

The Unmet Potential of Interdisciplinary Research: Political Psychological Approaches to Voting and Public Opinion

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Abstract Since its founding, political science has embraced interdisciplinary research. Yet there exist few, if any, systematic assessments of the success of these endeavors. We assess what is often seen as a paradigm of interdisciplinary collaboration: political psychological research on voting and public opinion. Surprisingly, we find little evidence of true interdisciplinary work; instead, we uncover misused concepts and scant evidence of conceptual or disciplinary integration. We conclude with suggestions for how to improve interdisciplinary research on voting and public opinion, and more generally.

Keywords Interdisciplinary research · Voting · Public opinion · Political psychology

Interdisciplinary thinking is rapidly becoming an integral feature of research as a result of... the inherent complexity of nature and society, the desire to explore problems and questions that are not confined to a single discipline, the need to solve societal problems, and the power of new technologies (Committee on Facilitating Interdisciplinary Research 2005, p. 2).

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In 1902, a group of scholars gathered to consider the formation of a national association of political scientists. Much of their deliberation focused on the linkage between such an organization and the recently formed associations of the other fledgling social science disciplines. One proposal called for “the creation of a Political Science ‘Section’ in the American Economic, or in the American Historical, or in the American Social Science Association, or in all three associations.” The proposal that ultimately carried the day, though, established a new association “to be named... ‘The American Political Science Association [APSA],” which would “be affiliated with, or at least act in harmony with, the American Economic, the American Historical, or other scientific Associations” (*Proceedings 1904*, p. 10).

Concerns about the relationship between political science and other disciplines were present at the creation of political science as an organized discipline in the United States, and they remain so today. For example, in 2007 the call for papers for the annual APSA meeting characterized political science as “fundamentally interdisciplinary, exchanging ideas, theories, data, and methods with fields from anthropology to zoology—and everything in between. As political science has become a more self-conscious discipline, it has simultaneously grown more aware of its intellectual debts and on-going contributions to cognate fields of study...” This emphasis reflects one side of long-standing debates about the promise and performance of interdisciplinary research that have become even more prevalent in recent years (Committee on Facilitating Interdisciplinary Research 2005).

Political scientists borrow prolifically from other disciplines, including psychology, cognitive science, economics, statistics, sociology, geography, anthropology, philosophy, law, and history. How successful have these interactions been in enhancing the quality of political science research and promoting genuine interdisciplinary exchange? Numerous volumes have been compiled celebrating interdisciplinary work in the sciences and social sciences, but rarely have these volumes descended from lofty platitudes to concrete assessments of the extent to which the promise of interdisciplinary research is actually being borne out.

In this paper, we examine what is often considered one of the discipline’s most successful interdisciplinary efforts: political psychological research on voting and public opinion formation. As Kathleen McGraw (2006) explains, “political psychology is an inherently interdisciplinary exercise... [that is] at a propitious position, in terms of its status and legitimacy within the discipline of political science, [particularly] some subfields of political psychology—such as public opinion...” (also see, e.g., Kinder 1998). We begin by identifying two key criteria, immersion and conceptual integration, for evaluating interdisciplinary research. We then use these criteria to assess notable strands of political psychology research on voting and public opinion. Surprisingly, we find that success in this particular interdisciplinary undertaking has been more elusive than is often recognized. We offer suggestions for how to enhance interdisciplinary work on voting and public opinion. Although we recognize the danger in drawing general inferences from our case study, we believe that our evaluation offers lessons for most interdisciplinary research. We conclude with a discussion of these lessons.

Interdisciplinary Research

An evaluation of interdisciplinary research requires specification of evaluative criteria. What standards should be employed to assess political psychological work on voting and public opinion? A recent National Academy of Sciences report provides guidance. It defines interdisciplinary research as a mode of inquiry that “integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice” (Committee on Facilitating Interdisciplinary Research 2005). The report continues by offering specific criteria for which interdisciplinary researchers should strive. First, success requires that researchers “desiring to work on interdisciplinary research, education, and training projects should immerse themselves in the languages, cultures, and knowledge of their collaborators” (Committee on Facilitating Interdisciplinary Research 2005, p. 4). Insufficient *immersion* increases the risk that scholars will misunderstand and misapply concepts from a neighboring discipline.

Second, “successful interdisciplinary researchers have found ways to integrate and synthesize disciplinary depth with breadth of interests, visions, and skills... The success of [interdisciplinary research] groups depends on...the integration of disciplines” (Committee on Facilitating Interdisciplinary Research 2005, p. 2). *Integration* goes beyond merely appropriating ideas from elsewhere. Instead, it requires the amalgamation of previously unconnected elements, producing novel theories, concepts, or methods that draw on and are of relevance to both disciplines in tandem, rather than to one as donor and the other as recipient (see Sherif and Sherif 1969).

The extent of immersion and integration will differ across particular efforts to merge two disciplines. In political psychology, for example, interdisciplinary analyses of international negotiations might be either more or less successful than research on public opinion formation; similarly, whether political economy research is deemed successful might well depend on whether one is examining international political economy or political economy-based research on legislative institutions. It follows that rather than spanning pairs of entire disciplines, evaluation should be confined to specific clusters of what is ostensibly interdisciplinary research. Moreover, it is beyond the scope of a single paper to explore entire research programs such as political economy, political psychology, or political sociology. Evaluations must be relatively focused, and consequently, caution needs to be taken in drawing general inferences.

That said, our focus on political psychological approaches to voting and public opinion is not an arbitrary choice. Many view this work as a textbook example of thriving interdisciplinary collaboration between political scientists and psychologists (e.g., McGraw 2006). Signs of this collaboration abound in political science, including numerous edited volumes (e.g., Kuklinski 2001, 2002; Monroe 2002; Sears et al. 2003), book series (e.g., Cambridge), organizations (e.g., the International Society for Political Psychology), and journals (e.g., *Political*

Psychology). Voting and public opinion are obviously relevant to psychologists who explore how people think, feel, and act. Indeed, these are among the few political topics to be regularly reviewed in *The Handbook of Social Psychology* (e.g., Kinder and Sears 1985; Kinder 1998). There thus exist numerous indicators of successful interdisciplinary exchange; our question is whether a deeper probing of immersion and integration corroborate these indicators.

A First Look Across the Divide

We begin by placing political psychological approaches to public and voting research in the broader context of the relationship between political science and psychology. Since the first rumblings of the “behavioral revolution,” and notwithstanding a turn in recent years toward economics, political scientists have been intensely interested in the psychological bases of political behavior. In testimony thereto, we show, in Fig. 1, the percentage of articles per year in the three leading general-readership political science journals (the *American Political Science Review*, the *Journal of Politics*, and the *American Journal of Political Science*) in which the words “psychology” or “psychological” have appeared. After cresting at approximately 50% during the 1960s, these percentages have settled into the 35–40% range; that is, more than one out of every three articles in the leading journals of “mainstream” political science has made reference to psychology. What might occasion surprise is that psychologists’ references to “politics” or “political” (as indexed by appearances of those terms annually in the *Journal of Personality and Social Psychology* (JPSP) or its predecessors), after bottoming out in the early 1960s, have been on the increase ever since, to the point that in recent years the two timelines have become conjoined (see Fig. 1).

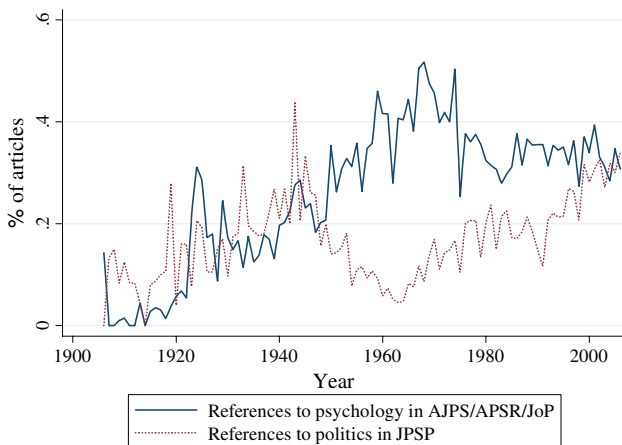


Fig. 1 Cross-disciplinary references

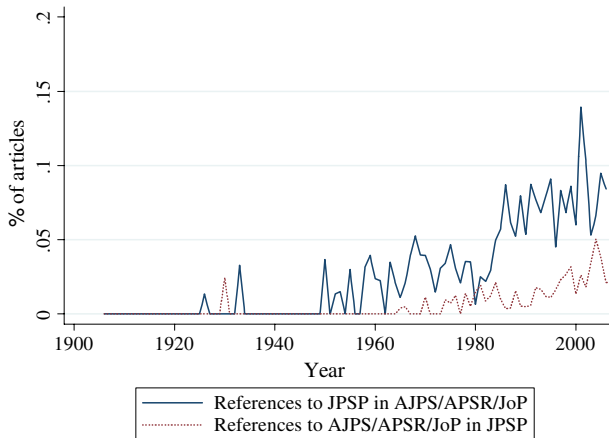


Fig. 2 Cross-disciplinary citations

This coalescence of political scientists’ interest in matters psychological and psychologists’ interest in matters political does not translate into a true mutuality of interests. When considering the extent to which the two disciplines draw on one another and explore similar topics, a different picture emerges. Figure 2 reports the percentage of articles in the political science journals that reference one article or more from the *JPSP*, and, conversely, the percentage of *JPSP* articles that reference one article or more from one of the three political science journals. Clearly, political scientists cite *JPSP* at a substantially higher rate than psychologists cite the political science journals. This suggests that political science draws on (social) psychology to a much greater extent than vice versa, even though psychologists do refer frequently to politics.¹

A specific examination of voting and public opinion paints a similar picture. Figure 3 plots the percentage of articles in each discipline that reference either “voting” or “public opinion.” It should occasion no surprise that voting and public opinion have been major preoccupations in political science research. However, within psychology attention to voting and public opinion has been incidental at most. Indeed, a more detailed examination reveals that of the 11,904 *JPSP* articles that were published between 1906 and 2006, the term “voting” appeared ten or more times (which we consider a reasonable benchmark for identifying articles that focused intensively on a topic) in just 42 (0.4%); “public opinion” appeared at least ten times in only five articles (0.04%). In short, psychologists have not given sustained attention to voting and public opinion.

¹ Consistent with this implication, it has become fairly common for scholars with a Ph.D. in psychology to hold their main academic appointment in a department of political science, but it is rare for scholars with a Ph.D. in political science to hold their main academic appointment in a department of psychology. Herbert Simon was one such rare case, but we are hard-pressed to think of others.

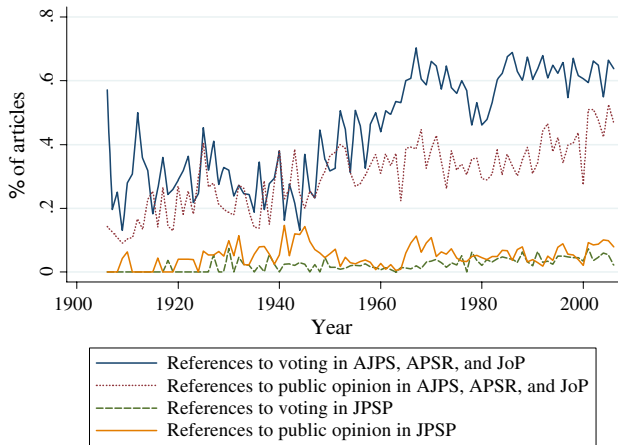


Fig. 3 References to “voting” and “public opinion”

These figures are consistent with our broader impression that when psychologists are considering how to expand the scope of their research programs, they tend to think within the bounds of their own discipline. As Jon Krosnick (2002, p. 194) has said, “[T]he notion that psychology can benefit from exporting its insights and reading the literature of other fields is rarely expressed.” As a consequence, interdisciplinary activities involving psychology tend for the most part to operate in just one direction, with political scientists striving to immerse themselves in and integrate their work with psychology, but rarely vice versa. This finding should not surprise scholars in either field.

Although the full benefits of interdisciplinary research are not being realized, political scientists could still be successfully capitalizing upon the theories, concepts, and methods they import from psychology in the one-way balance of intellectual trade that characterizes the interaction between the two disciplines (Kuklinski 2002, pp. 11–12). But are they? That is the question to which we now turn.

An In-Depth Analysis

As mentioned, evaluations of interdisciplinary success require a fairly narrow focus on particular research programs. To probe more deeply, we narrow our focus even further by exploring four central concepts in recent political psychological accounts of vote choice and public opinion formation: *heuristics*, *media priming*, *on-line processing*, and *motivated reasoning*. We recognize that these are just a few of many noteworthy concepts; explorations into other concepts might yield distinct results. Just as voting and public opinion research is widely viewed as a case of successful interdisciplinary collaboration, however, these four concepts enjoy privileged status, as indicated by their centrality to some of the

most widely cited political psychology publications of the last 20 years (e.g., Iyengar and Kinder 1987; Sniderman et al. 1991; Zaller 1992; Lodge et al. 1995).²

Heuristics are “common judgmental shortcuts that people use to draw complicated inferences [and make decisions] from simple environmental cues” (Lupia et al. 2000, p. 17). Examples in political science include endorsements, party identification, candidate demographics, polls, and so on (Popkin 1991; Sniderman et al. 1991). *Media priming* occurs when “[b]y calling attention to some matters while ignoring others, television news influences the standards by which governments, presidents, politics, and candidates for public office are judged” (Iyengar and Kinder 1987, p. 63). For example, individuals exposed to news stories about defense policy tend to base their overall approval of the president on their assessment of the president’s performance on defense. If, in contrast, these individuals watch stories about energy policy, they instead base their overall evaluations on what they think of the president’s energy policy initiatives.

On-line processing of political information takes place when “people form evaluations immediately upon exposure to the ‘raw data’ of the message, and then immediately integrate the affective charge of this raw material into a running evaluation tally” (Lodge 1995, p. 113). For example, pro-choice, tough-on-crime voters who receive information that a candidate supports abortion rights and strict anti-crime legislation would be expected to access their on-line evaluations of the candidate and update them in a positive direction, and then possibly to forget the candidate’s specific policy stands. Later, on Election Day, these voters would simply retrieve their positive on-line evaluation, even though they might not recall the specific reasons for it (Druckman and Lupia 2000, pp. 10–12). Thus, there might be no relationship between what these voters remember and whom they vote for, or the relationship might reflect post hoc rationalization. This contrasts with memory-based processing, where at the time of decision voters do not retrieve a standing evaluation, but rather base their choice on whatever information they can remember (perhaps the candidate’s abortion position) (e.g., Bizer et al. 2006, p. 646).

Motivated reasoning, which has deep roots in psychological research of the 1950s and 1960s (see, for example, Festinger 1957), distinguishes between accuracy and directional goals. One goal implies an objective analysis of new evidence, the other a biased analysis that interprets new evidence as consistent with one’s prior views, thus helping the individual to maintain those views. Political scientists have emphasized directional motivated reasoning, on the assumption that people seek to arrive at desired conclusions about politics. For example, when people call on or construct an evaluation (e.g., “I like a Candidate X”), they might then seek out and/or positively evaluate only information consistent with it. A pro-Bush voter might interpret information suggesting that Bush misled voters about the Iraq war as evidence of strong leadership in a time of crisis, rather than an indication of

² This is particularly true for heuristics, media priming, and on-line processing; because motivated reasoning has emerged more recently in political science (e.g., Taber and Lodge 2006), the centrality of its status is less certain. One of the central concepts we are not considering is emotion; our impression is that a thorough examination of extant political science research might reveal dynamics similar to what we observe for our four concepts (for discussion, see Druckman and McDermott 2008, pp. 301–302).

incompetence or deception. Lodge and Taber explain that motivated reasoning entails “systematic biasing of judgments in favor of one’s immediately accessible beliefs and feelings... [It is] built into the basic architecture of information processing mechanisms of the brain” (2008, pp. 35–36).

Immersion

All four of these concepts—*heuristics*, *priming*, *on-line processing*, and *motivated reasoning*—originated in psychology. To assess the extent of psychological immersion by political scientists, we track the importation and application of these concepts in research on political decision-making.

Heuristics

The idea that individuals rely on heuristics or shortcuts when forming their political preferences precedes modern political psychology. Cues of one sort or another played a major role in, for example, the classic treatments of political decision-making by Berelson et al. (1954) and Downs (1957). However, the theoretical development of heuristics in contemporary political science began in earnest in the early 1990s in studies by Sniderman et al. (1991) and Popkin (1991; also see Ferejohn and Kuklinski 1990), which drew explicitly on psychological research on cognition.

Immersion requires that the scholars—in this case the political scientists—who are trying to apply and expand a concept understand its origins and evolution. This does appear to have been the case vis-à-vis heuristics. The political scientists who initially seized upon this concept relied heavily on the work of Simon (e.g., 1957) and Tversky and Kahneman (e.g., 1974; also see Taylor and Fiske 1978; Nisbett and Ross 1980). Sniderman et al. (1991, p. 19) situated themselves squarely within this tradition by explaining that the “notion of heuristics... has a long history. It is featured in classic studies of decision making in general (e.g., Simon 1957; Tversky and Kahneman 1974; Kahneman et al. 1982).”

In psychology, the idea of heuristics had emerged in response to the rational model of decision-making, in which people are seen as methodically evaluating some attitude object (e.g., a candidate or a policy) on a full range of dimensions, differentially weighting the salience of these dimensions, and then integrating the evaluations and weights into an overall preference (Edwards et al. 1963). For example, a voter might judge a candidate on several policy dimensions (e.g., the economy, international affairs, and the environment), several image dimensions (e.g., leadership and trust), and various other dimensions as well (e.g., party identification), weigh the importance of each dimension, and finally combine all this information into an overall attitude. “Heuristics” refer to what citizens do when they deviate from this rational ideal and instead focus on a subset of dimensions or use other techniques to engage in limited computation. As Gilovich and Griffin (2002, p. 1) explain, “[t]he central idea of the heuristics and biases program [is] that judgment under uncertainty often rests on a limited number of simplifying heuristics

rather than extensive algorithmic processing...” In many cases, heuristic processing produces decisions that differ from the rational ideal in undesirable ways (hence the term “biases”). For example, instead of evaluating a candidate on many issues, images, and other dimensions and integrating these assessments into an overall evaluation, voters might satisfice by basing their decision on a single dimension that seems relevant or “good enough,” or they might assume that the candidate is likable because the candidate reminds them of others they admire (the so-called “representativeness heuristic”).

The crucial point is that, as developed in psychology, heuristic-based decision-making falls short of the rational ideal. Sniderman et al. (1991) recognized these origins, but their point of comparison was not the rational ideal. Rather, they were responding to what had become the dominant portrayal of citizens’ political decision-making at the time, which they called the “minimalist perspective.” As seen from that perspective, citizens know little or nothing, lack coherent belief structures, and hold unstable and inconsistent opinions. Minimalism offers “little reason to investigate how citizens figure out their views on the major issues of the day [because they lack] genuine opinions about many of them...” (Sniderman et al. 1991, p. 16). Sniderman et al. argued against minimalism by suggesting that citizens employ heuristics, such as relying exclusively on endorsements or likability or party identification, in forming their opinions. Thus, citizens use cognitive processes, even if not fully rational ones, to form meaningful opinions (see Kuklinski and Jerit 2001).

As time wore on, though, the minimalist point of comparison was lost in applications of the heuristics concept. Instead, political scientists began to discuss heuristics as a way to ensure “good” or “rational” decision-making. Often, they stated the standard in negative terms: opinion that is *not* based on biased or incorrect information (Page and Shapiro 1992, p. 356), is *not* different from opinion based on full or the best available information (Bartels 1996; Lau and Redlawsk 2006; Zaller 1992, p. 313), or does *not* cause the individual to act against his or her interests (Lupia and McCubbins 1998, p. 70; also see Luskin 2001). Although some scholars noted the fallibility of heuristics (e.g., Bartels 1996; Lau and Redlawsk 2006; Kuklinski and Quirk 2000; Somin 2006), the thrust of this work has been to construe heuristics as the next-best thing to fully rational democratic decision-making.

This thrust is both ironic and problematic. In the first place, the very point of heuristics is that they function as an alternative *processing* mode to rational decision-making. The two processes are conceived as differing “categorically...in kind” from one another (Gilovich and Griffin 2002, p. 3). Because both are procedural, the difference between them does not depend on the outcome of the decision process.

To compound the problem, by paying insufficient attention to the processing-versus-outcome distinction, political scientists have inadvertently focused on whether heuristics enable citizens to achieve certain desirable decision outcomes. The problem is that no consensus has been reached about what this ideal should be—indeed, little attention has been given to this issue (a notable attempt to define it is Lau and Redlawsk 2006). The desirable outcomes that have been suggested include decisions arrived at with ideological constraint (e.g., Converse 1964, 2000),

decisions based upon deliberation (e.g., Bohman 1998), and decisions consistent with values (e.g., Chong 2007). The most noted standard of comparison is “full information,” the question being whether heuristics enable people to make the same decisions they would have made with more information (e.g., Bartels 1996; Zaller 1992, p. 313). Aside from its questionable normative desirability, one concern with using this as a point of comparison is that heuristics serve as an alternative to full rational *computation*, not as a means of compensating for information *per se*. In other words, heuristics are a computational shortcut, and not necessarily an informational shortcut.

One might possess little information but still employ rigorous, “rational” computation, which according to Lau and Redlawsk (2006, p. 230) is “an important distinction that seems to have gotten lost in the translation from cognitive psychology to political science.” Thus, not only does disagreement continue about what the normative standard of competence should be, but one of the most widely applied standards, full information, is not clearly connected to heuristics, at least as the concept was developed in psychology. Of course, citizens do use informational shortcuts, but this is neither here nor there in terms of the psychological conception of heuristics. Political scientists’ applications of the concept have thus strayed from its psychological basis, undermining the interdisciplinary nature of their research.

Without clearer specification, furthermore, it is not even clear what a heuristic is. In psychology, heuristic processing occurs when one uses a cognitive shortcut instead of going through extensive computations. In political science, though, nearly anything can be construed as a heuristic if the standard is full information. No matter how much information one has, one could always have more; so the bases of one’s decision, falling short of full information, must be heuristic. For example, candidate endorsements are often used as an example of a heuristic that a voter might use. This is plausible in some cases, but it also is plausible that the voter uses an endorsement as one dimension of evaluation and extensively integrates it with other dimensions. If so, then the endorsement constitutes an ingredient of rational processing rather than heuristic processing. Such examples suggest a slippery slope that could lead to virtually any possible basis for decision-making being construed as a heuristic.

We do not mean to suggest that political science research on heuristics has done nothing to enhance our understanding of voting and public opinion. However, this research has strayed qualitatively from the psychological track on which it set out, and as a result it is beset by major conceptual ambiguities in terms of what a heuristic is and how it operates.

Priming

The incorporation of the concept of priming into political science has followed a similar course. Like heuristics, the basic ideas underlying priming can be traced back to early research by Lippmann (1922); Lasswell (1946), and Berelson et al. (1954: chapter 12), but the modern, psychologically elaborated concept did not appear until media effects research rose to prominence. As defined by Iyengar and Kinder (1987, p. 63), who pioneered its use in political science, priming refers to

“changes in the standards that people use to make political evaluations.” For example, voters might decide between candidates on the basis of economic issues if media coverage has emphasized the economy and foreign affairs if the media have emphasized it. Although Iyengar and Kinder focused explicitly and exclusively on media emphasis, the concept has been extended to refer to emphasis by politicians or other political actors (e.g., Riker 1996; Druckman et al. 2004).

In introducing the idea of priming to political science, Iyengar and Kinder (1987, pp. 63–64) noted that “[f]or theoretical guidance we have drawn upon ideas developed within the information processing perspective in psychology” (also see Iyengar et al. 1984). Somewhat ironically (for reasons we will elaborate below), they drew on research on heuristics and specifically on Herbert Simon’s idea of satisficing to bolster their argument that people base their political evaluations on whatever dimensions of evaluation (e.g., the economy or foreign affairs) happen to enter their mind, which in turn depends in large part on whatever they have recently and/or frequently been hearing on the news. The underlying psychological process in this account is accessibility, a subconscious, automatic process whereby individuals employ whichever dimension happens to be within reach in their minds (Higgins 1996).

In his highly influential work, Zaller (1992) invoked similar psychological processes. People, he argued, form evaluations by “averaging across the considerations that are immediately salient or accessible to them” (p. 49); in this formulation, a “consideration” is “any reason that might induce an individual to decide a political issue one way or the other” (p. 40). Thus people base their preferences on whichever considerations happen to come to the “top of the head” (i.e., are most accessible). “The more recently a consideration has been called to mind or thought about,” Zaller (1992, p. 48) continued, “the less time it takes to retrieve that consideration or related considerations from memory and bring them to the top of the head for use.” This accessibility process, he contended, is “one of the best-established empirical regularities in cognitive psychology.” In support of his claim, Zaller referenced relevant work by Higgins and King (1981) and Wyer and Srull (1989); (Zaller 1992, p. 48). In many cases, of course, the most accessible consideration would be the one on which recent elite rhetoric had been focusing.

The idea that an automatic accessibility process mediates media priming and opinion formation more generally has gained widespread acceptance in political science (e.g., Chong 1993, p. 869; Allen et al. 1994, p. 266; Mendelsohn 1996, p. 113; Bartels 2003). Unfortunately, until recently these applications did little or nothing to clarify the role played by accessibility, a shortcoming we attribute to political scientists’ lack of immersion in the psychological literature.

Two points stand out in this regard. First, the cognitive accessibility and priming literature in psychology differs in significant ways from its application to media priming. Consider Higgins et al.’s seminal priming research (1977). The subjects in that study were asked to participate in two experiments. In the first, they completed a task that required, among other things, memorizing a series of trait terms that were either positive (e.g., “adventurous” and “self-confident”) or negative (e.g., “reckless” and “stubborn”). This task was intended to prime or increase the accessibility of positive or negative traits. In the second, ostensibly unrelated

experiment, the subjects were given a brief and ambiguous description of a person with experiences and traits that included having driven in a demolition derby and being unlikely to change his mind. Whereas the subjects who had been subtly primed with positive trait terms tended to view the target person's behaviors positively, those who had been primed with negative trait terms construed the same behaviors negatively. The main point of the experiment was that subjects automatically based their judgments of an ambiguous stimulus on constructs that had been subconsciously made accessible in the memorization task.

Priming in this paradigm refers to “a procedure that increases the accessibility of some category or construct in memory” (Sherman et al. 1990, p. 405). In contrast to how political communication and political psychology scholars have used the term, there is neither communication nor strategic emphasis of a dimension. Media priming might not be priming (i.e., a procedure that increases accessibility) at all, and in fact evidence from research by Miller and Krosnick (2000) suggests that accessibility is not the key mediational process at work. This raises further questions about whether priming as it is used in political communication and political psychology is actually a unique concept. Indeed, Chong and Druckman (2007, p. 115) argue that issue or value “framing effects and what communication scholars have called priming effects share common processes and the two terms can be used interchangeably.”³

Second, insufficient immersion in psychology by political scientists has limited their incorporation of theoretical and conceptual developments in psychology on accessibility. Just as Iyengar and Kinder and Zaller were introducing accessibility to political scientists, psychologists were identifying the conditions under which non-conscious accessibility, as opposed to more conscious processes, mediates opinion formation. In the same year that Zaller's book was published, Martin and Achee (1992, p. 195) argued that:

[p]eople are not stupid. At least, they are not stupid in the way that some of the initial work in social cognition seemed to suggest. Consider, for example, the work on concept priming. It was assumed (e.g., Higgins and King 1981; Wyer and Srull, 1980, 1981) that in the course of forming impressions, people searched for concepts with which to interpret a target person's behaviors. As soon as they found such a concept, they stopped searching... While we do not dispute the findings of this research, we do suggest that the findings may have presented an incomplete view of the social perceiver...

A sizable psychological literature emerged that identified conditions under which people subconsciously process whatever is “on top of their heads,” engage in more conscious deliberation, and sometimes do the opposite of what is immediately accessible (e.g., Bargh et al. 1986; Fazio 1995, 2007; Higgins 1996; Stapel et al. 1998; Chaiken and Trope 1999). This research has only recently begun to be incorporated into political science research on priming (e.g., Althaus and Kim 2006; Chong and Druckman 2007). We suspect that political scientists were slow to incorporate work on the conditions under which accessibility processes dominate

³ Alternatively, Lenz (2009) argues that media priming is in fact akin to learning.

because they relied heavily on initial political science sources (e.g., Iyengar and Kinder 1987; Zaller 1992), rather than returning to the original psychology sources and following subsequent developments in psychology.

As with heuristics, then, we see political scientists as having insufficiently immersed themselves in the evolving psychological literature on accessibility and priming, thus limiting progress in political psychology. Conceptual confusion and incomplete portrayals of opinion formation processes have been the result.

On-line Processing and Motivated Reasoning

Although on-line processing and motivated reasoning are distinct concepts, we discuss them in tandem. For one thing, Stony Brook researchers introduced both concepts to political scientists (Milton Lodge, Kathleen McGraw, and colleagues in the first case, Charles Taber and Lodge in the second). For another, even though the Stony Brook scholars themselves came to separate the two concepts completely, they initially treated motivated reasoning as an extension of on-line processing, which is itself an interesting story.

Lodge and his colleagues (for some earlier related discussion, see Fiorina 1981) introduced on-line processing as an alternative to rational choice and to memory-based models of decision-making.⁴ The Stony Brook researchers (1989) showed that instead of forming candidate preferences by engaging in an exhaustive memory search over multiple dimensions, voters receive information, update their prior evaluations based on some of it, and then store these evaluations in the form of an affective tally, at which point they might well forget the new information altogether. Subsequently Lodge et al. (1995) pitted this in-line processing model against priming- and accessibility-based approaches, focusing on the inclination of voters to base their preferences on running evaluations rather than (accessible) memory of past information (e.g., Lodge 1995, p. 119; Lodge et al. 1995, p. 321).

In introducing the theory of motivated reasoning to political science, Lodge and Taber (2000) explicitly build on the on-line (OL) processing theme, with affect serving as the bridge (also see Redlawsk 2001; Taber et al. 2001).⁵ They (2000, p. 186) explain, “we extend the analysis of OL processing to the study of political reasoning and suggest mechanisms for how and why this affective tally—once formed for a candidate, party, or issue—will likely influence *subsequent information processing*, typically promoting biased decision making” (italics in original).

⁴ Lodge et al. (1989) focus much of their attention on Kelley and Mirer’s (1974, p. 574) model, in which “The voter canvasses his likes and dislikes of the leading candidates and major parties involved in an election. Weighing each like and dislike equally, he votes for the candidate toward whom he has the greatest number of net favorable attitudes.” However, Lodge et al. (1989, p. 417) also note the contrast with rational choice, stating “It is increasingly evident that citizens are not well informed and cannot engage in the computations required by most theories of voter rationality. We add to this the caveat that candidate memory is distorted by systematic biases that stem directly from impression-driven processing. However, from a cognitive perspective, these consequences of impression-driven evaluation are a natural and (dare we say) ‘reasonable’ way to compensate for the severe limitations on human information processing that render models of unbounded rationality psychologically unrealistic.”

⁵ The basic idea of motivated reasoning was not new to political science (e.g., Sears and Whitney 1973), but there had previously been no grounded theory.

Since then, Lodge and Taber have ceased explicitly connecting the two lines of research, despite the centrality of affect to both (e.g., Taber and Lodge 2006).⁶

In the cases of on-line processing and motivated reasoning, and unlike the cases of heuristics and priming, there has been little conceptual misuse in political science, thanks to the care that Lodge and his associates took to base their research program on the leading psychological work (e.g., Anderson and Hubert 1963; Hastie and Park 1986; Kunda 1990) and then to build on, develop, and refine it (e.g., Lodge and Taber 2000; Taber 2003). Unfortunately, though, except for the work of Lodge and his colleagues, political science applications of the concepts of on-line processing and motivated reasoning have largely been ad hoc, displaying little evidence of immersion in the psychological literature. From 1990 through 2006, Kunda's (1990) seminal article on motivated reasoning was cited in 22 *AJPS*, *APSR*, and *JOP* articles. However, in more than half of those articles—12 (55%)—the term “motivated reasoning” appeared only in the list of references and never in the main text. In another four of the 22 articles (18%), motivated reasoning was mentioned only in passing, without any elaboration at all. In four of the six remaining articles, it typically appeared only in a sentence or two, and it played what could be considered a significant role in only two articles (Goren 2002; Taber and Lodge 2006).⁷ Obviously, then, in their major published work, political scientists have not delved deeply into the concept of motivated reasoning. Rather, they have done little more than barely acknowledge its existence, using it casually if at all, and hardly ever adopting it as a central orienting concept (also see Braman 2006; Braman and Nelson 2007, p. 941). We suspect that it would be more important if increased attention were paid to its development and evolution. This includes more explicit attention to the distinction between accuracy and directional goals, a difference that is sometimes lost in applications (for discussion, see McGraw 2003, p. 396; Taber and Lodge 2006, p. 756).

In sum, we find little evidence that political scientists have sufficiently immersed themselves in the relevant psychological literatures on which they have drawn. As a result, they have mischaracterized concepts and used them in casual and ad hoc or post hoc ways, limiting both theoretical and empirical progress and undermining any realistic prospect of contributing back to psychology.

Integration

Inadequate immersion leads to poor integration. There are two distinct types of integration: the integration of specific concepts and the integration of the relevant disciplines. Both are essential to successful interdisciplinary research.

⁶ One is, however, more likely to engage in motivated reasoning when one's OL tally is strong (Lodge and Taber 2000, p. 211).

⁷ However, for further development of the model in yet to be published papers, see Lodge et al. (2008), and Taber et al. (2009). Also, see Braman and Nelson (2007), which was published after 2006, the cut-off year in our content analysis.

Conceptual Integration

The concepts of heuristics, priming, on-line processing, and motivated reasoning all bear directly upon voter decision-making and public opinion formation. Unfortunately, though, political science research on each has proceeded within more or less air-tight compartments, with minimal attempts being made to identify and clarify linkages among these processes. How are heuristics, priming, on-line processing, and motivated reasoning connected to one another? When voters form preferences, do they access an on-line evaluation, rely on a recently encountered cue, or decide based on considerations headlined in the media? How do they reconcile all this information? Are heuristics, priming, and on-line tallies all part of the same process in ways that political scientists have not recognized? If someone engages in motivated reasoning, how is priming possible? That is, if one perceives evidence as consistent with one's priors, then how can one's priors be changed by new information?

Answering these questions lies beyond the scope of this essay, but we can garner some insight by turning back to—immersing ourselves in—the psychological literature on these concepts. For example, as explained above, priming as used in psychology refers to an accessibility bias (or a psychological heuristic) wherein people base their opinions on whatever information subconsciously comes to mind. Multiple research programs in psychology isolate conditions under which heuristic decision-making based on top-of-the-head accessible considerations is more likely than more elaborate processing of information. Fazio (1995, 2000, 2007) has proposed a dual-process model in which individuals rely more on heuristic decision-making—specifically basing considerations on whatever is accessible—rather than engaging in more reasoning. For Fazio, the key lies in the motivation and opportunity to engage in more processing. These conditions are similar to those offered in other dual-process models—some of which have been explicitly acknowledged in political science (see, e.g., Kam 2005, building on Petty and Cacioppo 1986)—that posit key roles for motivation and ability. Beyond these individual-level factors, though, other factors affect whether individuals rely on an accessibility heuristic. These include the nature and the complexity of the problem—factors such as time pressure and the number of alternatives. As time pressure and the number of alternatives increase, people become much more likely to employ shortcuts, such as relying on whatever information is accessible (Payne et al. 1993, pp. 34–40). The competitive nature of a situation also matters, with greater competition increasing elaboration (e.g., Martin 1986; Kuklinski et al. 2001; Druckman 2004). Additionally, social context can increase accountability, and group identification can induce individuals to deliberate more thoroughly (e.g., Tetlock 1983; Thompson et al. 1994).

Similarly, individual and contextual factors determine whether individuals form opinions more in a memory-based or an on-line fashion. People form on-line evaluations “when they believe that a judgment is likely to be required at a later point in time” (Hastie and Park 1986, p. 262). In contrast, one who encounters information without a specific processing goal or who has the goal of remembering as much as possible will probably not form an on-line evaluation. Individual differences also matter; Jarvis and Petty (1996) identify the “need to evaluate” as a

powerful moderator. A growing body of evidence shows that those high in the need to evaluate rely on on-line processing, while those low in the need to evaluate base their opinions on their memories (e.g., Tormala and Petty 2001; Briñol and Petty 2005). McGraw and her colleagues also identify several individual difference moderators including issue importance, uncertainty, sophistication, and personality factors (e.g., McGraw et al. 1990, 2003; McGraw and Dolan 2007; also see Bizer et al. 2004; Holbrook 2006; Federico and Schneider 2007).

These conditions for memory-based accessibility and on-line processing provide insight into political applications (also see Lau and Redlawsk 2006). More specifically, they suggest four critical dimensions as determinants of processing mode.

First, the type of choice to be made plays a role. The on-line model seems more applicable when a subsequent candidate evaluation or vote choice, rather than an expression of an issue position on a survey, is forthcoming. This might explain why Lodge and his colleagues, focusing on candidate evaluations, take an on-line processing perspective while Zaller, focusing on issue positions, takes a priming (accessibility) perspective. Relatedly, more elaborate (rational) processing—either on-line or memory based—will become more likely as the number of options decreases, suggesting more careful decision-making in two-party general elections than in multi-candidate primaries (e.g., Lau and Redlawsk 2006). Second, contextual circumstances can promote elaboration, which should, for example, increase according to the level of political competition (also see Rahn et al. 1994 on information presentation). Third, individual differences matter. Political scientists have devoted considerable attention to variations in general knowledge, but other variables likely affect decision-making.⁸ On-line processing might depend on the need to evaluate, while the use of the accessibility heuristic might be contingent on motivation. (Also, it is worth noting that political knowledge, despite being commonly used to measure motivation, might not adequately capture the construct of motivation; see Visser et al. 2006). Finally, norms and social pressure can promote a sense of accountability, which in turn stimulates motivation and encourages elaborate processing. Interpersonal networks thus not only affect the content of information that people receive (e.g., Huckfeldt et al. 2004; Mutz 2006), but also shape the ways in which people process information.

These four factors could be building blocks for an integrative theory of political information processing that incorporates heuristics (i.e., accessibility) and on-line processing. Such a theory could also provide insight into when and how people are influenced by mass communication. For example, most extant mass communication research implicitly relies on a memory-based model, whether rooted in accessibility or more purposeful processing (e.g., Nelson et al. 1997). This model presumes that people base their opinions on whatever information they recall, and recent information from the media is easily recalled. But in conditions ripe for on-line processing, any recent media information will compete with standing on-line evaluations that could limit the impact of that new information. This is consistent

⁸ That other individual difference variables significantly matter is made clear by the aforementioned research by McGraw and her colleagues.

with Druckman and Nelson's (2003) finding that individuals with a high need to evaluate exhibit less susceptibility to media effects.

In general, the importation of psychological concepts into political science with insufficient attention to relevant developments in psychology and with scant consideration of how these concepts relate to one another has limited progress in understanding the political phenomena to which these concepts have been applied.⁹ It is telling that, to the best of our knowledge, no study has yet simultaneously explored how media priming or framing, on-line processing, and various types of heuristics might interactively shape decision-making.

Disciplinary Integration

Ideally, interdisciplinary exchange would involve members of each discipline drawing on and contributing to the other (Committee on Facilitating Interdisciplinary Research 2005). This has not occurred in political psychological research on voting and public opinion. Psychologists have exhibited minimal interest in voting and public opinion, and research by political scientists has had little direct impact on psychological research.¹⁰ For their part, political scientists have not sufficiently immersed themselves in the psychological literatures on which they have drawn. These twin dynamics have inhibited the development of explanations that could build on the strengths of both disciplines.

Political science is highly contextual, being "united by the desire to understand, explain, and predict important aspects of contexts where individual and collective actions are intimately and continuously bound" (Druckman and Lupia 2006, p. 109). Unfortunately, common features of political contexts are all but ignored in psychological research. For example, politics centers on the distribution of and competition over scarce resources, and as a result, strategic competition abounds. Psychological research, though, typically focuses on individual decision-making with little consideration of strategic competition. The enormous psychological literature on persuasion, for instance, pays scant attention to how people deal with competing messages from strategically motivated information providers, instead studying how individuals form attitudes when exposed to just one message, in isolation. This is why some political scientists question the applicability of psychological research to real-world political phenomena. As William Riker put it, "The typical experiments... do not allow even [a] tiny bit of interaction to distribute information. So I wonder very much if these experiments have *any* relevance at all for the study of *social science*" (1995, p. 35; also see Wittman 1995, Sniderman

⁹ Another possible hurdle to integration is that the methods and measures used in psychology often differ from those employed in political science. For example, response latency measures are more common in psychology, and many psychological measures are captured with lengthier batteries of questions (e.g., the original need-to-evaluate measure uses 16 items, versus the two or three used on the National Election Study). It is important for scholars from each discipline to consider such differences when collaborating and integrating.

¹⁰ Psychologists do explore other concepts that clearly fall within the realm of political behavior, such as collective guilt, intergroup conflict, and ideology/values (e.g., Schwartz 1994; Branscombe and Doosje 2004; Jost et al. 2008). However, much of this work has not penetrated very deeply into political science.

2000; Jackman and Sniderman 2002). More generally, “the single most consistent criticism of political psychology (and political behavior more generally) is its neglect of politics” (Kuklinski 2002, p. 9).

Another characteristic of political phenomena is that they unfold over time (e.g., people form their opinions over the course of a campaign) (e.g., Gaines et al. 2007). Most psychological research, however, still relies on experiments conducted at a particular point in time. Eagly and Chaiken (1993, p. 680) note that “Due to this relative lack of an empirical base, attitude researchers can offer little in the way of firm generalizations about attitudinal persistence” (also see O’Keefe 2002, p. 258).¹¹

In spite of—or perhaps because of—the limitations and shortcomings we have identified on both sides of the disciplinary divide, we perceive fertile opportunities for more productive interdisciplinary research. Psychology has provided little insight into strategic competitive environments or dynamics. Political scientists who study these environments and who acknowledge the ubiquity of these dynamics could build on basic psychological constructs (e.g., heuristics, processing mode) to incorporate these critical elements. Such efforts could inform psychologists and stimulate more sustained interest in how basic psychological constructs operate in contexts relevant to politics. As Krosnick (2002, p. 196) explains, “[C]areful attention to the political context will help to inspire new directions for theory developments... to identify new interactions: conditions under which effects occur, and classes of people among which effects are most likely to occur.”

In sum, political scientists can build on their strength of identifying critical political situations and psychologists can contribute with basic research on how psychological mechanisms work in these conditions. The product would be an enhanced understanding of political opinion formation and voting behavior.

Conclusion

We recognized from the outset the limitations in drawing general inferences from an examination of a single case of interdisciplinary work. Yet it is telling that even though scholars often cite voting and public opinion research as a “textbook” example of interdisciplinary research, we still found the collaboration lacking. One implication concerns the virtues of interdisciplinary collaboration, which rests on the assumption that when scholars from two or more disciplines combine their skills and perspectives, they will produce “better” research than scholars from one discipline. The correctness of that assumption, however, remains an open question, in part because truly interdisciplinary research is rare and in part because whether interdisciplinary research really “works” depends on a wide array of contextual factors. Indeed, there is even some evidence that the more interdisciplinary the research team, the *lower* the quality and the quantity of its products (Birnbaum 1981).

¹¹ Some recent political science studies that explore over-time processes include Mutz and Reeves (2005); Gerber et al. (2007); Chong and Druckman (2008).

Our review also illustrates the difficulty of achieving successful interdisciplinary research. Psychologists can proclaim, with considerable validity, the more foundational nature of their discipline relative to political science. In support of that claim, they need only note that whereas political scientists borrow heavily from psychology, only rarely do psychologists borrow from political science. To put it more bluntly, the benefits of exchange between the two disciplines are imbalanced: political scientists stand to gain more from using psychology's concepts and methods than psychologists stand to gain from using political science's concepts and methods.

More generally, the unity of science thesis assumes that scholarship ranges from "higher" (less fundamental) to "lower" (more fundamental) levels of analysis, from political science to psychology, from psychology to biology, from biology to chemistry, and from chemistry to physics (Oppenheim and Putnam 1958; Wilson 1998). From this perspective, borrowing from below should be far more prevalent than interdisciplinary research among disciplines of more or less equal standing. Political science should borrow from psychology, but not vice versa; psychology should borrow from biology, but not vice versa; and so on.

However, even borrowing does not occur in a straightforward fashion. A few scholars from the borrowing discipline immerse themselves in the second discipline in an attempt to master concepts and methods they can then apply to their own discipline. Unfortunately, others in the borrowing discipline, rather than immersing themselves in the more foundational discipline, are likely to draw directly upon their colleagues' initial efforts. This can and, as we have seen, does lead to the evolution of conceptual usages that bear little resemblance to their original usages. It is this aspect of our assessment of political psychological research on voting and public opinion that is especially discouraging. We have found little evidence of truly interdisciplinary exchange, which is limited in no small way by inadequate immersion by each of the fields. A more accurate characterization of the enterprise is that political scientists have borrowed from psychology, directly at first and then more and more indirectly, with the resulting conceptual usages evolving in ways that often bear little resemblance to their origins and evolution in psychology. Political psychologists often pride themselves on their attention to precise causal mechanisms, following a scientific realism approach (as opposed to an instrumentalist-empirical perspective common in rational choice theory) (e.g., Simon 1963; MacDonald 2003), but if mental processes are being improperly portrayed, then this epistemological strength is lost.

We have identified another obstacle to truly interdisciplinary research: scholars within a single discipline rarely try to integrate competing, or at least alternative, perspectives. In psychology, some scholars study heuristics while others study framing, on-line processing, or whatever. This causes fragmentation within disciplines, which in turn renders interdisciplinary research across disciplines all the more difficult and potentially confusing.

Nor do scholars representing different disciplines often work together as a single team. Rather, and at best, solo scholars from one discipline might immerse themselves in another discipline. One scholar knowing two disciplines does not equal scholars from two or more disciplines working jointly. The key to successful

interdisciplinary research, in our view, lies in teamwork: members of different disciplines working on a single project.¹²

How, ideally, might such a project work? Consider this hypothetical example. A team of researchers is designated, or designates itself, to develop a “general theory” of public opinion formation. The team consists of two political scientists—one an expert on democratic political systems, the other an expert on autocratic systems—and three psychologists—one an expert on heuristics, another an expert on framing, and a third an expert on on-line processing. The two political scientists can speak authoritatively to the differences in the contexts of democratic and autocratic systems. (For example, genuine electoral competition characterizes the former but not the latter). Each of the psychologists can claim expertise on a single mental process.

Working jointly on this project, these five scholars should produce very different and, ideally, “better” results than one of the two political scientists working alone on the project after having devoted considerable time and effort to becoming familiar with theory and research on one of the three psychological processes. Each of the three psychologists would, as the project evolves, need to justify focusing on one mental process rather than the other two. Ideally, the exchange among the psychologists would push them toward an integration of the three processes. At the same time, the two political scientists would repeatedly remind the psychologists that democratic and autocratic systems provide very different contexts for opinion formation. At best, the combined insights resulting from all this give-and-take will produce a new and more comprehensive conception of public opinion formation.

Such forms of collaboration are unlikely to occur in the absence of two major departures from current practice. First, political scientists need to immerse themselves more deeply in the theories, concepts, and methods of the disciplines with which they wish to collaborate, as a starting point for productive interdisciplinary exchange. At the same time, they need to consider more fully what they, as political scientists, have to offer in such collaborations, by more carefully defining the key elements of political contexts, such as competition. This will generate a demand for further development of psychological constructs that are often studied in different contexts, and ultimately, could help integrate psychologists’ understandings of mental processing with political scientists’ understandings of political contexts.

Second, such forms of collaboration are unlikely to occur without considerable institutional investment (see Committee on Facilitating Interdisciplinary Research 2005). For example, psychologists might not perceive much of a payoff in working jointly with political scientists on a large-scale, multi-year study. Even so, various

¹² Interestingly, the three examples we explore—heuristics, media priming, and on-line processing/motivated reasoning—all entered the political science literature due to collaborative projects involving political scientists and psychologists (e.g., Sniderman and Tetlock, Iyengar and Kinder, Lodge and McGraw). There are some positive signs of further movement in this direction. For example, applications for the Summer Institute for the Study of Political Psychology are now largely split between the two disciplines (personal communication); the National Election Studies board of overseers is now made up of scholars from multiple disciplines; and psychologists and political behavior scholars have shown considerable recent interest in the phenomena of implicit and explicit priming (e.g., Althaus and Kim 2006; Lodge et al. 2008).

institutions can help foster such collaborations. Most importantly, colleges and universities would need to create substantial funding for such interdisciplinary research and then weigh such activity heavily in hiring, tenure, and promotion decisions. Beyond the individual universities, funding organizations, professional societies, and journals would need to solicit and support interdisciplinary research by ensuring appropriate evaluative standards and outlets (e.g., interdisciplinary grants, special journal sections on interdisciplinary research).

Although examples of these types of institutional incentives and opportunities in social science are not unheard of, they are far from the norm. This might reflect a reality that proclamations of the virtues of interdisciplinary research are overblown. Even so, political scientists and social scientists in general need to address more explicitly the extent to which they value interdisciplinary endeavors and, if they do, then the institutions governing research practices need to be brought more closely in line with the goals of interdisciplinary research.

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References

- Allen, B., O'Loughlin, P., Jasperson, A., & Sullivan, J. L. (1994). The media and the Gulf War: Framing, priming, and the spiral of silence. *Polity*, 27, 255–284. doi:[10.2307/3235175](https://doi.org/10.2307/3235175).
- Althaus, S. L., & Kim, Y. M. (2006). Priming effects in complex environments. *The Journal of Politics*, 68, 960–976. doi:[10.1111/j.1468-2508.2006.00483.x](https://doi.org/10.1111/j.1468-2508.2006.00483.x).
- Anderson, N. H., & Hubert, S. (1963). Effects of concomitant verbal recall on order effects in personality impression formation. *Journal of Verbal Learning and Verbal Behavior*, 2, 379–391. doi:[10.1016/S0022-5371\(63\)80039-0](https://doi.org/10.1016/S0022-5371(63)80039-0).
- Bargh, J. A., Bond, R., Lombardi, W., & Tota, M. (1986). The additive nature of chronic and temporary sources of construct accessibility. *Journal of Personality and Social Psychology*, 50, 869–878. doi:[10.1037/0022-3514.50.5.869](https://doi.org/10.1037/0022-3514.50.5.869).
- Bartels, L. M. (1996). Uninformed votes: Information effects in presidential elections. *American Journal of Political Science*, 40, 194–230. doi:[10.2307/2111700](https://doi.org/10.2307/2111700).
- Bartels, L. M. (2003). Democracy with attitudes. In M. B. MacKuen & G. Rabinowitz (Eds.), *Electoral democracy*. Ann Arbor: University of Michigan Press.
- Berelson, B. R., Lazarsfeld, P. F., & McPhee, W. N. (1954). *Voting: A study of opinion formation in a presidential campaign*. Chicago: University of Chicago Press.
- Birnbaum, P. H. (1981). Integration and specialization in academic research. *Academy of Management Journal*, 24, 487–503. doi:[10.2307/255570](https://doi.org/10.2307/255570).
- Bizer, G. Y., Krosnick, J. A., Holbrook, A. L., Wheller, S. C., Rucker, D. D., & Petty, R. E. (2004). The impact of personality on cognitive, behavioral, and affective political processes: The effects of need to evaluate. *Journal of Personality*, 72, 995–1027. doi:[10.1111/j.0022-3506.2004.00288.x](https://doi.org/10.1111/j.0022-3506.2004.00288.x).
- Bizer, G. Y., Tormala, Z. L., Rucker, D. D., & Petty, R. E. (2006). Memory-based versus on-line processing: Implications for attitude strength. *Journal of Experimental Social Psychology*, 42, 646–653. doi:[10.1016/j.jesp.2005.09.002](https://doi.org/10.1016/j.jesp.2005.09.002).
- Bohman, J. (1998). Survey article: The coming age of deliberative democracy. *Journal of Political Philosophy*, 6, 400–425. doi:[10.1111/1467-9760.00061](https://doi.org/10.1111/1467-9760.00061).
- Braman, E. (2006). Reasoning on the threshold: Testing separability of preferences in legal decision making. *The Journal of Politics*, 68, 308–321. doi:[10.1111/j.1468-2508.2006.00408.x](https://doi.org/10.1111/j.1468-2508.2006.00408.x).
- Braman, E., & Nelson, T. E. (2007). Mechanism of motivated reasoning?: Analogical perception in discrimination disputes. *American Journal of Political Science*, 51, 940–956. doi:[10.1111/j.1540-5907.2007.00290.x](https://doi.org/10.1111/j.1540-5907.2007.00290.x).

- Branscombe, N. R., & Doosje, B. (Eds.). (2004). *Collective guilt*. New York: Cambridge University Press.
- Briñol, P., & Petty, R. E. (2005). Individual differences in attitude change. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes and attitude change*. Mahwah, NJ: Erlbaum.
- Chaiken, S., & Trope, Y. (Eds.). (1999). *Dual-process theories in social psychology*. New York: Guilford Press.
- Chong, D. (1993). How people think, reason, and feel about rights and liberties. *American Journal of Political Science*, 37, 867–899. doi:[10.2307/2111577](https://doi.org/10.2307/2111577).
- Chong, D. (2007). *The value of information and endorsements*. Unpublished paper, Northwestern University.
- Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, 10, 103–126. doi:[10.1146/annurev.polisci.10.072805.103054](https://doi.org/10.1146/annurev.polisci.10.072805.103054).
- Chong, D., & Druckman, J. N. (2008). *Dynamic public opinion: Framing effects over time*. Presented at the annual meeting of the American Political Science Association, Boston, MA, August 28–August 31.
- Committee on Facilitating Interdisciplinary Research. (2005). *Facilitating interdisciplinary research*. Washington: National Academies Press.
- Converse, P. E. (1964). The nature of belief systems in mass publics. In D. E. Apter (Ed.), *Ideology and discontent*. New York: Free Press.
- Converse, P. E. (2000). Assessing the capacity of mass electorates. *Annual Review of Political Science*, 3, 331–353. doi:[10.1146/annurev.polisci.3.1.331](https://doi.org/10.1146/annurev.polisci.3.1.331).
- Downs, A. (1957). *An economic theory of democracy*. New York: HarperCollins.
- Druckman, J. N. (2004). Political preference formation: Competition, deliberation, and the (ir)relevance of framing effects. *The American Political Science Review*, 98, 671–686. doi:[10.1017/S0003055404041413](https://doi.org/10.1017/S0003055404041413).
- Druckman, J. N., Jacobs, L. R., & Ostermeier, E. (2004). Candidate strategies to prime issues and image. *The Journal of Politics*, 66, 1180–1202. doi:[10.1111/j.0022-3816.2004.00295.x](https://doi.org/10.1111/j.0022-3816.2004.00295.x).
- Druckman, J. N., & Lupia, A. (2000). Preference formation. *Annual Review of Political Science*, 3, 1–24. doi:[10.1146/annurev.polisci.3.1.1](https://doi.org/10.1146/annurev.polisci.3.1.1).
- Druckman, J. N., & Lupia, A. (2006). Mind, will, and choice: Lessons From experiments in contextual variation". In R. E. Goodin & C. Tilly (Eds.), *The Oxford handbook of contextual political analysis*. Oxford: Oxford University Press.
- Druckman, J. N., & McDermott, R. (2008). Emotion and the framing of risky choice. *Political Behavior*, 30, 297–321. doi:[10.1007/s11109-008-9056-y](https://doi.org/10.1007/s11109-008-9056-y).
- Druckman, J. N., & Nelson, K. R. (2003). Framing and deliberation. *American Journal of Political Science*, 47, 728–744. doi:[10.1111/1540-5907.00051](https://doi.org/10.1111/1540-5907.00051).
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth: Harcourt Brace.
- Edwards, W., Lindman, H., & Savage, L. J. (1963). Bayesian statistical inference for psychological research. *Psychological Review*, 38, 193–242. doi:[10.1037/h0044139](https://doi.org/10.1037/h0044139).
- Fazio, R. H. (1995). Attitudes as object-evaluation associations. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences*. Hillsdale, NJ: Erlbaum.
- Fazio, R. H. (2000). Accessible attitudes as tools for object appraisal: Their costs and benefits. In G. R. Maio & J. M. Olson (Eds.), *Why we evaluate: Functions of attitudes*. Mahwah, NJ: Erlbaum.
- Fazio, R. H. (2007). Attitudes as object-evaluation associations of varying strength. *Social Cognition*, 25, 603–637. doi:[10.1521/soco.2007.25.5.603](https://doi.org/10.1521/soco.2007.25.5.603).
- Federico, C. M., & Schneider, M. C. (2007). Political expertise and the use of ideology: Moderating effects of evaluative motivation. *Public Opinion Quarterly*, 71, 221–252. doi:[10.1093/poq/nfm010](https://doi.org/10.1093/poq/nfm010).
- Ferejohn, J. A., & Kuklinski, J. H. (Eds.). (1990). *Information and democratic processes*. Urbana: University of Illinois Press.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row, Peterson.
- Fiorina, M. (1981). *Retrospective voting in American elections*. New Haven: Yale University Press.
- Gaines, B. J., Kuklinski, J. H., & Quirk, P. J. (2007). The logic of the survey experiment reexamined. *Political Analysis*, 15, 1–20. doi:[10.1093/pan/impl008](https://doi.org/10.1093/pan/impl008).
- Gerber, A., Gimpel, J. G., Green, D. P., & Shaw, D. R. (2007). *The influence of television and radio advertising on candidate evaluations: Results from a large scale randomized experiment*. Unpublished paper, Yale University.

- Gilovich, T., & Griffin, D. (2002). Introduction—Heuristics and biases: Then and now. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment*. New York: Cambridge University Press.
- Goren, P. (2002). Character weakness, partisan bias, and presidential evaluation. *American Journal of Political Science*, 46, 627–641. doi:10.2307/3088404.
- Hastie, R., & Park, B. (1986). The relationship between memory and judgment depends on whether the judgment task is memory-based or online. *Psychological Review*, 93, 258–268. doi:10.1037/0033-295X.93.3.258.
- Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles*. New York: Guilford Press.
- Higgins, E. T., & King, G. (1981). Social constructs: Information-processing consequences of individual and contextual variability”. In N. Cantor & J. F. Kihlstrom (Eds.), *Personality, cognition, and social interaction*. Hillsdale, NJ: Erlbaum.
- Higgins, E. T., Rholes, W. S., & Jones, C. R. (1977). Category accessibility and impression formation. *Journal of Experimental Psychology*, 13, 141–154. doi:10.1016/S0022-1031(77)80007-3.
- Holbrook, T. M. (2006). Cognitive style and political learning in the 2000 US presidential campaign. *Political Research Quarterly*, 59, 343–352. doi:10.1177/106591290605900302.
- Huckfeldt, R., Johnson, P. E., & Sprague, J. (2004). *Political disagreement: The survival of diverse opinions within communication networks*. New York: Cambridge University Press.
- Iyengar, S., & Kinder, D. R. (1987). *News that matters: Television and American opinion*. Chicago: University of Chicago Press.
- Iyengar, S., Kinder, D. R., Peters, M. D., & Krosnick, J. A. (1984). The evening news and presidential evaluations. *Journal of Personality and Social Psychology*, 46, 778–787. doi:10.1037/0022-3514.46.4.778.
- Jackman, S., & Sniderman, P. M. (2002). The institutional organization of choice spaces: A political conception of political psychology. In K. Monroe (Ed.), *Political psychology*. Mahway, NJ: Erlbaum.
- Jarvis, W. B., & Petty, R. E. (1996). The need to evaluate. *Journal of Personality and Social Psychology*, 70, 172–194. doi:10.1037/0022-3514.70.1.172.
- Jost, J. T., Nosek, B. A., & Gosling, S. D. (2008). Ideology: Its resurgence in social, personality, and political psychology. *Perspectives on Psychological Science*, 3, 126–136. doi:10.1111/j.1745-6916.2008.00070.x.
- Kahneman, D., Slovic, P., & Tversky, A. (Eds.). (1982). *Judgment under uncertainty: Heuristics and biases*. New York: Cambridge University Press.
- Kam, C. D. (2005). Who toes the party line?: Cues, values, and individual differences. *Political Behavior*, 27, 163–182. doi:10.1007/s11109-005-1764-y.
- Kelley, S., Jr, & Mirer, T. W. (1974). The simple act of voting. *The American Political Science Review*, 68, 572–591. doi:10.2307/1959506.
- Kinder, D. R. (1998). Opinion and action in the realm of politics. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed.). Boston: McGraw-Hill.
- Kinder, D. R., & Sears, D. O. (1985). Public opinion and political action. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (3rd ed.). New York: Random House.
- Krosnick, J. A. (2002). Is political psychology sufficiently psychological: Distinguishing political psychology from psychological political science. In J. H. Kuklinski (Ed.), *Thinking about political psychology*. New York: Cambridge University Press.
- Kuklinski, J. H. (Ed.). (2001). *Citizens and politics: Perspectives from political psychology*. New York: Cambridge University Press.
- Kuklinski, J. H. (Ed.). (2002). *Thinking about political psychology*. New York: Cambridge University Press.
- Kuklinski, J. H., & Jerit, J. (2001). Commentary. In J. H. Kuklinski (Ed.), *Citizens and politics: Perspectives from political psychology*. New York: Cambridge University Press.
- Kuklinski, J. H., & Quirk, P. J. (2000). Reconsidering the rational public: Cognition, heuristics, and mass opinion”. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Understanding and expanding the limits of political rationality*. New York: Cambridge University Press.
- Kuklinski, J. H., Quirk, P. J., Jerit, J., & Rich, R. F. (2001). The political environment and citizen competence. *American Journal of Political Science*, 45, 410–424. doi:10.2307/2669349.

- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*, 480–498. doi: [10.1037/0033-2909.108.3.480](https://doi.org/10.1037/0033-2909.108.3.480).
- Lasswell, H. D. (1946). Describing the contents of communication. In B. L. Smith, H. D. Lasswell, & R. D. Casey (Eds.), *Propaganda, communication, and public opinion*. Princeton: Princeton University Press.
- Lau, R. R., & Redlawsk, D. P. (2006). *How voters decide: Information processing in election campaigns*. Cambridge: Cambridge University Press.
- Lenz, G. S. (2009). Learning and opinion change, not priming: Reconsidering the evidence for the priming hypothesis. *American Journal of Political Science*, *53* (forthcoming).
- Lippmann, W. (1922). *Public opinion*. New York: MacMillan.
- Lodge, M. (1995). Toward a procedural model of candidate evaluation. In M. Lodge & K. M. McGraw (Eds.), *Political judgment: Structure and process*. Ann Arbor: University of Michigan Press.
- Lodge, M., McGraw, K. M., & Stroh, P. (1989). An impression-driven model of candidate evaluation. *The American Political Science Review*, *83*, 399–420. doi: [10.2307/1962397](https://doi.org/10.2307/1962397).
- Lodge, M., Steenbergen, M. R., & Brau, S. (1995). The responsive voter: Campaign information and the dynamics of candidate evaluation. *The American Political Science Review*, *89*, 309–326. doi: [10.2307/2082427](https://doi.org/10.2307/2082427).
- Lodge, M., & Taber, C. S. (2000). Three steps toward a theory of motivated political reasoning. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Cognition, choice, and the bounds of rationality*. Cambridge: Cambridge University Press.
- Lodge, M., & Taber, C. S. (2008). *The rationalizing voter: Unconscious thought in political information processing*. Unpublished paper, Stony Brook University.
- Lodge, M., Taber, C. S., & Burdein, I. (2008). *The impact of self-identification on political attitudes: An experimental test employing subliminal priming*. Unpublished Manuscript, Stony Brook University.
- Lupia, A., & McCubbins, M. D. (1998). *The democratic dilemma: Can citizens learn what they need to know?*. New York: Cambridge University Press.
- Lupia, A., McCubbins, M. D., & Popkin, S. L. (2000). Beyond rationality: Reason and the study of politics. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Understanding and expanding the limits of political rationality*. New York: Cambridge University Press.
- Luskin, R. C. (2001). The heavenly public: What would be the ideal democratic citizenry be like. In G. Rabinowitz & M. B. MacKuen (Eds.), *Electoral democracy*. Ann Arbor, MI: University of Michigan Press.
- MacDonald, P. K. (2003). Useful fiction or miracle maker: The competing epistemological foundations of rational choice theory. *The American Political Science Review*, *97*, 551–565. doi: [10.1017/S000305540300087X](https://doi.org/10.1017/S000305540300087X).
- Martin, L. L. (1986). Set/reset: Use and disuse of concepts in impression formation. *Journal of Personality and Social Psychology*, *51*, 493–504. doi: [10.1037/0022-3514.51.3.493](https://doi.org/10.1037/0022-3514.51.3.493).
- Martin, L. L., & Achee, J. W. (1992). Beyond accessibility: The role of processing objectives in judgment. In L. L. Martin & A. Tesser (Eds.), *The construction of social judgments*. Hillsdale, NJ: Erlbaum.
- McGraw, K. M. (2003). Political impressions: Formation and management. In D. O. Sears, L. Huddy, & R. Jervis (Eds.), *Oxford handbook of political psychology*. Oxford: Oxford University Press.
- McGraw, K. M. (2006). The infrastructure of political psychology. In L. Valenty (Ed.), *Political psychology*. Oplanden & Farmington Hills: Barbara Budich Publishers.
- McGraw, K. M., & Dolan, T. (2007). Personifying the state: Consequences for attitude formation. *Political Psychology*, *28*, 299–328. doi: [10.1111/j.1467-9221.2007.00570.x](https://doi.org/10.1111/j.1467-9221.2007.00570.x).
- McGraw, K. M., Hasecke, E., & Conger, K. (2003). Ambivalence, uncertainty, and processes of candidate evaluation. *Political Psychology*, *24*, 421–448. doi: [10.1111/0162-895X.00335](https://doi.org/10.1111/0162-895X.00335).
- McGraw, K. M., Lodge, M., & Stroh, P. (1990). On-line processing in candidate evaluation: The effects of issue order, issue salience, and sophistication. *Political Behavior*, *12*, 41–58. doi: [10.1007/BF00992331](https://doi.org/10.1007/BF00992331).
- Mendelsohn, M. (1996). The media and interpersonal communication: The priming of issues, leaders, and party identification. *The Journal of Politics*, *58*, 112–125. doi: [10.2307/2960351](https://doi.org/10.2307/2960351).
- Miller, J. M., & Krosnick, J. A. (2000). News media impact on the ingredients of presidential evaluations: Politically knowledgeable citizens are guided by a trusted source. *American Journal of Political Science*, *44*, 295–309.
- Monroe, K. (Ed.). (2002). *Political psychology*. Mahway, NJ: Erlbaum.

- Mutz, D. C. (2006). *Hearing the other side: Deliberative versus participatory democracy*. New York: Cambridge University Press.
- Mutz, D. C., & Reeves, B. (2005). The new videomalaise: Effects of televised incivility on political trust. *The American Political Science Review*, 99, 1–15. doi:10.1017/S0003055405051452.
- Nelson, T. E., Clawson, R. A., & Oxley, Z. M. (1997). Media framing of a civil liberties conflict and its effect on tolerance. *The American Political Science Review*, 91, 567–583. doi:10.2307/2952075.
- Nisbett, R. E., & Ross, L. D. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice-Hall.
- O’Keefe, D. J. (2002). *Persuasion* (2nd ed.). Thousand Oaks, CA: Sage.
- Oppenheim, P., & Putnam, H. (1958). Unity of science as a working hypothesis. In H. Fiegel, M. Scriven, & G. Maxwell (Eds.), *Studies in the philosophy of science* (Vol. II). Minneapolis: University of Minnesota Press.
- Page, B. I., & Shapiro, R. Y. (1992). *The rational public: Fifty years of trends in Americans’ policy preferences*. Chicago: University of Chicago Press.
- Payne, J. W., Bettman, J. R., & Johnson, E. J. (1993). *The adaptive decision maker*. New York: Cambridge University Press.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer.
- Popkin, S. L. (1991). *The reasoning voter: Communication and persuasion in presidential campaigns*. Chicago: University of Chicago Press.
- Proceedings of the American Political Science Association. (1904). The organization of the American Political Science Association. *Proceedings of the American Political Science Association*, 1, 5–15.
- Rahn, W. M., Aldrich, J. H., & Borgida, E. (1994). Individual and contextual variations in political candidate appraisal. *The American Political Science Review*, 88, 193–199. doi:10.2307/2944891.
- Redlawsk, D. (2001). Hot cognition or cool consideration: Testing the effects of motivated reasoning on political decision making. *The Journal of Politics*, 64, 1021–1044.
- Riker, W. H. (1995). The political psychology of rational choice theory. *Political Psychology*, 16, 23–44. doi:10.2307/3791448.
- Riker, W. H. (1996). *The strategy of rhetoric: Campaigning for the American constitution*. New Haven: Yale University Press.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and content of human values? *The Journal of Social Issues*, 50, 19–46.
- Sears, D. O., Huddy, L., & Jervis, R. (Eds.). (2003). *Oxford handbook of political psychology*. Oxford: Oxford University Press.
- Sears, D. O., & Whitney, R. W. (1973). *Political persuasion*. Morristown, NJ: General Learning Press.
- Sherif, M., & Sherif, C. W. (Eds.). (1969). *Interdisciplinary relationships in the social sciences*. Chicago: Aldine.
- Sherman, S. J., Mackie, D. M., & Driscoll, D. M. (1990). Priming and the differential use of dimensions in evaluation. *Personality and Social Psychology Bulletin*, 16, 405–418. doi:10.1177/0146167290163001.
- Simon, H. A. (1957). *Models of man*. New York: Wiley.
- Simon, H. A. (1963). Problems of methodology. *American Economic Review Proceedings*, 53, 229–231. Discussion.
- Sniderman, P. M. (2000). Taking sides: A fixed choice theory of political reasoning. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Cognition, choice, and the bounds of rationality*. New York: Cambridge University Press.
- Sniderman, P. M., Brody, R. A., & Tetlock, P. E. (1991). *Reasoning and choice: Explorations in political psychology*. Cambridge: Cambridge University Press.
- Somin, I. (2006). Knowledge about ignorance: New directions in the study of political information. *Critical Review*, 18, 255–278.
- Stapel, D., Koomen, W., & Zeelenberg, M. (1998). The impact of accuracy motivation on interpretation, comparison, and correction processes: Accuracy \times knowledge accessibility effects. *Journal of Personality and Social Psychology*, 74, 878–893. doi:10.1037/0022-3514.74.4.878.
- Taber, C. S. (2003). Information processing in public opinion. In D. O. Sears, L. Huddy, & R. Jervis (Eds.), *Oxford handbook of political psychology*. Oxford: Oxford University Press.
- Taber, C. S., Cann, A., & Kucsova, S. (2009). *The motivated processing of political arguments*. Unpublished paper, Stony Brook University.

- Taber, C. S., & Lodge, M. (2006). Motivated skepticism in the evaluations of political beliefs. *American Journal of Political Science*, 50, 755–769. doi:10.1111/j.1540-5907.2006.00214.x.
- Taber, C. S., Lodge, M., & Glather, J. (2001). The motivated construction of political judgment. In J. H. Kuklinski (Ed.), *Citizens and politics: Perspectives from political psychology*. New York: Cambridge University Press.
- Taylor, S. E., & Fiske, S. T. (1978). Saliency, attention, and attribution: Top-of-the-head phenomena. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 11). New York: Academic Press.
- Tetlock, P. E. (1983). Accountability and complexity of thought. *Journal of Personality and Social Psychology*, 45, 74–83. doi:10.1037/0022-3514.45.1.74.
- Thompson, E. P., Roman, R. J., Moskowitz, G. B., Chaiken, S., & Bargh, J. (1994). Accuracy motivation attenuates covert priming: The systematic reprocessing of social information. *Journal of Personality and Social Psychology*, 66, 474–489. doi:10.1037/0022-3514.66.3.474.
- Tormala, Z. L., & Petty, R. E. (2001). On-line versus memory-based processing. *Personality and Social Psychology Bulletin*, 27, 1599–1612. doi:10.1177/01461672012712004.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131. doi:10.1126/science.185.4157.1124.
- Visser, P. S., Bizer, G. Y., & Krosnick, J. A. (2006). Exploring the latent structure of strength-related attitude attributes. *Advances in Experimental Social Psychology*, 38, 1–67. doi:10.1016/S0065-2601(06)38001-X.
- Wilson, E. O. (1998). *Consilience: The unity of knowledge*. New York: Vintage.
- Wittman, D. (1995). *The myth of democratic failure*. Chicago: University of Chicago Press.
- Wyer, R. S., Jr, & Srull, T. K. (1980). The processing of social stimulus information: A conceptual integration. In R. Hastie, T. Ostrom, E. Ebbesen, R. Wyer, D. Hamilton, & D. Carlston (Eds.), *Person memory: The cognitive basis of social perception*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Wyer, R. S., Jr, & Srull, T. K. (1981). Category accessibility: Some theoretical issues concerning the processing of social stimulus information". In E. T. Higgins, C. P. Herman, & M. P. Zanna (Eds.), *Social cognition: The Ontario symposium on personality and social psychology* (Vol. 1). Hillsdale, NJ: Erlbaum.
- Wyer, R. S., Jr, & Srull, T. K. (1989). *Memory and cognition in its social context*. Hillsdale, NJ: Erlbaum.
- Zaller, J. (1992). *The nature and origins of mass opinion*. New York: Cambridge University Press.