

**The Social Contingency Model:
Identifying Empirical and Normative
Boundary Conditions on the Error-and-Bias
Portrait of Human Nature**

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About twenty years ago the first author of this chapter began his first study of accountability -- although he did not categorize it as such at the time. Levi and Tetlock (1980) were interested in constructing cognitive maps of the Japanese decision to go to war with the United States in 1941. They quite accidentally discovered that the cognitive maps of Japanese decision-making looked different depending on whether they constructed those maps from the verbatim deliberations of the Liaison conferences (at which military leaders actually made policy decisions) or from the Imperial conferences (at which those same leaders justified their decisions before the Emperor and his advisors). By the fall of 1941, there was relatively little tolerance in the Liaison conferences for dissenters who wanted to avoid military confrontation with the United States; there was accordingly little need to anticipate such objections and to incorporate them into the group's shared assessment of Japan geopolitical predicament. The Emperor and his key advisors, however, were known to be skeptical of the wisdom of attacking a country with a vastly larger economy. When the military leaders came before this high-status audience, they went to considerable lengths to demonstrate that they had thought through all the alternatives, weighed the pertinent trade-offs, and worked through the necessary contingency plans. As a result, the cognitive maps in the Imperial conferences were considerably more complex -- with more references to interactive causation and trade-offs -- than were the cognitive maps derived from the Liaison conferences. In the spirit of this volume, we might say that a dual-process model fits these two levels of the Japanese decision-making process.

This chapter examines the evolution of research on the impact of accountability on judgment and choice over the last twenty years. The story to be told is one of progressive

"complexification" in which temptingly parsimonious hypotheses have been repeatedly confounded by recalcitrantly complex patterns of evidence. One example is the pure-impression-management model of how people cope with accountability. This model gained empirical sustenance from findings that people often respond to pressures to justify their views via the low-effort expedient of simply shifting their views toward those of the anticipated audience (Cialdini et al., 1976; Jones & Wortman, 1973). Moreover, some people apparently do not "internalize" these public presentations, and as soon as it is convenient, they snap back in elastic-band fashion to their original position.

Using a variety of methodological strategies, later work demonstrated however that accountability effects are not strictly confined to public posturing. There are conditions under which people cope with accountability by resorting to more complex, self-critical, and effort-demanding strategies of information processing (Tetlock, 1992; Lerner & Tetlock, 1997). Accountability can affect not only what people say they think but also how they actually do think. Although a valuable corrective to a purely impression management model, this line of research encouraged a second misconception of the "it-is-nothing-but" type: the tendency to treat accountability manipulations as simply generic motivators of cognitive effort that can be subsumed under the same category as financial incentives (Stone & Ziebart, 1995), personal involvement (Petty and Cacioppo, 1986), outcome dependency (Fiske and Neuberg, 1991), decision importance (McAllister, Mitchell, and Beach, 1979) and market competition (Camerer, 1995). One problem with lumping these diverse constructs and manipulations into the same equivalence class is that different types of accountability can have very different effects on the content and character of thought. As we shall soon see, much depends on whether the views of the prospective audience are known or unknown, on whether people learn of being accountable before or after exposure to the evidence on which they are asked to base their judgments, on whether people learn of being accountable before or after making a difficult-to-reverse public

commitment, and on a host of other particular details that define the ground rules of the accountability relationship.

It is also tempting, but equally misleading, to posit that those forms of accountability that do encourage self-critical thinking automatically enhance the quality of judgment and choice. It is tempting because several experiments have revealed the power of certain types of accountability to induce more self-critical patterns of thinking that, in turn, attenuate response tendencies widely considered to be inferential biases and shortcomings (Chaiken, 1980; Hagafors & Brehmer, 1983; Kassin et al., 1991; Lerner et al., 1996; Rozelle & Baxter, 1981; Tetlock, 1992). It is misleading because a substantial body of work also highlights when these same types of accountability amplify response tendencies widely considered to be errors and biases such as the tendency to dilute one's confidence in predictions in reaction to nondiagnostic evidence (Tetlock & Boettger, 1989; Tetlock, Lerner, & Boettger, 1996), the tendency for the choice process to be swayed by the introduction of irrelevant (dominated) alternatives in choice tasks (Simonson, 1989), and the tendency to stick with the status quo when changing social policy requires imposing losses on identifiable subgroups (notwithstanding that the net benefit to society as a whole would be substantial -- Tetlock & Boettger, 1994). These results should remind us that, although cognitive effort triggered by accountability can be channeled in the direction of thoughtful self-criticism that checks biases rooted in over-reliance on easy-to-execute heuristics, it can also be channeled in a host of potentially maladaptive directions. Decision-makers can become paralyzed in self-doubt, so anxious to avoid criticism that they take obsessive precautions against worst-case scenarios and are easily distracted in environments with unfavorable signal-to-noise ratios (Tetlock, 1992). Or decision-makers can become mired in self-justification, so anxious to defend past commitments that the majority of their mental effort is devoted to generating reasons why they are right and their would-be critics wrong (Brockner, 1985; Staw, 1980; Tetlock, Skitka & Boettger, 1989). Or decision-makers

may devote cognitive effort to thinking of ways to beat the system, to exploiting loopholes in the accountability ground rules that organizations inevitably create (Tetlock, 1998b). Which of these directions cognitive effort takes hinges on the cognitive style of the decision-maker, on the character of the relationship between decision-maker and audience(s), and on the content of the internalized dialogue triggered by the expectation of justifying one's opinions and actions.

There is also a final layer of complexity. Accountability research entails more than the identification of social-contextual moderator variables that amplify or attenuate already well-replicated judgmental tendencies; it also requires careful analysis of whether we are justified--and in whose eyes-- in labeling these tendencies errors or biases once we consider the social and political (as well as cognitive) functions served by processing information in certain ways and by expressing conclusions in certain ways. Judgmental tendencies that look flawed if we assume that people are striving to be good intuitive scientists or economists (trying to understand the world or to maximize expected utility) often look quite reasonable if we view them through an alternative set of functionalist lenses and posit people to be intuitive politicians striving to protect their social identities in the eyes of key constituencies (Tetlock, 1992, 1998a, 1998c). For most of this chapter, we work with the prevailing practice that an effect is an error or bias if it deviates from a normative model anchored in a functionalist model that portrays people as intuitive scientists or intuitive economists. If people are trying to explain and predict the surrounding world, then response tendencies such as overattribution, overconfidence, and dilution are indeed maladaptive; if people are trying to maximize expected utility, then they should not be influenced by irrelevant information such as dominated alternatives, sunk costs and the nature of the status quo and they should be influenced by relevant information such as opportunity costs. But these same effects that look dysfunctional within these "cognitivist" frameworks that treat the individual in isolation from his or her social environment often look highly adaptive within a functionalist framework that imbeds the individual within complex

networks of accountability relationships and stresses the individual's goal of preserving and enhancing those relationships. Savvy politicians appreciate the importance of appearing to be attentive to conversational partners (even if that sometimes means diluting one's predictions in response to "nondiagnostic cues"), of defending their reputations as rational decision makers (even if that means trying to recoup sunk costs), of holding others strictly responsible for their actions (even if that means "overattributing" to dispositional causes), and of giving preference to easily justified response options (even if that means being swayed by dominated options that make one option "look better" for specious but persuasive reasons).

The Social Contingency Model.

Accountability is a potentially vast topic. It can be studied experimentally (the focus of this chapter), but it can also be studied in a wide range of institutional settings in which debates over who should be answerable to whom, and under what ground rules, are central to the political contest for power (March & Olson, 1995). It is easy to get lost without some kind of theoretical road map. Our preferred map is the social contingency model of accountability (SCM). Here, we sketch the key motivational and coping-strategy assumptions of this framework.

(1) The universality of accountability. We do some things alone, but it is difficult to escape the evaluative scrutiny of others in a complex, interdependent society. Escape arguably becomes impossible if we count self-accountability, the obligation that most human beings -- excluding psychopaths-- feel to internalized mental representations of significant others who keep conscientious watch over us when no one else is looking (Mead, 1934; Schlenker, 1980, 1985). In this most abstract sense, accountability is the missing link in the seemingly perpetual level-of-analysis controversy, the connection between individual decision-makers and the collectivities within which they live and work. Accountability serves as a linkage construct by continually reminding people of the need to: a) act in accord with prevailing norms; b) advance

compelling justifications or excuses for conduct that deviates from those norms.¹

(2) Audience-approval motive. It is useful to think of people as intuitive politicians who seek the approval of the constituencies to whom they feel accountable. People do so for combinations of both intrinsic and extrinsic reasons. Evidence for an intrinsic-approval motive comes from laboratory studies that point to a propensity that appears early in human development to respond automatically and viscerally to signs of censure (frowns, angry, contemptuous looks). One can interpret this robust finding (Baumeister and Leary, 1995) in either a social-learning framework (over the course of a life time, other people become incredibly potent secondary reinforcers by virtue of their association with primary drive reduction) or in an evolutionary framework (people have been naturally and sexually selected to be extraordinarily sensitive to signs of social disapproval because the survival of our ancestors hinged on their maintaining the goodwill of their fellow hominids). Evidence for an extrinsic motive comes largely from the exchange theory tradition (Blau, 1964; Kelley & Thibaut, 1978; Rusbult et al., 1990) in which social approval is a means to other ends and should be especially potent under conditions of asymmetric resource dependency (in ordinary language, when other people control resources that we value to a greater degree than we control resources that they value).

(3) Motive competition. Although social approval is a major driving force for intuitive politicians, the SCM does not reify it as the sovereign motive for human conduct. Social psychology has already had too many disappointing flirtations with monistic theories that have promised to identify master motives (Allport, 1968). Drawing on major strands of past work, the SCM identifies four additional, potentially conflicting, motives, including the goals (1) of

¹. Of course, social systems also cannot rely exclusively on external modes of social control for maintaining order. The transaction costs of monitoring everybody all the time would quickly become prohibitive. The SCM recognizes that a large measure of trust and self-accountability is necessary for the smooth functioning of institutions, but affirms that self-accountability by itself is insufficient.

achieving cognitive mastery of causal structure (the intuitive scientist of classic attribution theory -- Heider, 1958; Kelley, 1967), (2) of minimizing mental effort and achieving rapid cognitive closure (the cognitive miser of more recent social cognitive lineage -- Fiske & Taylor, 1991; Kruglanski, 1990), (3) of maximizing benefits and minimizing the costs of relationships (the intuitive economist of exchange theory - Blau, 1964), and (4) of asserting one's autonomy and personal identity by remaining true to one's innermost convictions (a key theme of theories of ego and moral development (Loevinger, 1976) as well as reactance theory and self-affirmation variants of dissonance theory (Aronson, 1970; Schlenker, 1982, 1985; Steele, Spencer, & Lynch, 1993). (For additional discussion of motives in dual-process theorizing, see Chen and Chaiken, this volume; Fiske, Lin, & Neuberg, this volume.)

(4) Linking motives to coping strategies. The final component of the SCM links broad motivational assumptions to particular coping strategies by specifying how each of the five core motives can be amplified or attenuated by the interpersonal and institutional context. We propose a two-step conceptual formula for generating predictions from the model that requires identifying situational and dispositional factors that either increase or decrease: (1) the perceived importance of a given core motive; (2) the perceived feasibility of achieving a given motivational objective in a given context.

Let's focus on how one might use this schematic formula to identify the optimal preconditions for activating each of four coping strategies that has received considerable experimental attention: strategic attitude shifting, pre-emptive self-criticism, defensive bolstering, and the decision evasion tactics of buckpassing and procrastination. It is worth noting, however, that the SCM makes predictions about a much wider array of coping strategies likely to be activated in actual organizational and political networks of accountability (in particular, strategies of resisting illegitimate accountability demands such as identifying and exploiting loopholes in performance standards, exercising the "voice option" of protesting

against unfair standards or offering accounts for performance shortfalls, and exercising the “exit option” of leaving the accountability relationship--Tetlock, 1998b, 1998c). This chapter concentrates on the experimental literature and its implications for contingency theories of judgment and choice that depict people as relatively flexible “meta-decision-makers” endowed with a capacity to shift from one style of information processing to another in response to situational demands.

(1) Strategic attitude shifting. People are especially likely to adjust their public attitudes toward the views of the anticipated audience to the degree the social approval motive is strong: the audience should be perceived to be powerful (it should control resources that the decision maker values but the decision maker should control little that the audience values -- a condition of asymmetric resource dependency), and the audience should be seen as both firmly committed to its position and intolerant of other positions (a further incentive for accommodation). Strategic attitude shifting is, however, a feasible strategy for gaining social approval only to the degree that one thinks one knows the views of the anticipated audience. And attitude shifting becomes a psychologically costly strategy to the degree that it requires compromising basic convictions and principles (creating dissonance with one's self concept) or backtracking on past commitments (making one look duplicitous, hypocritical or sycophantic). But when these obstacles have been removed and the facilitative conditions are present, attitude shifting represents a cognitively efficient, politically expedient strategy that does not undermine one's self-concept as a moral and principled being or one's reputation for integrity in the wider social arena.

(2) Pre-emptive self-criticism. People are especially likely to engage in flexible perspective-taking in which they try to anticipate objections that reasonable critics might raise when they are accountable either to an audience with unknown views or to multiple audiences with conflicting views. To maximize the likelihood of pre-emptive self-criticism, the evaluative

audience should be perceived to be well-informed (so it cannot easily be tricked) and powerful (so one wants its approval), and decision makers should not feel constrained by prior commitments that it would be now embarrassing to reverse. In the case of accountability to multiple audiences, it is also important that the two audiences be approximately equally powerful (otherwise the low-cognitive-effort and politically expedient option is to align oneself with the more powerful audience); that the two audiences recognize each other's legitimacy (otherwise people will see the search for complex integrative solutions as futile); and that there be no institutional precedents for escaping responsibility (otherwise many people will adopt decision evasion tactics such as buckpassing, procrastination, or obfuscation).

(3) Defensive bolstering. Decision-makers are especially likely to engage in self-justifying patterns of thinking (in which they try to demonstrate that they are right and would-be critics wrong) when they feel accountable to a skeptical or even hostile audience for past actions that it is now impossible to reverse and implausible to deny. The evaluative audience should ideally be coercive and contemptuous (stimulating reactance and autonomy motives) but not so powerful that decision-makers are simply intimidated into capitulating. And the decision-makers should ideally have rigid cognitive styles and high needs for closure, feel strongly that the prior stands they have taken are justifiable, and have ready mental access to arguments that they can deploy in defense of these positions.

(4) Decision evasion. People are especially likely to resort to one of the trilogy of decision-evasion tactics -- buckpassing, procrastination and obfuscation -- when they feel accountable to two audiences who not only hold conflicting views about what should be done but also hold each other in contempt. (A paradigmatic example is the abortion debate in late 20th century America.) As a result, each evaluative audience does not recognize the legitimacy of the accountability demands that the other audience places on the decision-makers, thereby rendering the prospects of either a logrolling solution or an integratively complex compromise

hopeless. The audiences should also be approximately equal in power, thereby reducing the attractiveness of aligning oneself with one or another camp. And there should be widely accepted normative or institutional precedents for role incumbents to engage in decision evasion (no “the-buck-stops-here” norm). Finally, decision-makers should have weak personal convictions and be highly motivated to maintain good relations with both of the affected parties.

Testing Coping-Strategy Predictions

It is fair to say that existing research has yet to test -- in a comprehensive design -- the optimal preconditions for activating any of these four coping strategies. Several studies have, however, manipulated subsets of the hypothesized antecedents of the various coping strategies. This work has yielded a number of replicable results, including:

(1) When people are unencumbered by past commitments or strongly held views and are asked to justify their opinions to an evaluative audience whose own views are known, they tend to engage in conformity, ingratiation, and attitude shifting in which their expressed opinions move perceptibly toward those of the anticipated audience (Hare, 1976; Jones & Wortman, 1973; Tetlock, 1983a; Tetlock, Skitka, & Boettger, 1989). Although some people do internalize these public attitudes (Chen, Shechter, & Chaiken, 1996), many snap back (in elastic-band fashion) to their original position (Cialdini et al., 1976). It would be wrong to suppose, however, that all attitude shifting is self-conscious or duplicitous; people often seem unaware of what they are doing. And it would be wrong to label this coping strategy maladaptive at either an individual level of analysis (attitude shifting can be critical for sustaining a positive social identity in the eyes of key constituencies) or a group level of analysis (effective functioning requires coming to agreement once group deliberations have reached the point of diminishing marginal returns) -- although, to be sure, the coping strategy can be maladaptive: individuals may overuse attitude shifting and come to be seen as spineless or duplicitous and groups that consist only of attitude shifters will be highly vulnerable to polarization and groupthink effects.

(2) When people are not encumbered by past public commitments or strongly held private views and are held accountable to an audience whose own views are difficult to decipher, they often engage in pre-emptive self-criticism in which they attempt to anticipate plausible objections of potential critics. The result is more dialectically complex thought protocols suggestive of active perspective-taking and searching for viable syntheses of opposing perspectives ("on the one hand..., on the other..., on balance,..."). A series of studies has also shown that predecisional accountability to unknown audiences is a reasonably effective de-biasing tool, at least for certain types of effects such as "correspondence bias" in a Jones' attitude attribution paradigm (Tetlock, 1985), primacy effects in judgments of guilt and innocence in simulated trials (Tetlock, 1983b), recency effects in auditing tasks (Kennedy, 1993), overconfidence in personality prediction tasks (Tetlock & Kim, 1987), and--most recently---the power of prior emotions to "contaminate" attributions of responsibility for completely unrelated events (Lerner, Goldberg, & Tetlock, 1997).

Encouraging self-critical integratively complex thought does, however, have potential downsides. People who have been encouraged to think this way are more susceptible to the dilution effect (Tetlock & Boettger, 1989; Tetlock, Lerner, & Boettger, 1996) -- a form of underconfidence in which people lose confidence in the predictive power of diagnostic cues when those cues are accompanied by irrelevant evidence (Nisbett, Zukier & Lemley, 1981). Self-critical thinkers arguably try "too hard" to make good use of all the information at their disposal, even irrelevant evidence (the qualification "arguably" is important because Tetlock, Lerner, & Boettger, 1996, have shown that the dilution effect, in part, is a rational response to the conversational norm to assume that the information presented is indeed relevant to the task). Self-critical thinkers are also more prone to deviate from the strict prescriptions of rational models of choice in key respects, sticking with the status quo even when change is clearly in the overall interest of the collective (Tetlock & Boettger, 1994) and being swayed by the

introduction of irrelevant (dominated) alternatives (Simonson, 1989). Here, again, though, we need to be careful about labeling these accountability-amplification effects “errors”: both may represent shrewd political adaptations designed to minimize criticism.

(3) Whereas pre-decisional accountability to unknown audiences stimulates self-critical thought, post-decisional accountability to both known and unknown audiences stimulates defensive bolstering and self-justifying thought (Kiesler, 1971; Tetlock et al., 1989). The major cognitive goal becomes generating as many thoughts as one can to demonstrate that one is correct and that would-be critics are wrong. Perhaps not surprisingly, this type of accountability amplifies efforts to recoup sunk costs and escalates commitment to failing policies (Simonson & Staw, 1992; Staw, 1980; Staw & Ross, 1989). But it would be wrong to suppose that bolstering is inherently maladaptive. It may facilitate individual performance on tasks that require optimism and can-do confidence (Seligman, Nolen-Hoeksema, Thornton, & Thornton, 1990; Taylor & Brown, 1988) and it may inspire subordinates in work settings that require tenacious persistence.

(4) When people are accountable to conflicting standards or audiences, and there appears to be little or no hope of reconciling the opposing perspectives, there is a marked increase of interest in the decision evasion tactics of buckpassing, procrastination and obfuscation (cf. Janis & Mann, 1977; Tetlock, 1998b). Consider, for example, the predicament that Tetlock & Boettger (1994) created in a laboratory simulation of Food and Drug Administration decision-making on the admissibility of a controversial drug into the U.S. pharmaceuticals market -- a drug that would benefit some and harm others. Confronted by pressures to take a stand one way or the other that was guaranteed to earn them the enmity of an influential constituency, subjects often sought out response options that allowed them to avoid taking any stand. This was true, moreover, even when the buckpassing and procrastination options were relatively unattractive. For instance, subjects buckpassed even when they were

told that the agency to which they could refer the decision had no more information than they themselves possessed and even when there was little or no prospect of additional useful evidence materializing in the permissible delayed action period (Tetlock & Boettger, 1994).

Demonstrating the Impact of Accountability on Cognitive Processing

In addition to documenting the precise preconditions for activating coping strategies, laboratory studies are well-designed for answering perennial level-of-analysis questions on whether accountability (or, more generally, institutional context) merely affects public posturing or also shapes underlying cognitive processes. Converging evidence now strongly suggests that both classes of effects occur (see Chen & Chaiken, this volume). Skeptics who want to depict all accountability effects as mere public posturing are hard pressed to explain five classes of evidence:

(1) Pre versus post exposure accountability manipulations. When people learn of being accountable -- before or after exposure to the evidence on which they must base their judgments -- is a critical moderator of whether accountability attenuates judgmental biases. Pre-exposure accountability is a more potent de-biasing manipulation than post-exposure accountability -- a result that strongly suggests that accountability affects the initial encoding and interpretation of evidence and not merely post hoc adjustments of response thresholds.

For instance, Tetlock (1983b) replicated the primacy effect (the tendency to overweight evidence received early in a sequence in a simulated criminal case) among subjects who did not feel accountable for their judgments of guilt and among subjects who learned of being accountable only after exposure to the evidence. The primacy effect disappeared, however, among subjects who learned that they would have to justify their judgments prior to exposure to the information on which they would be basing their judgments. The flipside bias -- the recency effect -- is also open to correction by pre-exposure accountability. Using as subjects MBA students working on an auditing task, Kennedy (1993) found that the recency effect disappeared

among pre-exposure accountability subjects but was quite robust among both post-exposure accountable and unaccountable subjects.

Tetlock and Kim (1987) found that the accuracy of personality prediction improved among subjects who learned they were accountable prior to exposure to the information but not after exposure to that information. Moreover, pre-exposure accountability participants became more accurate judges of their own states of knowledge -- as reflected in stronger associations between the accuracy of personality predictions and confidence in those predictions. Unaccountable and post-exposure accountability subjects fell prey to the usual overconfidence effect (Fischhoff, 1982) whereas pre-exposure accountable subjects did not. Mediation analysis offered partial support for the hypothesis that pre-exposure accountability improved both predictive performance and confidence calibration by motivating subjects to attend to incongruities and contradictions in the personality profiles of the target individuals whose behavior was being predicted. These subjects showed greater awareness of inconsistencies in targets' answers to questions designed to measure the same trait ("this person is outgoing in this situation, but introverted in that situation") as well as greater sensitivity to the problems of integrating information across trait dimensions ("this person is ambitious but still wants a social life, so it is hard to say how he'd respond to item 27").

Tetlock (1985) found that pre-exposure accountability, but not post-exposure, made subjects more cautious about drawing strong dispositional conclusions about the "true attitudes" of an essay-writer in an essay attribution paradigm originally developed by Jones (1979). Pre-exposure accountable subjects did not, moreover, become indiscriminately cautious. They drew every bit as extreme conclusions about essay writers in the high-choice conditions in which the writers were free to take whatever stand they wanted; observers' reticence about making dispositional attributions was confined to the low-choice conditions in which writers were required by an authority figure to advocate a certain position. Here a rational observer arguably

should be maximally uncertain about the true causes of the essay-writer's conduct.

Taken together, the evidence is hard to reconcile with simple response-threshold-adjustment models in which, for example, people are transformed into timid fence-sitters unwilling to commit to any position. The effects of accountability are too dependent on when people learn of being accountable, on whether people have been given an opportunity to form a thoughtful, nuanced, and balanced assessment of the initial evidence.

(2) Audience-cancellation manipulations. Certain accountability effects persist even after the anticipated interview with the evaluative audience has been canceled. Cialdini et al. (1976) found that elastic "snap-back" effects occur when subjects expect to discuss low-involvement relevant issues and either learn that the interview has been canceled or been delayed for a week. A different pattern emerges, however, when subjects expect to engage in an immediate discussion of a personally relevant issue. Under these circumstances, anticipatory shifts are resistant to the "snap-back" effect even when the interview is canceled. The tendency to generate proattitudinal thoughts in justification of the new stance may explain why these circumstances lead to relatively more durable attitudes.

Pennington and Schlenker (1996) found a similar pattern of results on personally relevant issues. When students expected to justify their decisions to punish a fellow student accused of cheating to an honor court official, they recommended more severe punishments than did subjects expecting to justify their views either to the accused student or to control subjects who did not expect to justify their views. Even when subjects thought that the anticipated meeting had been canceled, these opinion shifts endured. Similarly, subjects accountable to the accused student viewed the cheating violation as less severe, and expressed greater sympathy for the student. Once again, these perspectival shifts held regardless of whether subjects thought that the anticipated accountability session had been canceled. Pennington and Schlenker also point, however, to evidence that "expediency concerns" influenced thought. Content analyses of the

justifications subjects provided for their judgments revealed that subjects accountable to the honor court official were less sympathetic toward the accused student only when the meeting had not been canceled. Similarly, subjects accountable to the honor court expressed more one-sided views for punishment than subjects in other conditions only when the meeting was not canceled.

(3) Differential impact on confidential thought protocols and public attitude scales.

Certain accountability effects appear on dependent measures that subjects have been assured will be completely confidential; other effects only appear on public measures. For instance, accountability to a known liberal or conservative audience often produces attitude shifting toward the audience on “public” semantic differential scales but the same type of accountability has little impact on the number of liberal or conservative thoughts that subjects generate on private thought-listing protocols. It is tempting to dismiss this finding as an artifact of the unreliability or insensitivity of open-ended content analytic measures. But the thought-protocol measure proves highly sensitive to the impact of accountability to audiences with unknown views on the integrative complexity of the thoughts reported, picking up on the hypothesized tendency of these subjects to engage in pre-emptively self-critical patterns of thinking designed to prepare themselves for interaction with either a liberal or conservative audience. These thought protocols are much more likely to have a dialectical “point-counterpoint-synthesis” character, with more “buts”, “however”, and “althoughs” and more references to the need to strike reasonable balances, compromises, and trade-offs.

The thought protocol measures also prove sensitive to shifting patterns of within-cell correlations between public attitudes and private cognitive structure. For instance, subjects who resist shifting their attitudes toward known audiences generate more integratively complex and self-critical thought protocols than do subjects who avail themselves of the low-effort attitude shifting option (Tetlock, 1983; Tetlock et al. 1989). People presumably feel a need to “arm themselves” for conversational combat in defense of unpopular positions they are unwilling to

abandon. The implicit message seems to be: “I may believe x but I am no fool. I know counterarguments y and z.”

(4) Accountability-by-cognitive load interactions. Insofar as the underlying cognitive processes activated by accountability manipulations require minimal cognitive effort and conscious monitoring, these processes should be relatively unaffected by manipulations of cognitive load—such as distraction or time pressure—that siphon off or otherwise constrain the mental resources that can be devoted to the task (cf. Kahneman, 1973); but insofar as these underlying processes do require substantial cognitive effort, these processes should be severely impaired (see also Chen & Chaiken, this volume; Fiske, Linville, & Neuberg, this volume; Gilbert, this volume; Smith, this volume). Available evidence—and it is scarce—favors the latter interpretation. Accountability manipulations interact with cognitive-load manipulations in ways that suggest that the underlying cognitive processes do, indeed, require attention and effort. Kruglanski & Freund (1983) found that whereas unaccountable subjects demonstrated a primacy effect when predicting a candidate's future success on the job, the accountable subjects were far less susceptible to the bias -- but only if they were not under time pressure. Under time pressure, any protective benefit conferred by accountability was entirely wiped out. Kruglanski & Freund (1983) replicated this same pattern of effects on the tendency to rely on numerical anchors as well as on the tendency to use stereotypical category labels.

(5) Differentiated effects on logically complex dependent variables. Accountability often has rather subtle and differentiated effects on dependent variables that are difficult to reproduce through simple response-threshold-adjustment models. Results from two studies suggest that pre-exposure accountability to an audience with unknown views improves the calibration of the confidence ratings that subjects assign to their predictions (Siegel-Jacobs and Yates, 1996; Tetlock & Kim, 1987). Calibration is statistically defined as the weighted average of the mean square differences between the proportion of correct predictions in each subjective

probability category and the probability value of that category. One is well calibrated to the degree that all answers to which one assigns 100% confidence are correct, 80% of answers assigned 80% confidence are correct, and so forth. As such, it is hard to imagine improving calibration by indiscriminately lowering or raising one's threshold for expressing confidence. Rather, it requires either careful monitoring of the correspondence between one's probability estimates and "hit" rates or careful attention to the evidential support for particular predictions. It is also noteworthy that improvement in calibration occurs without cost to resolution (the variance of correct predictions across the confidence categories). These results directly challenge the notion that subjects are simply bunching up all of their confidence ratings at the low end of the subjective probability scale to avoid the embarrassment of being wrong when they claimed to be 90% or 100% confident that they were correct. Subjects actually seem to become better judges of the limits of their knowledge -- a valuable meta-cognitive skill.

Differential effects also appear when researchers partition the accuracy scores in person perception tasks (cf. Cronbach, 1955). Especially important here is the concept of differential accuracy: the ability of judges to predict shifting patterns of individual differences across situational contexts. Mero and Motowidlo (1995) found that holding raters accountable for their ratings and rewarding raters based on ratee performance improved this kind of judgmental accuracy. Similarly, in a personality prediction study, Tetlock and Kim (1987) decomposed predictive accuracy into the Cronbach components. This analysis revealed not only that preexposure-accountability subjects made more accurate predictions than did both no-accountability subjects and post-exposure-accountability subjects, but also that it improved both differential accuracy (accuracy in predicting particular Test-taker X Item combinations) and stereotype accuracy (accuracy in predicting responses to particular items). As noted earlier, mediational analysis revealed that the increase in accuracy was partly produced by the tendency of pre-exposure accountability subjects to form more integratively complex impressions of

test-takers that allowed for situational exceptions to trait generalizations and that even occasionally confronted the classic (Allportian) problem of gauging how different traits interact to produce behavioral outcomes.

Reprise. Weighing the totality of the evidence, the scales of plausibility now rather decisively favor the view that accountability effects cannot be dismissed as mere response-threshold adjustments. An integral function of thought is preparation for conversations in which one expects to be called upon to explain, justify, and excuse one's opinions and decisions.

It is also worth commenting on a minor irony of intellectual history. Standards of evidence and proof in social psychology can shift quite dramatically depending on whether a claim is consistent with the conventional wisdom. In the 1970's, advocates of impression management explanations had a "challenger status" and bore the burden of proof as they advanced reinterpretations of standard dissonance, reactance, equity, attribution and group polarization effects. Tetlock and Manstead (1985) reviewed the methodological strategies deployed to demonstrate that impression management effects could not be easily reduced to intrapsychic processes and, in each case, demonstrated that plausible intrapsychic mediational accounts could not be completely ruled out (although such accounts could be made to appear rather contrived). In the 1980's, the argument that "accountability shapes cognitive processing, not just public posturing" runs against the grain of the conventional wisdom that the more "basic" the cognitive process (the more "hardwired" the process in neurologically grounded laws of perception or memory networks), the less likely the process is to be affected by institutional context (cf. Arkes, 1991). And we suspect that is why the burden of proof is now borne by those who argue that some accountability effects cannot be attributed to strategic impression management and simple adjustments of response thresholds.

The Reductionist Challenge: Can Accountability Effects Be Assimilated to Some Other (More Basic) Explanatory Construct?

Accountability is a logically complex bundle of causal constructs, perhaps too complex for the epistemological tastes of those experimental social psychologists who put a premium on isolating exact causal pathways. To paraphrase William James, there are, in principle, as many distinct forms of accountability as there are distinctive relationships among people. Pursuers of parsimony may find it tempting to try to reduce accountability to some combination of putatively more fundamental processes and there is no shortage of plausible candidates. Accountability bears a family resemblance to a host of other independent variables in the literature, including (1) the mere presence of fellow members of one's species, (2) cognitive tuning, (3) reason giving/introspection, (4) incentives/involvement/importance; (5) conformity pressure. Nevertheless, efforts to "reduce" all accountability effects to these "more fundamental" causal constructs run aground some stubborn empirical anomalies:

(1) Mere presence. The physical or symbolic presence of at least one other human being is a necessary condition for any kind of accountability. Although some accountability studies do find support for the social facilitation and drive theory prediction (cf. Zajonc, 1965) that mere-presence of a conspecific amplifies dominant responses (Weigold & Schlenker, 1991), other studies report quite the opposite pattern. Far from enhancing theoretically dominant responses such as low-effort heuristics in social cognition experiments, loafing in group tasks, or aggression in electric shock paradigms, accountability often stimulates self-critical forms of thought, motivates individual work effort, and attenuates aggression in response to provocation (Prentice-Dunn & Rogers, 1982; Tetlock, 1992; Weldon & Gargano, 1988).

(2) Cognitive tuning. Zajonc (1960) argued that expecting to communicate one's impressions of an event -- a transmission set -- places a premium on one's ability to generate succinct and readily comprehensible descriptions of that event, thus polarizing and simplifying thought. By contrast, accountability research finds that expecting to justify one's views often

places a premium not only on communicating one's opinions, but also on defending those opinions against reasonable counterarguments (see Tetlock, 1992). The former manipulation encourages people to suppress ambiguity and to present issues in sharp, polarized terms. The latter manipulation encourages people to express complex, many-sided opinions that are difficult to refute and easy to justify. Research on overattribution illustrates the diverging predictions. Subjects in transmission sets form more extreme dispositional attributions in an essay attribution paradigm than do subjects in a no-set control condition (Harvey, Harkins, & Kagehiro, 1976). By contrast, subjects given accountability instructions make less extreme and more discriminating patterns of causal attributions (Tetlock, 1985).

(3) Reason giving/introspection. Introspective searches for reasons often disrupt the relation between attitudes and behavior and decrease awareness of the true sources of subjects' preferences and choices (Wilson, Hodges & LaFleur, 1995; Wilson, Kraft & Dunn, 1989). When people try to explain their feelings, they focus on cognitively accessible reasons that only loosely correspond to the actual causes for their feelings. By contrast, accountability has repeatedly been found to strengthen the covariation between the cues that subjects say they are using to make choices and the cues that regression models suggest subjects are using (Cvetkovich, 1978; Hagafors & Brehmer, 1983; Weldon & Gargano, 1988). In one case, we observe less self-awareness of judgment processes; in the other, more. One possibility worth investigating is that this divergence reflects the types of tasks used in the different research programs. Search for reasons may be both futile and disruptive in domains where an implicit "de gustibus" norm prevails stipulating that matters of taste do not require reasons. By contrast, search for reasons may promote awareness of cognitive processing in analytical or problem-solving tasks such as multiple-cue probability learning. Another possibility is that the divergence reflects important but yet not identified functional differences between processes of private introspection and public justification.

(4) Incentives/Decision Importance. The debiasing effects of accountability on overconfidence (Kassin, Castillo & Rigby, 1991; Tetlock & Kim, 1987) are very different from null effects generally found for monetary incentives (Fischhoff, 1982) and the bias-amplification effects sometimes found for task importance manipulations (Sieber, 1974). One possibility worth exploring is that accountability and money activate qualitatively distinct modes of processing. Monetary incentives may convey a host of unintended messages: the task is boring so I must be bribed to do it (eroding intrinsic motivation) or the task is competitive so I should look for an angle that others won't see to maximize my chances of winning (encouraging a search for a usually non-existent trick solution). By contrast, accountability, especially pre-exposure/pre-decisional accountability to unknown audiences, may motivate people to become more self-reflective and self-critical not because people think that it is the "best way to think" (the cognitive equivalent of putting one's "Sunday best") but rather because self-critical thought is a relatively well-rehearsed response to unfamiliar or normatively ambiguous situations in which people are unsure of how they should act.

Task importance and accountability manipulations also differ in a multiplicity of ways so it should not be surprising that their effects are sometimes strikingly similar (McAllister, Mitchell & Beach, 1976) and strikingly divergent (Sieber, 1974). Consider, for example, the de-biasing effects of accountability reported by Tetlock and Kim (1987) and the bias-amplifying effects of task importance in Sieber (1974). She explains her results by invoking Hull-Spence drive theory and the tendency for drive/arousal to increase the likelihood of dominant responses. Given the many differences between Sieber (1974) and Tetlock and Kim (1987), it is logically possible that the two manipulations simply placed subjects on different points of the infamous arousal-performance curve. Perhaps Sieber's task-importance manipulation (course grades were thought to be at stake) was more powerful than the Tetlock and Kim (1987) accountability manipulation and produced levels of arousal that interfered with, rather than facilitated,

self-critical thought. Arousal has repeatedly been found to be related in a curvilinear fashion to integrative complexity, with moderate levels most conducive to complex functioning (Schroder, Diver & Streufert, 1967). The Tetlock and Kim manipulation may have created optimum arousal, and Sieber's, a superoptimal level. It is also possible, however, that the two manipulations differ in qualitative ways. More important than the general arousing properties of accountability may be the specific coping responses activated by the need to justify one's views. Accountability may serve as a signal to subjects to take the role of the other toward their own mental processes and to give serious weight to the possibility that their preferred answers might be wrong. In this view, accountability does not simply motivate thought; it functions as a social brake on easy-to-execute heuristics and automatic forms of social inference that we rely upon in our less reflective moments.

(5) Conformity pressure. As we have seen, conformity or attitude shifting is a relatively popular strategy of dealing with pre-decisional accountability to audiences with well-defined views. But as the earlier review of the response-threshold argument revealed, it is implausible to insist that all accountability effects can be modeled as mindless conformity adjustments to the anticipated audience. The importance of accountability timing, the persistence of certain effects after audience cancellation, the emergence of effects even on confidential thought protocols, the interactions of accountability with cognitive load, and the complexity of accountability effects on subtle, difficult-to-influence-mindlessly dependent measures (calibration, differential accuracy, correspondence between statistical models of cue utilization and self-reported judgmental policy) -- all these lines of evidence point to the power of accountability to induce more self-reflective, self-critical and effort-demanding patterns of thinking than typically occurs when people do not feel their judgments are under evaluative scrutiny.

Concluding Thoughts

Accountability is a multidimensional construct with a correspondingly multidimensional array of effects. It shapes what people are willing to say as well as how people think. Disentangling these effects is not always easy and may sometimes be impossible. Nevertheless, there has been empirical progress. We know more than we did before about the types of accountability that trigger attitude shifting and the types of accountability that activate more effort-demanding processing that may, in turn, take either self-critical or self-justifying forms.

Although many of the findings reviewed here fit nicely within the emerging emphasis on dual-process models, there are some cautionary caveats. Most important, there is nothing inherently superior about the effort-demanding “second-tier” of thought. We have repeatedly seen that neither self-justifying nor self-critical thought automatically improves or degrades judgment. Much hinges on both the social context and the goals that we posit people are trying to achieve. Self-justifying thought arguably improves judgment when efforts to recoup sunk costs elicit political applause for one’s principled stand (staying the course). Economic irrationality may sometimes be politically rational. But self-justifying thought arguably degrades judgment in settings that place a premium on flexible adjustment, awareness of trade-offs and rapidly writing off sunk costs. Normative assessments of self-critical thought need to be equally qualified. Self-criticism may improve judgment when anticipating potential critics leads one to incorporate valid objections into one’s assessment of a problem, thereby correcting overconfidence and belief perseverance. But it may degrade judgment when self-criticism shades into chronic vacillation (buckpassing and procrastination) or into inferential wild goose chases (as in the dilution effect) in which people bend over backwards to make sense of nonsense. But the key term here is “may.” What one political observer denounces as cowardly decision-evasion tactics, another might praise as an appropriately circumspect approach to the exercise of authority. And whereas scholars who view people as intuitive

statisticians may not hesitate to label the dilution effect a bias (why lose confidence in a genuinely predictive cue simply because it is surrounded by nonpredictive cues?), scholars who stress the importance of conversational norms in guiding social thought may spring to the defense of dilution, arguing that attentive conversational partners presume relevance and try hard to glean useful information from even the most opaque cues.

Accountability effects are thus both descriptively and normatively complex. They are descriptively complex because different types of accountability can elicit very different social and cognitive coping responses. They are normatively complex because accountability links previously isolated laboratory subjects to the world of institutions, politics, and power--a world in which labeling something a mistake almost never goes uncontested.

References

- Allport, G.W. (1985). The historical background of social psychology. In G. Lindzey & E. Aronson (Eds.), The handbook of social psychology, 92ed., Vol. 1,). Reading: Addison-Wesley.
- Aronson, E. (1976). The social animal. (2nd ed.). San Francisco, CA: W.H. Freeman and Company.
- Arkes, H. (1991). Costs and benefits of judgment errors: Implications for debiasing. Psychological Bulletin, 110, 486-498.
- Baumeister, R. F., & Leary, M. F. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motive. Psychological Bulletin, 117, 497-529.
- Blau, P. M. (1964). Exchange and power in social life. New York: J. Wiley.
- Brockner, J., & Rubin, J.Z. (1985). Entrapment in escalating conflicts: A social psychological analysis. New York: Springer-Verlag.
- Camerer, C. (1995). Individual decision making. PP. 587-704 in J.H. Hagel & A.E. Roth (eds.), The handbook of experimental economics. Princeton: Princeton University Press.
- Carnevale, P.J.D., Pruitt, D.G., and Britton, S.D. (1979). Looking tough: The negotiator under constituent surveillance. Personality and Social Psychology Bulletin, 5, 118-121.
- Carnevale, P.J.D., Pruitt, D.G., & Seilheimer, S.D. (1981). Looking and competing: Accountability and visual access in integrative bargaining. Journal of Personality and Social Psychology, 40, 111-120.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. Journal of Personality and Social Psychology, 40, 111-120.
- Chen, S. & Chaiken, S., this volume.
- Cialdini, R.B, Levy, A., Herman, C.P., & Evenbeck, S. (1973). Attitude politics: The strategy of moderation. Journal of Personality and Social Psychology, 25, 100-108.

Cialdini, R. B., Levy, A., Herman, C. P., Kozlowski, I. T., & Petty, R. E. (1976). Elastic shifts of opinion: Determinants of direction and durability. Journal of Personality and Social Psychology, 34, 663-672.

Cronbach, L. J. (1955). Processes affecting scores on "understanding others" and "assumed similarity". Psychological Bulletin, 52, 177-193.

Cvetkovich, G. (1978). Cognitive accommodation, language, and social responsibility. Social Psychology, 2.

Edgerton, R. B. (1985). Rules, exceptions, and social order. Berkeley: University of California Press.

Festinger, L. (1957). A theory of cognitive dissonance. Stanford, CA: Stanford University Press.

Fiske, S., & Taylor, S. (1991). Elements of social cognition. In S. Fiske & S. Taylor (Eds.), Social cognition, (second ed., pp. 21-95, 346-406). NY: McGraw-Hill Book Company.

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influence of information and motivation on attention and interpretations. In M. P. Zanna (Ed.), Advances in experimental social psychology (Vol. 23). San Diego: Academic Press.

Fiske, S. T., Lin & Neuberg, this volume.

Gilbert, this volume.

Gilbert, D.T., Krull, D.S., & Pelham, B.W. (1988). Of thoughts unspoken: Social inference and the self-regulation of behavior. Journal of Personality and Social Psychology, 55, 685-694.

Haan, N. (1994). Hypothetical and actual moral reasoning in a situational of civil disobedience. In B. Puka (Ed.), The great debate: Kohlberg criticism. Moral development: A compendium, (Vol. 4, pp. 179-194). New York: Garland Publishing, Inc.

Hagafors, R., & Brehmer, B. (1983). Does having to justify one's judgments change the nature of the judgment process? Organizational Behavior and Human Performance, *31*, 223-232.

Hare, A.P. (1976). Handbook of small group research. (2ed.). New York: Free Press.

Harvey, J. H., Harkins, S. G., & Kagehiro, D. K. (1976). Cognitive tuning and the attribution of causality. Journal of Personality & Social Psychology, *34*, 708-715.

Heider, F. (1958). The psychology of interpersonal relations. New York: Wiley.

Janis, I.L., & Mann, L. (1977). Decision making: A psychological analysis of conflict, choice, and commitment. New York: Free Press.

Jones, E.E. (1979). The rocky road from acts to dispositions. American Psychologist, *34*, 107-117.

Jones, E. E., & Wortman, C. (1973). Ingratiation: An attributional approach. Morristown, NJ: General Learning Press.

Kahneman, D., & Tversky, A. (1973). On the psychology of prediction. Psychological Review, *80*, 237-251.

Kassin, S. M., Castillo, S. R., & Rigby, S. (1991). The accuracy-confidence correlation in eyewitness testimony: Limits and extensions of the retrospective self-awareness effect. Journal of Personality and Social Psychology, *5*, 698-707.

Kelley, H.H. (1967). Attribution theory in social psychology. Paper presented at the Nebraska Symposium on Motivation.

Kelley, H. H. & Thibaut, J. W. (1978). Interpersonal relations: A theory of interdependence. New York: Wiley.

Kennedy, J. (1993). Debiasing audit judgment with accountability: A framework and experimental results. Journal of Accounting Research, *31*, 231-245.

Kiesler, C. A. (1971). The psychology of commitment: Experiments linking behavior to belief. San Diego, CA: Academic Press.

Kruglanski, A. W. (1990). Lay Epistemic theory in social-cognitive psychology. Psychological Inquiry, 1, 181-197.

Kruglanski, A. W., & Freund, T. (1983). The freezing and unfreezing of lay-inferences: Effects on impressional primacy, ethnic stereotyping and numerical anchoring. Journal of Experimental Social Psychology, 19, 448-468.

Lambert, A.J., Cronen, S., Chasteen, A.L., & Lickel, B. (in press). Private versus public expressions of racial prejudice. Journal of Experimental Social Psychology.

Lerner, J. S., Goldberg, J. H., and Tetlock, P. E., (1996, July). Accountability and punitive bias. Poster session presented at the annual meeting of the American Psychological Society, San Francisco, CA.

Lerner, J. S., Goldberg, J. H., and Tetlock, P. E. (in press). Sober second thought: The effects of accountability, anger and authoritarianism on attributions of responsibility. Personality and Social Psychological Bulletin.

Lerner, J.S., & Tetlock, P.E. (1997). Accounting for accountability. Manuscript submitted for publication.

Levi, A., & Tetlock, P. E. (1980). A cognitive analysis of Japan's 1941 decision for war. Journal of Conflict Resolution, 24, 195-211.

Loevinger, J. (1976). Ego development: Conceptions and theories. San Francisco: Jossey-Bass.

March, J.G., & Olsen, J.P. (1995). Democratic Governance. New York: Free Press.

McAllister, D. W., Mitchell, T. R., & Beach, L. R. (1979). The contingency model for the selection of decision strategies: An empirical test of the effects of significance, accountability, and reversibility. Organizational Behavior and Human Performance, 24.

Mead, G. H. (1934). Mind, self, & society from the standpoint of a social behaviorist. (Vol. 1). Chicago, IL: The University of Chicago Press.

Mero, N., & Motowidlo, S. (1995). Effects of rater accountability on the accuracy and favorability of performance ratings. Journal of Applied Psychology, 80 (4), 517-524.

Nisbett, R. E., Zukier, H., & Lemley, R. (1981). The dilution effect: Nondiagnostic information weakens the implications of diagnostic information. Cognitive Psychology, 13, 248-277.

Pennington, J., & Schlenker, B. R. (1996). Accountability for consequential decisions: justifying ethical judgments to audiences. Manuscript submitted for publication.

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. Advances in Experimental Social Psychology, 19, 123-205.

Prentice-Dunn, S., & Rogers, R. W. (1982). Effects of public and private self-awareness on deindividuation and aggression. Journal of Personality & Social Psychology, 43 (3), 503-513.

Rothbart, M., Evans, M., & Fulero, S. (1979). Recall for confirming events: Memory processes and the maintenance of social stereotyping. Journal of Experimental Social Psychology, 14, 237-255.

Rozelle, R. M., & Baxter, J.C. (1981). Impression formation under conditions of accountability and self salience, University of Houston.

Rusbult, C. E., Insko, C. A., Lin, Y. W., & Smith, W. J. (1990). Social motives underlying rational selective exploitation: The impact of instrumental versus social-emotional allocator orientation on the distribution of rewards in groups. Journal of Applied Social Psychology, 20, 1984-1025.

Schlenker, B.R. (1980). Impression management: The self-concept, social identity, and interpersonal relations. Monterey: Brooks/Cole Publishing Company.

Schlenker, B.R. (1982). Translating actions into attitudes: An identity-analytic approach to the explanation of social conduct. In L. Berkowitz (Ed.), Advances in experimental social psychology, (Vol 15, pp. 194-248). New York: Academic Press.

Schlenker, B.R. (Ed.). (1985). The self and social life. New York: McGraw-Hill.

Schroder, H. M., Driver, M., & Streufert, S. (1967). Human information processing. New York: Holt, Rinehart & Winston.

Seligman, M.E., Nolen-Hoeksema, S., Thornton, N., & Thornton, K.M. (1990). Explanatory style as a mechanism of disappointing athletic performance. Psychological Science, 1, 143-146.

Sieber, J. E. (1974). Effects of decision importance on ability to generate warranted subjective uncertainty. Journal of Personality & Social Psychology, 30, 688-694.

Siegel-Jacobs, K., & Yates, J. F. (1996). Effects of procedural and outcome accountability on judgment quality. Organizational Behavior and Human Decision Processes, 1, 1-17.

Simonson, I. (1989). Choices based on reasons: The case of attribution and compromise effects. Journal of Consumer Research, 16, 158-174.

Simonson, I., & Staw, B.M. (1992). Deescalation strategies: A comparison of techniques for reducing commitment to losing courses of action. Journal of Applied Psychology, 77, 419-426.

Smith, E., this volume.

Staw, B.M. (Ed.). (1980). Rationality and justification in organizational life. (Vol. 2). Greenwich: JAI Press.

Staw, B.M., & Ross, J. (1989). Understanding behavior in escalation situations. Science, 246, 216-220.

Staw, B. M., & Ross, J. (1980). Commitment in an experimenting society: A study of the attribution of leadership from administrative scenarios. Journal of Applied Psychology, 65, 249-260.

Steele, C., Spencer, S., & Lynch, M. (1993). Self-image resilience and dissonance: The

role of affirmational resources. Journal of Personality & Social Psychology, 64, 885-896.

Stone, D. N., & Ziebart, D. A. (1995). A model of financial incentive effects in decision making. Organizational Behavior & Human Decision Processes, 61, 250-261.

Taylor, S.E., & Brown, J.D. (1988). Illusion and well-being: A social psychological perspective on mental health. Psychological Bulletin, 103, 193-210.

Tetlock, P. E. (1983a). Accountability and complexity of thought. Journal of Personality & Social Psychology, 45 (1), 74-83.

Tetlock, P. E. (1983b). Accountability and the perseverance of first impressions. Social Psychology Quarterly, 46, 285-292.

Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. Social Psychology Quarterly, 48, 227-236.

Tetlock, P.E. (1989). Structure and function in political belief system. In A.R. Pratkanis, S.J. Breckler, & A.G. Greenwald (Eds.), Attitude, structure, and function, (Vol. 3, pp.129-151). Hillsdale: Lawrence Erlbaum Associates.

Tetlock, P. E. (1992). The impact of accountability on judgment and choice: Toward a social contingency model. Advances in Experimental Social Psychology, 25, 331-376.

Tetlock, P.E. (1998a). Losing our religion: On the collapse of precise normative standards in complex accountability systems. In R. Kramer and M. Neale (Ed.), Influence processes in organizations. Beverly Hills: Sage.

Tetlock, P.E. (1998b). Accountability theory: Mixing properties of human agents with properties of social systems. In L. Thompson, D. Messick, & J. Levine (Eds.), Shared cognition in organizations: The management of knowledge. Hillsdale: Earlbaum.

Tetlock, P. E. (1998c). Cognitive biases and organizational correctives: Do both disease and cure depend on the political beholder. Unpublished manuscript, The Ohio State University.

Tetlock, P. E., & Boettger, R. (1989). Accountability: A social magnifier of the dilution

effect. Journal of Personality & Social Psychology, 57, 388-398.

Tetlock, P.E., & Boettger, R. (1994). Accountability amplifies the status quo effect when change creates victims. Journal of Behavioral Decision Making, 7, 1-23.

Tetlock, P. E., & Kim, J. I. (1987). Accountability and judgment processes in a personality prediction task. Journal of Personality and Social Psychology, 52, 700-709.

Tetlock, P. E., Lerner, J. S., & Boettger, R. (1996). The dilution effect: Judgmental bias, conversational convention, or a bit of both? European Journal of Social Psychology, 26, 915-934.

Tetlock, P. E., & Manstead, A. S. R. (1985). Impression management versus intrapsychic explanations in social psychology: A useful dichotomy? Psychological Review, 92, 59-77.

Tetlock, P.E., Peterson, R.S., & Lerner, J.S. (1996). Revising the value pluralism model: Incorporating social content and context postulates. In C. Seligman, J. Olsen, & M. Zanna (Eds.), Values: Eighth annual Ontario symposium on personality and social psychology, Hillsdale: Earlbaum.

Tetlock, P. E., Skitka, L., & Boettger, R. (1989). Social and cognitive strategies for coping with accountability: Conformity, complexity, and bolstering. Journal of Personality & Social Psychology, 57, 632-640.

Weigold, M.F., & Schlenker, B.R. (1991). Accountability and risk taking. Personality and social psychology bulletin, 17, 25-29.

Weigold, M. F., & Schlenker, B. R. (1992). Interpersonal processes involving impression regulation and management. Annual Review of Psychology, 43, 133-168.

Weldon, E., & Gargano, G. M. (1988). Cognitive loafing: The effects of accountability and shared responsibility on cognitive effort. Personality and Social Psychology Bulletin, 14, 159-171.

Wilson, T. D., Hodges, S. D., & LaFleur, S. J. (1995). Effects of introspecting about

reasons: Inferring attitudes from accessible thoughts. Journal of Personality & Social Psychology, 69, 16-28.

Wilson, T. D., Kraft, D., & Dunn, D. S. (1989). The disruptive effects of explaining attitudes: The moderating effect of knowledge about the attitude object. Journal of Experimental Social Psychology, 25, 379-400.

Zajonc, R. B. (1960). The process of cognitive tuning in communication. Journal of Abnormal and Social Psychology, 61, 159-167.

Zajonc, R.B. (1965). Social facilitation. Science, 149, 269-274.