidate evaluations.

Choices of information to acquire. Respondents were shown a list of descriptions of information and asked to report which they most and least wanted to learn. (1) Editorials published in the *New York Times*—List 1 (death penalty errors, how taxes trickle down, school vouchers' flaw); List 2 (the fuzzy abortion debate, taking action on hate crimes, jobs and inflation); (2) Pieces of information about people in the United States—List 3 (percent of convicted murderers who are eventually put to death, number of Americans without health insurance, current rate of unemployment); List 4 (average age at which most smokers begin to smoke, number of

abortions conducted in the United States each day, number of homeless people in the United States); (3) Candidates' opinions about the following issues—List 5 (school vouchers, capital punishment, campaign finance reform); List 6 (legalized abortion, education reform, pollution). [Each piece of information was coded 1 if the respondent wanted to learn it the most, 0 if s/he wanted to learn it least, and 0.5 otherwise. For those in the abortion target issue condition, the first editorial from List 2, the second piece of information from List 4, and the first issue on List 6 were treated as attitude-relevant pieces of information. For respondents in the capital punishment target issue condition, the first editorial from List 1, the first piece of information from List 3, and the second issue on List 5 were treated as attitude-relevant pieces of information.]

Interest in information: (1) "How interested are you in learning more about the issue of [legalized abortion/capital punishment]—not at all interested, slightly interested, somewhat interested, very interested, or extremely interested?" (2) "How likely are you to seek out information about the issue of [legalized abortion/capital punishment]—not at all likely, a little likely, somewhat likely, very likely, or extremely likely?" (3) "Compared to other issues, how interested are you in learning more about the issue of [legalized abortion/capital punishment]—less than about other issues, more than about other issues, or about as much as about other issues? (If Less): Much less interested or somewhat less interested? (If More): Much more interested or somewhat more interested? (If About As Much): Do you lean toward thinking you are less interested in learning about the issue of [legalized abortion/capital punishment] than about other issues, lean toward thinking you are more interested in learning about it than about other issues, or don't you lean either way?" [Scores range from 0 to 1, with higher numbers indicating more interest.]

Orienting to attitude-relevant information: "In the next task, you will very briefly be shown a list of words. After you see each list, you will have one minute to list all the words you remember seeing." Each of the following four lists was shown to respondents for 2 seconds; the latter then had one minute to list all the words they remembered seeing.

List #1	List #2	List #3	List #4
Justice Department	Abortion	Senate	National Security
Education	School Vouchers	Interest Group	Social Spending
Death Penalty	Taxes	Fetus	Pro-Choice
Liberal	Capital Punishment	Electric Chair	Health Care
Government Services	Crime	NAFTA	Democrats
Defense Spending	Global Warming	International Peace	Lethal Injection
Pro-Life	Pollution	Weapons Development	Capitol Hill
Smog	Military Costs	Republicans	Utility Deregulation
Environment	Conservative	Defense Spending	President

[The number of correctly recalled attitude-relevant words from the first two lists was one indicator of orientation, and the number of correctly recalled attitude-relevant words from the second two lists was a second indicator of orientation. For respondents in the abortion target issue condition, the words "pro-life," "abortion," "fetus," and "pro-choice" were used as target words; for those in the capital punishment target issue condition, the words "death penalty," "capital punishment," "electric chair," and "lethal injection" were used.]

False consensus effect: (1) "In your opinion, what percent of Americans do you think have the same opinion as you about the issue of [legalized abortion/capital punishment]?" (2) "Do you think most Americans strongly favor [legalized abortion/capital punishment], somewhat favor it, slightly favor it, neither favor nor oppose it, slightly oppose it, somewhat oppose it, or strongly oppose it?" (3) "If someone conducted a survey of all U.S. adults, do you think most people would be on the same side of the [legalized abortion/capital punishment] issue as you, or would most people be on the other side?" (4) "Do you think you are in the minority when it comes to your opinion about [legalized abortion/capital punishment], or in the majority?" (5) "Do you think most people agree with your position on [legalized abortion/capital punishment], or disagree with it?" [Scores for the first question range from 0 to 1, with higher numbers indicating a stronger false consensus effect. Scores for the second question range from 0 to 1, with higher numbers indicating more favorable attitudes. The absolute value of the difference between these two scores was calculated and recoded to range from 0 to 1, with higher numbers indicating a stronger false consensus effect. Responses to the last three questions were coded so that 1 indicated the respondent thought s/he was in the majority, and 0 indicated the respondent thought that s/he was in the minority. These scores were then averaged to yield a measure of majority perceptions.]

Hostile media bias: "Some people feel that the news media have been biased in their coverage of [legalized abortion/capital punishment]. Other people feel that the news media have been fair and objective in their coverage of this issue. Do you think the news media have been not at all biased, a little biased, somewhat biased, very biased, or extremely biased in their stories about [legalized abortion/capital punishment]?" (If the respondent said something other than "Not At All Biased"): (a) For abortion, "What kind of bias have you noticed? Have the news media been biased toward saying that abortions should be easy to obtain, or have they been biased toward saying that abortions should be difficult to obtain?" (b) For capital punishment, "What kind of bias have you noticed? Have the news media been biased toward saying that capital punishment should be used more often, or have they been biased toward saying that capital punishment should be used less often?" [Scores range from -1 to +1, with higher numbers indicating greater bias toward saying that abortion should be easy to obtain or capital punishment should be used more often.]

Presidential candidates' policy attitudes: (1) "What is George W. Bush's opinion about [legalized abortion/capital punishment]? Does he favor [legalized abortion/capital punishment], oppose it, or neither favor nor oppose it? (If Favor): Does he strongly favor it or somewhat favor it? (If Oppose): Does he strongly oppose it or somewhat oppose it? (If Neither): Do you think he leans toward favoring [legalized abortion/capital punishment], leans toward opposing it, or don't you think he leans either way?" (2) "What is Al Gore's opinion about [legalized abortion/capital punishment]? Does he favor [legalized abortion/capital punishment], oppose it, or neither favor nor oppose it? (If Favor): Does he strongly favor it or somewhat favor it? (If Oppose): Does he strongly oppose it or somewhat oppose it? (If Neither): Do you think he leans toward favoring [legalized abortion/capital punishment], leans toward opposing it, or don't you think he leans either way?" [Scores range from 0 to 1, with higher numbers indicating more favorable attitudes toward the policy.]

Evaluations of presidential candidates: (1) "Is your opinion of George W. Bush favorable, unfavorable, or neither favorable nor unfavorable? (If Favorable): Is it very favorable or somewhat favorable? (If Unfavorable): Is it very unfavorable or somewhat unfavorable? (If Neither): Do you lean towards being favorable towards George W. Bush, or do you lean towards being unfavorable about him?" (2) "Is your opinion of Al Gore favorable, unfavorable, or neither favorable nor unfavorable? (If Favorable): Is it very favorable or somewhat favorable? (If Unfavorable): Is it very unfavorable or somewhat unfavorable? (If Neither): Do you lean towards being favorable towards Al Gore, or do you lean towards being unfavorable about him?" [Scores range from 0 to 1, with higher numbers indicating more positive attitudes.]

General involvement in activities: (1) "How involved are you in activities related to the issue of [legalized abortion/capital punishment]—not at all involved, a little involved, somewhat involved, very involved, or extremely involved?" (2) "How often do you engage in activities related to the issue of [legalized abortion/capital punishment]—never, occasionally, often, very often, or extremely often?" (3) "Compared to other issues, how involved are you in activities related to the issue of [legalized abortion/capital punishment]—less than other issues, more than other issues, or about as much as other issues? (If Less): Much less involved or somewhat less involved? (If More): Much more involved or somewhat more involved? (If About As Much): Do you lean toward thinking you are less involved in activities related to the issue of [legalized abortion/capital punishment], lean toward thinking you are more involved in activities related to the issue of [legalized abortion/capital punishment], or don't you lean either way?" [Scores range from 0 to 1, with higher numbers indicating more activism.]

Specific activist behaviors: "Have you ever . . . (1) written a letter to a public official about the issue of [legalized abortion/capital punishment]? (2) given money to an organization concerned with the issue of [legalized abortion/capital punishment]? (3) joined an organization concerned with the issue of [legalized abortion/capital punishment]? (4) participated in a protest march or rally on the issue of [legalized

abortion/capital punishment]? (5) attended a group meeting to discuss the issue of [legalized abortion/capital punishment]? (6) made a telephone call to a government official to express your opinion on the issue of [legalized abortion/capital punishment]? (7) written a letter to a newspaper or magazine to express your opinion on the issue of [legalized abortion/capital punishment]? (8) called a talk radio program to express your opinion on the issue of [legalized abortion/capital punishment]? [Responses to each question were coded 1 for yes, 0 for no. Scores for the first two behaviors were averaged together to form one measure of activism, scores for the next two were averaged to form a second, scores for the fifth and sixth to form a third, and scores for the final two to form a fourth.]

NOTES

1. Ambivalence has also been gauged by other methods: (1) examining individual-level error variance in models predicting respondents' answers to specific policy questions, on the assumption that greater variance reflects greater conflict between relevant values (Alvarez and Brehm 1995, 1997, 1998); (2) coding responses to open-ended questions asking respondents to report their thoughts (researchers looking for mentions of conflicting values and direct mentions of feelings of ambivalence; Feldman and Zaller 1992); and (3) gauging inconsistencies between attitudes toward specific attitude objects (e.g., abortion or capital punishment) and ideology (Huckfeldt and Sprague 1998a,b). All of these seem to us to be relatively indirect.
2. We borrowed the term "operative" from Bassili (1996b), and generalized his "meta-attitudinal" into "meta-psychological."
3. Also see chapter 4 in this volume for an example.
4. Priester and Petty (2001) found that interpersonal discrepancies predicted unique variance in MP ambivalence, even when controlling for the effect of OP ambivalence. Interpersonal discrepancies primarily influenced MP ambivalence for issues that were important, and when the discrepancies were with the attitudes of liked others. Furthermore, the impact of interpersonal discrepancies on MP ambivalence appeared to be greater when OP ambivalence was high. These findings indicate that interpersonal discrepancies cause MP ambivalence. It is also possible, however, that such discrepancies may influence OP ambivalence. The discovery that a liked other holds an attitude discrepant from one's own may lead to the incorporation of reactions to the attitude object that are similar to those of the liked other, thereby increasing OP ambivalence.
5. Jonas, Diehl, and Bromer (1997) manipulated the consistency of information provided to respondents and found that ambivalence led to *more* attitude-intention consistency. However, this finding has only been demonstrated with attitudes toward newly formed objects and has not been found with existing attitudes toward familiar objects.

6. Although Schuman, Presser, and Ludwig (1981) claimed to show that question order effects were stronger among more ambivalent respondents, these investigators actually were measuring certainty rather than ambivalence.
7. Question wordings and codings are detailed in the Appendix to this chapter.
8. All the proposed formulas for calculating ambivalence yield numbers that are highly correlated with one another (Priester and Petty 1996; Thompson *et al.* 1995), and our own tests of the consequences of OP ambivalence using alternative calculations yielded results comparable to those reported here. The formulas we employed are as follows (see the Appendix for question wording):

Gradual Threshold Model:

If negativity (N) is greater than positivity (P),

$$\text{Ambivalence} = (5 \times (P + 1)^4) - ((N + 1)^{(1/(P + 1))}).$$

If P is greater than or equal to N ,

$$\text{Ambivalence} = (5 \times (N + 1)^4) - ((P + 1)^{(1/(N + 1))}).$$

Negative Acceleration Model:

If positivity (P) is greater than negativity (N),

$$\text{Ambivalence} = (2 \times N + 1)/(P + N + 2).$$

If N is greater than or equal to P ,

$$\text{Ambivalence} = (2 \times P + 1)/(P + N + 2).$$

9. Some respondents read strong arguments, others read weak arguments. Because this manipulation did not affect the amount of attitude change observed, the two groups were combined for the analyses reported below. Attitudes toward abortion manifested significant change in the direction of the persuasive message (mean change = 0.02, $t(294) = 6.41$, $p < 0.001$), as did attitudes toward capital punishment (mean change = 0.03, $t(299) = 8.09$, $p < 0.001$).
10. Mean placement of each candidate on the target issue was used to estimate the candidate's actual attitude when calculating this variable. Alternatively, we might have content-analyzed speeches and other public statements by the candidate to gauge his or her position on the attitude continuum. This is difficult to do, however, because candidates often do not clearly and consistently state their positions on issues (Page 1978), and the news media do not always report candidates' positions to the public (Graber 1980; Patterson 1980; Patterson and McClure 1976). Yet another approach would be to treat each respondent's placement of a candidate as a measure of his or her perception of the candidate's position. Yet analyses using this measure may be distorted by projection, whereby people adjust their perceptions so that candidates they like appear to have attitudes more similar to their own, and candidates they dislike appear to have attitudes more different from their own (Krosnick 2002; Page and Brody 1972). We chose to use average perceived candidate positions in our analyses to eliminate this potential confound.

11. Also consistent with our hypotheses about the effects of operative ambivalence on perceptions of candidates' attitudes, greater OP ambivalence was associated with smaller perceived differences between the candidates' positions ($\beta = 0.10$, $p < 0.05$); MP ambivalence was not associated with the magnitude of perceived differences ($\beta = 0.08$, n.s.).

10. Each probability value is obtained from a multivariate analysis of variance (MANOVA) *F* test that the difference between corresponding coefficients across the two equations is equal to zero. A more general version of this test is used to examine whether *all* of the coefficients are equal across equations (or, equivalently, that observed differences between them are due only to sampling error).

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