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Accounting for the Effects of Accountability

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This article reviews the now extensive research literature addressing the impact of accountability on a wide range of social judgments and choices. It focuses on 4 issues: (a) What impact do various accountability ground rules have on thoughts, feelings, and action? (b) Under what conditions will accountability attenuate, have no effect on, or amplify cognitive biases? (c) Does accountability alter how people think or merely what people say they think? and (d) What goals do accountable decision makers seek to achieve? In addition, this review explores the broader implications of accountability research. It highlights the utility of treating thought as a process of internalized dialogue; the importance of documenting social and institutional boundary conditions on putative cognitive biases; and the potential to craft empirical answers to such applied problems as how to structure accountability relationships in organizations.

Accountability is a modern buzzword. In education (Fairchild & Zins, 1992; Miller, 1995), health care (Emanuel & Emanuel, 1996; Hendee, 1995), civil and criminal justice (Stenning, 1995), business (Cronshaw & Alexander, 1985; Peecher & Kleinmuntz, 1991), and especially in politics (Anderson, 1981; March & Olsen, 1995), debates rage about who should answer to whom, for what, and under what ground rules. These debates appear in scholarly as well as popular publications. In the past year alone, *accountability* appeared in the title of 116 scholarly publications (Institute for Scientific Information, 1997, *Current Contents Database*); meanwhile, 335 articles in the *New York Times* addressed accountability. Indeed, accountability has been invoked as a solution for everything from the national debt (Sato, 1989) to failing schools (Cornett & Gaines, 1997) to climate change (Hammond, 1991).

Despite widespread concern with accountability in many spheres of life, psychological research on accountability has historically been scarce. To date, there have been no comprehensive reviews of psychological research on accountability. Recently, however, a rapidly increasing body of psychological research has begun to examine the impact of accountability on such diverse topics as social perception, attribution, organizational behavior, judgment accuracy, consumer preference, attitude formation and change, and negotiation. The present review organizes, integrates, and evaluates these disparate lines of work. In so doing, this review assesses the progress psychological research has made toward understanding the impact of accountability on individual thought, feeling, and action.

For the purposes of this review, accountability refers to the implicit or explicit expectation that one may be called on to justify one's beliefs, feelings, and actions to others (Scott & Lyman, 1968; Semin & Manstead, 1983; Tetlock, 1992). Accountability also usually implies that people who do not provide a satisfactory justification for their actions will suffer negative consequences ranging from disdainful looks to loss of one's livelihood, liberty, or even life (Stenning, 1995). Conversely, people who do provide compelling justifications will experience positive consequences ranging from mitigation of punishment to lavish rewards that, for example, take the form of political office or generous stock options.

It is, however, a mistake—and a rather common one—to view accountability as a unitary phenomenon. Even the simplest accountability manipulation necessarily implicates several empirically distinguishable submanipulations, each of which has received empirical attention in its own right. These include (a) *mere presence of another* (participants expect that another will observe their performance; see Guerin, 1993; Zajonc, 1965; Zajonc & Sales, 1966), (b) *identifiability* (participants expect that what they say or do in a study will be linked to them personally; see Price, 1987; Reicher & Levine, 1994a, 1994b; Schopler et al., 1995; Williams, Harkins, & Latane, 1981; Zimbardo, 1969), (c) *evaluation* (participants expect that their performance will be assessed by another according to some normative ground rules and with some implied consequences; see Geen, 1991; Guerin, 1989; Harkins & Jackson, 1985; Innes & Young, 1975; Kimble & Rezabek, 1992; Sanna,

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Turley, & Mark, 1996; Simonson & Nowlis, 1996), and (d) *reason-giving* (participants expect that they must give reasons for what they say or do; see Simonson & Nowlis, 1998; Wilson & LaFleur, 1995).

For the purposes of this review, however, we are less interested in decomposing accountability into its most elemental components than we are in treating accountability as a natural bridging construct between the individual and institutional levels of analysis. The accountability relationships that govern our lives are not only complex—because we must answer to a variety of others under a variety of ground rules—but often fluid and dynamic—as each party to the accountability relationship learns to anticipate the reactions of the other, we observe subtle patterns of mutual adaptation. To paraphrase William James' famous observation about the social self, there are as many distinct types of accountability as there are distinct relationships among people and between people and the organizations that give structure and meaning to their social world (James, 1890/1983).

We organize this review around four critical issues, each revealing complex and dynamic ways in which accountability connects individuals to the authority relations within which individuals work and live: (a) What impact do various kinds of accountability ground rules have on the thoughts, feelings, and actions of individual human beings? (b) Under what conditions will accountability attenuate, have no effect on, or amplify cognitive biases? (c) Does accountability alter how people think or merely what people say they think? and (d) What goals do accountable decision makers seek to achieve?

What Impact Do Various Kinds of Accountability Ground Rules Have on Thoughts, Feelings, and Action?

Different kinds of accountability motivate distinctive social and cognitive coping strategies, only a subset of which most observers would applaud as improvement. This section reviews the response patterns associated with each of the eight kinds of accountability that have received empirical attention.

Accountability to an Audience With Known Versus Unknown Audience Views

Regardless of whether the views of one's audience are known or unknown, people often seek approval from their respective audience (Baumeister & Leary, 1995). They may, however, resort to different tactics in pursuit of that goal.

When audience views are known prior to forming one's own opinion, conformity becomes the likely coping strategy (Tetlock, 1983a; Tetlock, Skitka, & Boettger, 1989). People can simply adopt positions likely to gain the favor of those to whom they are accountable, thereby allowing them to avoid the unnecessary cognitive work of analyzing the pros and cons of alternative courses of action, interpreting complex patterns of information, and making difficult trade-offs.

In support of these predictions, experimental work has repeatedly shown that expecting to discuss one's views with an audience whose views are known led participants to strategically shift their attitudes toward that of the audience (see Cialdini, Levy, Herman, Kozlowski, & Petty, 1976; Jones & Wortman, 1973; Klimoski & Inks, 1990; Tetlock, 1983a; Tetlock et al., 1989). Indeed, strategic shifts occur even if they produce inefficient decision outcomes. Consider an example with financial-aid agents who were either unaccountable or accountable for their resource allocations to (a) potential aid recipients or (b) the resource providers. When financial resources were inadequate to cover the educational needs of all potential recipients (each needed a certain amount to enroll for the semester; less than that amount was, therefore, stipulated to be of no use), only unaccountable agents matched awards to needs effectively (Adelberg & Batson, 1978). They allocated effectively by giving enough to some rather than a little to all applicants. By contrast, under recipient-accountability and provider-accountability, agents attempted to please all applicants by giving some to all rather than choosing which applicants would get enough to meet their needs and which ones would not. The result was wasted money: Too many applicants received less than the amount they needed to enroll. Thus, accountability under resource scarcity caused decision makers to be inefficient but fair. Presumably, the desire for social approval from known audiences shifted the decision makers' focus away from the potential effectiveness of outcomes to the justifiability of outcomes.

The desire to please one's audience appears to be especially strong among people who score high on scales such as self-monitoring/social anxiety (Snyder, 1974) or low on scales such as individuation (Maslach, Santee, & Wade, 1987). High self-monitors, low individuators, and the socially anxious all show a greater tendency to go along with the views of their prospective audience (Chen, Shecter, & Chaiken, 1996; Lerner, 1994; Turner, 1977). In addition, the degree to which social anxiety elicits behavioral conformity increases as a function of the size of the audience (Brockner, Rubin, & Lang, 1981).

Influential theories of attitude change (Chaiken & Trope, in press; Eagly & Chaiken, 1993; Petty & Cacioppo, 1990), however, suggest an important qualification. Predecisional accountability to an audience with known views may lead to attitude shifting only when participants feel no personal involvement with the decisions they are about to make (for a similar argument with postdecisional accountability, see Cialdini, Levy, Herman, & Evenbeck, 1973; Cialdini et al., 1976).

Pennington & Schlenker (in press) explored this potential qualification by creating a highly involving decision context: Students believed they were judges in a real cheating case against a fellow student at their own university and that their decisions had a high probability of being implemented by the honor court. Nevertheless, students still shifted their views toward that of the audience—either the student defendant, the prosecuting faculty member, or an honor-court official (Pennington & Schlenker, in press). Brockner and colleagues (1981) found similar results for behavioral conformity in a different, but also highly involving, context. Accountable participants who sought to win money in a jackpot adopted their audience's view on investment strategies: Participants invested conservatively in the cautious-audience condition and liberally in the risky-audience condition—an effect that proved significantly greater among participants high in social anxiety (Brockner et al., 1981). Finally, evidence that accountable participants conform to audience views, even when they feel personal involvement, comes from research on ethical dilemmas. When MBA students expected to justify their decisions to a fellow student in simulated ethical dilemmas designed to activate strong personal convictions, they

also shifted their views toward the audience (Brief, Dukerich, & Doran, 1991).

Simple conformity is not an option, however, when the views of the audience are completely unknown. Under such conditions, people who do not feel locked into any prior commitment often engage in *preemptive self-criticism* (Tetlock, 1983a; Tetlock et al., 1989)—that is, they think in more self-critical, integratively complex ways in which they consider multiple perspectives on the issue and try to anticipate the objections that reasonable others might raise to positions that they might take.

In support of these predictions, Tetlock (1983a) found that participants accountable to an unknown (versus known) audience displayed much more tolerance for evaluative inconsistency (recognizing both good and bad features of particular policies) and much more recognition of value trade-offs when evaluating controversial issues. Variations of known- versus unknown-audience views produce similar effects across studies and, indeed, across cultures (Wu, 1992). Mero and Motowidlo (1995) found, for example, that whereas accountable performance appraisers who expected no special pressures to achieve a certain rating outcome demonstrated improvements in accuracy, accountable performance appraisers who learned prior to making ratings that their boss thought ratings had historically been too low did not. Similarly, Chen et al. (1996) found that the degree to which a prospective audience's attitude biased the processing of information hinged on participants' motivational goals. When participants were motivated to have a pleasant interaction, they adopted a go-along-to-get-along heuristic; they formed attitudes consistent with their prospective audience. By contrast, when they were motivated to think and behave objectively, participants based their attitudes on evenhanded, systematic processing of the issue information.

Several field experiments in organizational settings corroborate the laboratory findings. When audience views were known, insurance agents (Antonioni, 1994), telecommunications workers (Fandt & Ferris, 1990), and professional auditors (Buchman, Tetlock, & Reed, 1996; Cuccia, Hackenbrack, & Nelson, 1995; Hackenbrack & Nelson, 1996) tailored the message to their respective audiences. When views were unknown, auditors in a high (versus low) accountability condition wrote more thorough justifications for their decisions (Koonce, Anderson, & Marchant, 1995) and were more likely to qualify their professional opinions (Lord, 1992).

Some exceptions to this pattern merit attention. Unknown-audience manipulations fail to elicit preemptive self-criticism when participants think they can guess the views of their prospective audience. Under such conditions, participants abandon their effortful attempts to reach a justifiable position and simply shift toward the presumed views of the prospective audience (see Weigold & Schlenker, 1991; Zanna & Sande, 1987). Future research needs to clarify this moderator by identifying when participants will (a) attempt to guess the views of their unknown audience versus engage in preemptive self-criticism and (b) succeed versus fail at guessing audience views. Documented cognitive biases such as the false-consensus effect (i.e., believing that others hold opinions similar to your own) imply that participants will tend to incorrectly ascribe their own views to those of their audience (Ross, Greene, & House, 1977; but see Dawes & Mulford, 1996).

Pre- Versus Postdecisional Accountability

Both cognitive dissonance theory and impression management theory predict that after people have irrevocably committed themselves to a decision, learning of the need to justify their actions will motivate cognitive effort—but this effort will be directed toward self-justification rather than self-criticism. Because people are not supposed to say one thing and do another (Schlenker, 1980), postdecisional accountability should prompt defensive bolstering in which people focus mental energy on rationalizing past actions.

A striking example is research on the sunk-cost effect (i.e., escalating resource commitments to a prior course of action even when future costs from the course of action will exceed future benefits; see Arkes & Blumer, 1985). Whereas postdecisional accountability amplifies commitment to prior courses of action that have triggered losses (Conlon & Wolf, 1980; Fox & Staw, 1979), predecisional accountability attenuates commitment (Brockner, Shaw, & Rubin, 1979; Simonson & Nye, 1992), particularly if people are accountable for the process by which they make decisions rather than the outcomes of the choice process (Simonson & Staw, 1992).

Defensive bolstering should also lead people to generate as many reasons as they can why they are right and potential critics are wrong (cf. Festinger, 1964; Janis & Mann, 1977; Kiesler, 1971; Schlenker, 1982; Staw & Ross, 1980). This generation of thoughts consistent with one's views then leads people to hold even more extreme opinions (see Tesser, 1976). In support of these predictions, participants who felt accountable (versus unaccountable) and reported their thoughts after making attitudinal commitments bolstered their initial attitude and formed less integratively complex and more rigidly defensive views (Lambert, Cronen, Chasteen, & Lickel, 1996; Morris, Moore, Tamuz, & Tarrell, 1998; Tetlock et al., 1989). The amount of cognitive effort participants expend, however, depends on participants' comparisons of their own relative expertise vis-à-vis their anticipated partners. Whereas participants who expected to discuss an issue with an opponent as expert as themselves showed belief polarization (i.e., participants came to hold even stronger positions than they held before), other participants—who expected to discuss an issue with an opponent who possessed less expertise, more expertise, or much more expertise—did not (Fitzpatrick & Eagly, 1981). One possibility is that only participants paired with an equally expert partner were concerned about prevailing in the discussion.

The tendency to bolster an initial opinion also depends on the relative importance of an issue and the timing of the anticipated discussion. When the issue is of high personal importance, initial opinions polarize regardless of how delayed the interview may be (Cialdini et al., 1976). They also polarize under low importance if the interview will be delayed. By contrast, when the issue is of low importance and people expect an immediate meeting, they moderate their opinions toward an easily defensible neutral point on the opinion scale (Cialdini et al., 1976). Interestingly, some of these attitude shifts disappear if participants learn that the upcoming discussion is canceled (Cialdini et al., 1973; Cialdini et al., 1976)—a point to which we return in the section on the locus of accountability effects.

Finally, the tendency to bolster one's opinion depends on individual differences in cognitive complexity. People who score high on such measures as dogmatism and intolerance of ambiguity are

predisposed to think in rigid, dichotomous terms. As a result, they are especially likely to engage in defensive bolstering and especially unlikely to engage in preemptive self-criticism—a finding revealed by within-cell correlations between personality scales and complexity of private-thought protocols (Tetlock et al., 1989).

Outcome Accountability (OA) Versus Process Accountability (PA)

Simonson and Staw (1992) hypothesized that accountability for decision outcomes—rather than decision processes—would increase the escalation of commitment to prior courses of action. Outcome accountability, they reasoned, would heighten the need for self-justification, thereby increasing a desire to defend past decisions. Process accountability, by contrast, would (a) lead decision makers to engage in more evenhanded evaluation of alternatives and (b) decrease the need for self-justification because "... individuals who use proper decision strategies and who thoroughly evaluate the available alternatives before reaching a decision should be favorably evaluated regardless of the decision's outcome" (p. 421).

In line with these predictions, outcome accountability produced greater commitment to a prior course of action than did process accountability (Simonson & Staw, 1992). Consistent with this laboratory finding, a cross-sectional field study of purchasing managers also found that process but not outcome accountability increased the self-reported time and effort managers put into analyzing competing products (Doney & Armstrong, 1996).

Following Janis & Mann's (1977) conflict theory—which proposes that high uncertainty about decision success coupled with high decision consequence produces stress—Siegel-Jacobs and Yates (1996) reasoned that outcome accountability could also increase decision stress that, in turn, could narrow attentional capacity and simplify the decision process (see also Mano, 1992; Skitka, Mosier, & Burdick, 1996; Svenson & Maule, 1994).

Research on predictive accuracy and confidence may support this stress-related prediction. Siegel-Jacobs and Yates (1996) led process accountability participants to expect an interview that focused solely on the quality of their judgment procedure (regardless of outcome) and outcome accountability participants to expect that their eligibility for a reward depended solely on the outcome of their judgment (regardless of process). OA participants learned that participants with the top five scores (out of approximately 40 total participants) would receive a bonus prize of $10 each. Importantly, PA participants were not aware of any possibility for a reward.

PA generally improved accuracy and calibration (i.e., the correspondence between judgment accuracy and judgment confidence), whereas OA apparently had only detrimental effects, reducing calibration and increasing judgmental inconsistency. The authors attribute the latter effects to increased stress as well as to a desire in these participants to "do better without knowledge of how to go about accomplishing this goal" (p. 10).

It is unclear, however, why OA participants have less knowledge about how to improve their judgments than PA participants. One possibility is that OA's suboptimal effects are due to subtle, but important, differences in the experimental manipulations. Unlike PA participants, OA participants neither expected to have an interview nor to discuss the reasons behind their choices; they simply learned that the top five scorers would receive a reward. These operational differences suggest two alternative explanations: First, except for those OA participants who thought they had a chance of obtaining that reward, many OA participants may have been unmotivated to put any effort into making repetitive probability estimates. To test this hypothesis, one could change the reward contingencies such that each participant in an OA condition had an opportunity to earn a reward if their performance improved relative to their prior performance. A second alternative explanation is that the extrinsic reward for the task decreased intrinsic engagement with the task, thereby decreasing the effort participants expended. To test this latter hypothesis, one could explicitly vary the presence and symbolic meaning of the reward for the outcome (see Deci, Nezlek, & Sheinman, 1981; Stone & Ziebart, 1995).

Although these findings suggest that accountability is most likely to reduce a bias or enhance complexity when participants expect to justify their decision processes, there is no reason to suppose that all kinds of PA will work the same way. Indeed, some students of organizational behavior argue that private-sector institutions function more efficiently than public-sector institutions precisely because they stress OA (and give employees flexibility to achieve goals), whereas the public sector stresses process (and imposes bureaucratic regulations to ensure conformity to those guidelines, Chubb & Moe, 1990; Wilson, 1989).

Legitimate Versus Illegitimate Accountability

People should respond positively to accountability demands from authorities that are perceived as legitimate (Tyler, 1997). By contrast, if accountability is perceived as illegitimate, say, as intrusive and insulting, any beneficial effects of accountability should fail and may even backfire.

One attempt to manipulate the legitimacy of accountability led participants to think that they would have to explain their betting decisions either to a friend (legitimate audience) or to a random stranger (who presumably had no good reason for expecting participants to report reasons for their decisions, Cvetkovich, 1978). As predicted, accountable-to-a-friend participants recalled judgment policies with greater accuracy than control participants and participants accountable to a stranger. Although it is possible that a lack of legitimacy drove the observed effects in the stranger conditions, the design does not allow us to rule out the equally plausible hypothesis that people just care more about accountability to their friends.

In a related study, students who believed that a faculty member would ask them to justify their evaluations of the teacher wrote more grammatically complex evaluations than students who believed another student would ask them to justify their evaluations (Gordon & Stuecher, 1992). However, alternative hypotheses about mediation are also possible in this case. Does legitimacy drive the faculty-member effect, or is it expertise, power, or some other confound?

Other studies in this vein suggest that accountability pressures perceived as illegitimate not only fail to produce desired effects but sometimes boomerang. Research on attitude change reveals that people who sense that an audience wants to control their beliefs will often respond to the threat to their autonomy by asserting their own views all the more vigorously (Baer, Hinkle,

Smith, & Fenton, 1980; Brehm, 1966; Heilman & Toffler, 1976). Boomerang effects also occasionally appear in work on surveillance. Performance monitoring inhibited intrinsic motivation to perform a task if the surveillant revealed lack of trust and controlling intentions (e.g., watching to make sure participants followed instructions) or gave no reason at all for watching participants (Enzle & Anderson, 1993). It did not inhibit motivation, however, if the surveillor indicated noncontrolling intentions (e.g., curiosity, Enzle & Anderson, 1993). Similarly, field studies of organizational accountability suggest that surveillance can sometimes become so intrusive that it overwhelms the cognitive and emotional coping resources of decision makers, seriously disrupting task performance (Sutton & Galunic, 1996).

To recap, when people perceive accountability as illegitimate, such undesired effects as attitude polarization away from the advocated position, decline in intrinsic motivation, and excessive stress are all possible responses. Legitimacy is, however, a notoriously multidimensional concept and isolating its effects from overlapping constructs—power, expertise, trustworthiness, likeableness—has proven to be a daunting task.

Synthesis: Only Special Types of Accountability Elicit Open-Minded Critical Thinking

Self-critical and effortful thinking is most likely to be activated when decision makers learn prior to forming any opinions that they will be accountable to an audience (a) whose views are unknown, (b) who is interested in accuracy, (c) who is interested in processes rather than specific outcomes, (d) who is reasonably well-informed, and (e) who has a legitimate reason for inquiring into the reasons behind participants' judgments. But even among studies that incorporate this very specific kind of accountability, effects are highly variable across judgment tasks and dependent variables, sometimes improving, sometimes having no effect on, and sometimes degrading judgment and choice (see Table 1).

Under What Conditions Will Accountability Attenuate, Have No Effect on, or Amplify Cognitive Biases?

It is useful to distinguish two models of how predecisional accountability to an unknown audience might affect cognitive biases. The first model—rooted in classic drive (Hull, 1943; Spence, 1956) and social facilitation (Zajonc, 1965) theories—asserts that the effect of motivational inductions (such as accountability) on judgment depends on the difficulty of the judgment (Pelham & Neter, 1995). Hereafter, we refer to this model as the motivation–difficulty (MD) model. The second model—which we propose here—rejects the idea that a generic motivational construct underlies all accountability effects. It asserts that the effect of accountability depends on a complex host of moderators, including the cause of a given bias, the type of accountability, and the decision maker's knowledge of formal decision rules. We argue that this flexible contingency model best fits the evidence.

Testing the MD Model

The MD model proposes that high motivation facilitates accurate judgments on relatively easy tasks but interferes with performance on difficult ones. Drawing on Hull–Spence drive theory, it assumes that (a) dominant responses are amplified by motivation and that (b) the dominant response to easy problems, by definition, is the right answer, whereas the dominant response to difficult problems is usually wrong (see Zajonc, 1965). For example, researchers invoking this approach posit that "easy judgments about persuasion arguments almost always benefit from motivational manipulations, more demanding person perception judgments sometimes benefit from motivational manipulations, and highly demanding judgments under uncertainty almost never benefit from motivational manipulations" (Pelham & Neter, 1995, p. 581). Finally, this model assumes (Pelham & Neter, 1995) that superficially different motivational manipulations such as incentives, accountability, the presence of another, and issue involvement will have the same interactive effect with task difficulty on the tendency to evoke dominant over-learned responses (after, of course, solving the vexing problem of calibrating these diverse independent variables).

Three major problems arise when applying the MD model to the accountability literature. First, the model's central assumptions receive only limited empirical support. For example, accountability effects often diverge from—rather than parallel—effects produced by other independent variables hypothesized to be generic motivators. Comparing the effects produced by accountability with those produced by another motivational manipulation—the mere presence of another—serves as a useful illustration.

In the social-facilitation tradition, the standard prediction is that dominant responses will be amplified by the mere presence of another (Zajonc, 1965; Zajonc & Sales, 1966). Sometimes, accountability does indeed amplify dominant responses, suggesting that it is logically reducible to mere presence. For example, when participants learned of the need to explain their conduct in a betting task, those who previously rated themselves as risk seeking took even more risks, and those who previously rated themselves as risk averse took even fewer risks (Weigold & Schlenker, 1991). Another example is when postdecisional accountability motivates defensive bolstering of, and the generation of, attitude-consistent thoughts (Lambert et al., 1996; Tetlock et al., 1989).

Quite often, however, accountability does not amplify the dominant response. Inasmuch as punitive attributions of blame are a dominant consequence of anger (see Berkowitz, 1990; Quigley & Tedeschi, 1996; Weiner, Graham, & Chandler, 1982), one might expect accountability to amplify punitiveness among angry people. Results, however, run counter to this drive–arousal hypothesis. After exposure to an anger prime, accountable participants made less punitive attributions of responsibility than did unaccountable participants (Lerner, Goldberg, & Tetlock, 1998). Inasmuch as heuristic, stereotypic thought is a dominant response in happy moods (Bodenhausen, 1993; Bodenhausen, Kramer, & Süsser, 1994; Clore, Schwarz, & Conway, 1994), one might also expect accountability to amplify stereotypic judgments among happy people. Again, results run counter to the hypothesis. When happy people were made accountable, their judgments were less stereotypic than those of nonaccountable happy people (Bodenhausen et al., 1994).

Similar examples abound. Far from enhancing theoretically dominant responses such as low-effort heuristics in social cognition experiments, loafing in group tasks, concurrence seeking in group discussions, or aggression in electric-shock paradigms, accountability often stimulates self-critical forms of thought, moti-

Table 1
Effects of Predecisional Accountability to an Unknown Audience on Judgment and Choice: Bias Attenuation, No Effect on Bias, and Bias Amplification

Response tendency	Study	Impact of accountability
Dispositional bias in attributions	Wells et al. (1977)	Attenuation: Reduced tendency for observers to overattribute dispositional causes for actor's behavior.
	Tetlock (1985)	Attenuation: Reduced tendency for observers to overattribute dispositional causes for behavior when writer had "no choice" of position, unless participants learned of being accountable only after exposure to the evidence.
	Lerner et al. (1998)	Attenuation: Reduced neglect of situational influences on target's behavior.
Heuristic rather than systematic judgment strategies	Cvetkovich (1978)	Attenuation: Reduced inaccurate recall for judgment processes among participants accountable to a friend.*
	McAllister et al. (1979)	Attenuation: Decreased preference for a simple weighting formula (rather than more complex formulas) as a decision-making strategy.
	Ford & Weldon (1981)	Attenuation: Decreased hastiness and insufficient processing in memory-based interpersonal judgments.
	Weldon & Gargano (1988)	Attenuation: Decreased cognitive loafing in multiattribute cue utilization task.
	Ashton (1992)	Attenuation: Decreased inaccuracy and inconsistency of knowledge application among auditors.
	Murphy (1994)	Attenuation: Decreased inaccuracy of covariation assessments and neglect of more complex strategies.
	Kahn & Baron (1995)	Attenuation: Decreased endorsement of simple, non-compensatory decision processes over compensatory strategies.
	Doney & Armstrong (1996)	Attenuation: Decreased hastiness of product analysis among organizational buyers.**
Heuristic rather than systematic processing of persuasive messages	Chaiken (1980)	Attenuation: Decreased attention to superficial cues (communicator likability) and increased attention to substantive arguments.
Lack of awareness of one's own judgment processes	Hagafors & Brehmer (1983)	Attenuation: Decreased inattentiveness to judgmental processes, thereby increasing consistency of cue utilization.
	Johnson & Kaplan (1991)	Attenuation: Decreased inattentiveness to judgment processes, thereby increasing consensus within auditing groups.
	Siegel-Jacobs & Yates (1996)	Attenuation: Decreased lack of discrimination across judgments; also reduced the negative impact of feedback on scatter (judgmental inconsistency).**
Reliance on category rather than attribute information	Kruglanski & Freund (1983, Study 2)	Attenuation: Reduced reliance on stereotyped category label unless participants were under high time pressure.
	Boudreau et al. (1992)	Attenuation: Decreased reliance on (easily communicated) trait terms and increased reliance on (effort demanding) descriptions of specific behaviors among participants anticipating communication with an expert.
	Pendry & Macrae (1996)	Attenuation: Decreased neglect of traits associated with subtle rather than broad category structure.
Oversensitivity to the order in which information appears	Kruglanski & Freund (1983, Study 1)	Attenuation: Diminished tendency to underutilize evidence received later in sequence, unless under cognitive load.
	Tetlock (1983b)	Attenuation: Decreased heuristic processing, and, as a result, reduced the undue influence of early formed impressions on final judgments unless participants learned of being accountable only after exposure to the evidence.
	Schadewald & Limberg (1992)	Attenuation: Diminished tendency to underutilize legal evidence received out of causal order.
	Kennedy (1993)	Attenuation: Reduced tendency for recency of valenced information to influence judgments.
	Webster et al. (1996)	Attenuation: Diminished tendency to underutilize evidence received later in sequence.
Numerical anchoring	Kruglanski & Freund (1983, Study 3)	Attenuation: Decreased the influence of an initial reference point; encouraged participants to consider further relevant evidence and revise estimates in light of evidence, unless under time pressure.
Overconfidence (miscalibration)	Tetlock & Kim (1987)	Attenuation: Decreased overconfidence (poor calibration) without cost to resolution in a personality prediction task, unless participants learned of being accountable only after exposure to the evidence.
	Kassin et al. (1991)	Attenuation: Improved the accuracy–confidence correlation in a study of eyewitnesses' confidence in their testimony.
	Siegel-Jacobs & Yates (1996)	Attenuation: Improved calibration.**

Table 1 (*continued*)

Response tendency	Study	Impact of accountability
Low differential accuracy	Tetlock & Kim (1987)	Attenuation: Improved accuracy of predictions for particular test-taker-by-item combinations unless participants learned of being accountable only after exposure to the evidence.
	Mero & Motowidlo (1995)	Attenuation: Improved ability to predict the differences among test-takers on each item considered separately.***
Conjunction error	Simonson & Nye (1992)	Attenuation: Decreased likelihood of rating the conjunctive event as more likely than the simple event.
Weighting sunk costs	Brockner et al. (1979)	Attenuation: Reduced tendency to exceed self-imposed, nonbinding limits on the amount participants planned to invest.
	Simonson & Nye (1992)	Attenuation: Reduced tendency to invest more than other decision makers who faced the same future but had not made an earlier commitment to the course of action.
	Simonson & Staw (1992)	Attenuation: Reduced commitment to a prior course of action.**
Groupthink symptoms	Kroon et al. (1992), Kroon et al. (1991)	Attenuation: Reduced concurrence seeking tendencies among group decision-makers (1991) and tendencies to overestimate group effectiveness (1992).
Incidental affect from one situation influences judgments in unrelated situations	Bodenhausen et al. (1994)	Attenuation: Reduced the tendency for happiness—activated by an unrelated event—to elicit heuristic, stereotypic judgments.
	Lerner et al. (1998)	Attenuation: Reduced the tendency for anger—activated by an unrelated event—to elicit punitive attributions of responsibility.
Incompatibility bias	Thompson (1995)	Attenuation: Reduced tendency for observers to inaccurately believe that the other party's interests in a negotiation were completely opposed to their own.***
Failure to notice problems with automated cues	Skitka et al. (1996)	Attenuation: Decreased likelihood of overlooking (a) a problem because an automated aid failed to detect it and (b) verification of cues indicating pending gauge failures.***
Impressions formed of an ambiguous target assimilate to covertly primed trait terms	Thompson et al. (1994), Stapel et al. (1998)	Attenuation: Decreased influence of covertly primed trait terms on impressions formed of target unless cognitive load (Thompson et al., Study 2) or the limits of working memory (Thompson et al., Study 3) constrained systematic processing.
Insensitivity to baserate	Simonson & Nye (1992)	No effect: Equal likelihood of failing to factor in the frequency of an event in the relevant population.
Overweighting causal information	Simonson & Nye (1992)	No effect: Equal likelihood of giving more weight to data that have a causal relationship to the event of interest than to data (of equal informativeness) that have a "merely" diagnostic relationship.
Preference reversals	Simonson & Nye (1992), Selart (1996)	No effect: Equal likelihood of altering preferences as a function of elicitation procedures.
Insensitivity to sample size	Simonson & Nye (1992)	No effect: Equal likelihood of ignoring the statistical principle that sampling variance decreases in proportion to sample size when making probability estimates.
Ambiguity aversion	Curley et al. (1986), Taylor (1995)	Amplification: Increased preference for alternatives with less ambiguity despite equal risk.
Weighting all available information regardless of its relevance	Gordon et al. (1988)	Amplification: Increased reliance on age stereotypes in hiring decisions.
	Tetlock & Boettger (1994)	Amplification: Increased integration of nondiagnostic information into predictions.
	Hattrup & Ford (1995)	Amplification: Increased utilization of category labels regardless of their relevance—indicated by stereotype consistency of attribute information.
	Siegel-Jacobs & Yates (1996)	Amplification: Increased likelihood of selecting both the most diagnostic and the least diagnostic cues.
	Tetlock et al. (1996)	Amplification: Replicated Tetlock & Boettger (1994) and found the pattern especially likely when conversational norms apply and especially unlikely when they do not.
Attraction effect	Simonson (1989)	Amplification: Increased preference for the dominating alternative in a choice set.

(*table continues*)

Table 1 (*continued*)

Response tendency	Study	Impact of accountability
Compromise and average option effects	Simonson (1989), Simonson & Nowlis (1998)	Amplification: Increased preference for compromise options when evaluating alternatives in a choice set.
	Simonson & Nowlis (1998)	Amplification: Increased preference for a product with average features on all four dimensions over a product with good features on two, and bad features on another two, dimensions.
Loss aversion	Tetlock & Boettger (1994)	Amplification: Increased responsiveness to the level of risk posed by a drug, and especially so when accepting the drug indicated a change from the status quo.
	Simonson & Nowlis (1998)	Amplification: Increased proportion preferring a sure gain over a gamble with possible losses and possible gains (in problem 1) compared to proportion preferring a sure gain over a gamble with possible gains only (in problem 2).

Note. General response tendencies always appear in the far left column; specific study effects appear in the far right column. *Attenuation* indicates a reduction in the response tendency among participants predecisionally accountable to an unknown audience (vs. participants who are unaccountable). *Amplification* indicates an increase in the response tendency among participants predecisionally accountable to an unknown audience (vs. participants who are unaccountable). *No effect* indicates that participants predecisionally accountable to an unknown audience were as likely as unaccountable participants to demonstrate the response tendency.
*Effect occurred under legitimate but not illegitimate accountability. **Effect occurred under process but not outcome accountability. ***Effect occurred under accountability to an audience with no known performance standard other than generalized accuracy.

vates individual work effort, attenuates groupthink, and reduces aggression in response to provocation (Kroon, 't Hart, & Van Kreveld, 1991; Kroon, Van Kreveld, & Rabbie, 1992; Prentice-Dunn & Rogers, 1982; Tetlock, 1992; Weldon & Gargano, 1988).[1]

A second problem for the MD model is the difficulty of translating the complex and multidimensional accountability manipulations onto a unidimensional arousal–drive model. Different types of accountability have very different effects on the content and structure of thought. As documented earlier, 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 whether people learn of being accountable before or after making a difficult-to-reverse public commitment, and on a host of other ground rules that define the accountability relationship. Translating these manipulations onto a common arousal metric that, in turn, allows us to predict performance facilitation or impairment would almost inevitably look like an exercise in post hoc data fitting, requiring judgment calls, such as: Is postdecisional accountability to a known audience more drive inducing than predecisional accountability to an audience with unknown views? Is outcome accountability more drive inducing than process accountability?

Even disregarding the first two problems and assuming that accountability is indeed reducible to an arousal–drive manipulation that facilitates performance on simple tasks and impedes it on difficult tasks, we confront still another problem: What is a difficult task? Some advocates of the MD model classify "judgments under uncertainty" (i.e., judgments in which probability values are unknown) as "difficult tasks" based on the idea that no amount of motivation improves accuracy when assessing the precise probability of unusual events (Pelham & Neter, 1995, p. 582). If their classification of difficult judgments as those which are made under uncertainty is right, then several lines of accountability research become theoretically problematic for the MD model. Each finds that accountability improves judgment under uncertainty.

Specifically, the record shows that overconfidence in judgment accuracy (see Lichtenstein, Fischhoff, & Phillips, 1982) improves with accountability (Kassin, Castillo, & Rigby, 1991; Siegel-Jacobs & Yates, 1996; Tetlock & Kim, 1987). Accuracy in assessing covariation improves with accountability (Murphy, 1994), as does awareness of one's judgment process—indicated by greater correspondence between (a) the cues that participants say they are using to make choices and (b) the cues that regression models from participants' data reveal they are using (Cvetkovich, 1978; Hagafors & Brehmer, 1983; Weldon & Gargano, 1988). Conjunction errors (i.e., when the likelihood of two events is judged greater than the probability of one of the component events, e.g., Tversky & Kahneman, 1982) are also reduced by accountability (Simonson & Nye, 1992).[2] Moreover, two especially pervasive tendencies, (a) anchoring on an initial value and insufficiently adjusting a numerical estimate up or down from that anchor (Tversky & Kahneman, 1974) and (b) weighting sunk costs when considering future investments (e.g., Arkes & Blumer, 1985), are also reduced by

[1] Accountability effects also sometimes diverge from those of other "generic motivators" such as decision importance and financial incentives. For instance, the debiasing effects of accountability on overconfidence (Kassin, Castillo, & Rigby, 1991; Siegel-Jacobs & Yates, 1996; Tetlock & Kim, 1987) are very different from the exacerbating effects of decision importance on overconfidence (Sieber, 1974). The debiasing effects of accountability on the influence of negative affect (Lerner et al., 1998) are also very different from the effects of performance-contingent financial incentives reported by Stone and Ziebart (1995). Whereas accountability *decreased* the impact of negative affect on subsequent judgments (Lerner et al., 1998), thereby improving judgment quality, performance-contingent financial incentives *increased* negative affect, thereby degrading judgment quality (Stone & Ziebart, 1995).

[2] Simonson and Nye (1992) questioned whether accountability truly reduced conjunction errors despite the fact that their data showed that 48% of participants in high accountability selected the correct response but only 24% in low accountability selected the correct response. Apparently, follow-up interviews suggested that accountable participants chose the right answer to the classic "Linda problem" for the wrong reasons.

accountability (Brockner et al., 1979; Kruglanski & Freund, 1983; Simonson & Nye, 1992; Simonson & Staw, 1992).

It is worth noting that for most of these effects, more than one independent group of researchers has replicated the same result: Predecisional accountability to an unknown audience does indeed improve certain types of judgments under uncertainty. If we accept the idea (suggested by MD researchers) that judgments under uncertainty constitute difficult judgments, then these well-replicated results contradict the MD-model prediction that accountability will fail to improve judgment in difficult tasks.

To recap, some accountability effects appear to fit an MD formulation, but many more appear to contradict it. Fitting all the accountability data to an MD formulation would require so many post hoc judgment calls (e.g., what constitutes a difficult task?) that the original advantage of parsimony is lost.

Integrative Conclusions: Toward a Flexible Contingency Model

We favor a more cautious, nuanced, and inductive approach to classifying conditions under which predecisional accountability attenuates, has no effect on, or amplifies bias. We summarize these conditions below, reviewing evidence in support of each conclusion.

When accountability attenuates bias. Predecisional accountability to an unknown audience will improve judgment to the extent that a given bias results from lack of effort, self-critical awareness of one's judgment processes (see Arkes, 1991), or both. The rationale is straightforward. When participants expect to justify their judgments, they want to avoid appearing foolish in front of the audience. They prepare themselves by engaging in an effortful and self-critical search for reasons to justify their actions (Lerner & Tetlock, 1994; Tetlock, 1983a; Tetlock & Lerner, in press; Tetlock et al., 1989). This search leads participants to (a) survey a wider range of conceivably relevant cues; (b) pay greater attention to the cues they use; (c) anticipate counter arguments, weigh their merits relatively impartially, and factor those that pass some threshold of plausibility into their overall opinion or assessment of the situation; and (d) gain greater awareness of their cognitive processes by regularly monitoring the cues that are allowed to influence judgment and choice.

In support of this conclusion, predecisional accountability to an unknown audience has been shown to improve judgment via increases in consideration of often-overlooked situational attributions for a target's behavior (Lerner et al., 1998; Tetlock, 1985; Wells, Petty, Harkins, Kagehiro, & Harvey, 1977); use of effortful, systematic judgment strategies (Ashton, 1992; Cvetkovich, 1978; Doney & Armstrong, 1996; Ford & Weldon, 1981; McAllister, Mitchell, & Beach, 1979; Mero & Motowidlo, 1995; Murphy, 1994; Weldon & Gargano, 1988); attention to effort-demanding cues in persuasive messages (Chaiken, 1980); awareness of judgmental processes, and as a result, improved consistency of cue utilization, consensus within auditing groups, and consistency of judgment-strategy use across a rater's judgments (Hagafors & Brehmer, 1983; Johnson & Kaplan, 1991; Siegel-Jacobs & Yates, 1996); attentiveness to attribute information rather than just category labels (Boudreau, Baron, & Oliver, 1992; Kruglanski & Freund, 1983, Study 2; Pendry & Macrae, 1996); vigilant processing, and, as a result, less reliance on the order in which information appears (Kennedy, 1993; Kruglanski & Freund, 1983, Study 1; Schadewald & Limberg, 1992; Tetlock, 1983b; Webster, Richter, & Kruglanski, 1996); attention to further relevant evidence and revising estimates rather than anchoring on initial evidence (Kruglanski & Freund, 1983, Study 3); the correspondence between judgment accuracy and judgment confidence (Kassin et al., 1991; Siegel-Jacobs & Yates, 1996; Tetlock & Kim, 1987); complexity of thought and, as a result, greater predictive accuracy (Mero & Motowidlo, 1995; Tetlock & Kim, 1987); and attention to conjunction rules in probability estimation (Simonson & Nye, 1992). It also improved judgment through decreases in mindless commitments to previous courses of action (Simonson & Nye, 1992; Simonson & Staw, 1992); mindless overestimates of group effectiveness (Kroon et al., 1992); mindless concurrence seeking tendencies in group decisions (Kroon et al., 1991); the influence of incidental affect on unrelated judgments (Bodenhausen et al., 1994; Lerner et al., 1998); tendencies for observers to inaccurately perceive a lack of common interests among negotiators (Thompson, 1995); lack of attention to problems that would be missed if participants relied mindlessly on automated cues (Skitka et al., 1996); and the tendency for knowledge that is easily accessible in memory to exert disproportionate influence on judgments of ambiguous targets (Stapel, Koomen, & Zeelenberg, 1998; Thompson, Roman, Moskowitz, Chaiken, & Bargh, 1994).[3]

In sum, accountability attenuated bias on tasks to the extent that (a) suboptimal performance resulted from lack of self-critical attention to the judgment process and (b) improvement required no special training in formal decision rules, only greater attention to the information provided. For example, heightened awareness of judgment processes led accountable participants to disregard their own previously aroused affect (Bodenhausen et al., 1994; Lerner et al., 1998) because it takes no special training in formal decision rules to realize that one's mood should not influence unrelated judgments.

When accountability has no effect on bias. Predecisional accountability to an unknown audience will have no effect on bias if, even after increased attention to one's decision process, no new ways of solving the problem come into awareness.[4] Such is often the case when improvement on a judgment task requires knowledge of formal decision rules (e.g., Bayes' theorem, expected utility theory) that are unfamiliar to the decision maker (see Simonson & Nye, 1992). In essence, no amount of increased effort can compensate for lack of knowledge about how to solve problems that require special training. This conclusion is consistent with several recent theories positing that bias correction hinges not only on the motivation to correct, but also on the ability to correct, one's mental processes (Kerr, MacCoun, & Kramer, 1996; Wegener & Petty, 1995; Wilson & Brekke, 1996).

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[3] Using a hybrid manipulation of accuracy instructions and accountability pressures, Stapel et al. (1998) found that "accuracy motivation" reduced assimilation biases (i.e., the tendency for novel targets to be perceived as similar to previously primed categories). They did not find, however, that "accuracy motivation" reduced contrast biases (i.e., the tendency for previously primed categories to serve as contrasting reference points when evaluating novel targets).

[4] The publication norm of omitting null hypothesis results from empirical journals limits, and perhaps biases, our sample of no-effect studies.

In support of this conclusion, several studies have found that accountability has no effect on biases that are exclusively attributable to lack of knowledge regarding formal decision rules. Accountability has no effect on insensitivity to sample size and insensitivity to base-rate information (Simonson & Nye, 1992). Presumably, most participants lack the knowledge that one should reduce estimates of sampling variance in proportion to sample size (Kahneman & Tversky, 1982) or that one should adjust probability estimates for the frequency of a specific event in some relevant population (Kahneman, Slovic, & Tversky, 1982). Similarly, accountability has no effect on overweighting causal information (Simonson & Nye, 1992) and preference reversals (Selart, 1996; Simonson & Nye, 1992). Most participants are unaware of the normative precepts they violate by giving more weight to data that have a causal relationship to the event of interest than to data of equal importance that have a merely diagnostic relationship to the event (e.g., Tversky & Kahneman, 1980). They are also unaware of the rules they violate by varying their preferences as a function of choice versus matching procedures (i.e., whether they are asked to choose between a pair of gambles or to set a dollar value on their worth, Lichtenstein & Slovic, 1971).

In fact, the only examples of accountability improving judgments requiring formal rules are those in which participants had previously received training in the relevant rules (cf. Wilson & Brekke, 1996). For example, when MBA students (trained in subjective expected utility theory and its application to investment decisions) were made accountable for their future investments, they became willing to write off sunk costs (Simonson & Nye, 1992; Simonson & Staw, 1992).[5] Confirming that these participants knew formal decision rules, 84% of them later stated an awareness of the principle that sunk costs should be written off. Similarly, accountable respondents from a marketing class favored compensatory decision strategies (that required trading off one dimension against another) over noncompensatory rules, but respondents from a paid participant pool did not (Kahn & Baron, 1995). As Kahn and Baron point out, only respondents from the marketing class had learned the concept of compensatory decision making and knew that it was the normatively correct strategy.

When accountability amplifies bias. The same overarching motive underlies bias amplification in both judgment tasks and choice tasks: a desire to avoid appearing foolish in front of the audience. Despite the motivational similarity, however, distinguishing between judgment and choice tasks will be useful. In choice tasks, accountability to an unknown audience will amplify bias to the extent that a given bias arises because the choice option that appears easiest to justify also happens to be the biased option (Simonson, 1989; Simonson & Nye, 1992). That is, a desire to avoid appearing foolish in front of the audience heightens (a) the need to ensure that one's choice is securely based on reasons and thus (b) the preference for options that are easy to justify (Shafir, Simonson, & Tversky, 1993).

In support of this prediction, accountability has amplified departures from rational choice in three different tasks in which the option perceived as easiest to justify also happened to be the biased option: (a) the compromise effect, (b) the attraction effect, and (c) ambiguity aversion. The compromise effect is the tendency for a product to gain attractiveness simply because it becomes a middle option in a choice set (Simonson, 1989; Simonson & Nowlis, 1998).[6] Accountable participants were especially likely to select the product that represented the compromise option because they thought that products with middle-of-the-road features were more easily defensible than options that were superior on one dimension but inferior on another (Simonson & Nowlis, 1998). The attraction effect refers to the power of a relatively inferior alternative (Brand X) when added to a set of closely competing options (Brands A & B) to increase the attractiveness of the prior option that happens to be superior to X on all key dimensions of comparison (Simonson, 1989). Again, participants accountable to an audience with unknown views were especially likely to select dominating options. Follow-up interviews revealed that accountable participants thought that those (dominating) options were less likely to be criticized (see also Shafir et al., 1993). Finally, ambiguity aversion refers to the tendency for people to routinely prefer less ambiguous alternatives when given a choice between options that differ only in uncertainty about the probabilities with which outcomes may occur (Curley, Yates, & Abrams, 1986; Taylor, 1995). Interviews with accountable participants revealed that a preoccupation with how to justify the choice increased preferences for options with well-defined probabilities over those with ambiguous probabilities, holding expected value constant (Curley et al., 1986).

In judgment tasks, predecisional accountability to an unknown audience will amplify bias to the extent that a given bias results from naive use of normatively (but not obviously) irrelevant cues.[7] That is, when a bias results from a lack of awareness that certain cues are proscribed, the desire to avoid appearing foolish in front of an audience only makes matters worse: It heightens use of all cues, even irrelevant ones.

In support of this prediction, accountability to an unknown audience has repeatedly been shown to amplify indiscriminate use of information in prediction tasks (Gordon, Rozelle, & Baxter, 1988; Hattrup & Ford, 1995; Siegel-Jacobs & Yates, 1996; Tetlock

[5] Pre-decisional accountability also reduced escalation among an undergraduate population (presumably not trained in formal decision rules) but only when prior to beginning an investment task, participants were required to set a public limit on how much they would invest (Brockner et al., 1979).

[6] More formally, the compromise effect is the tendency for the choice probability of an option to increase because an additional option {Brand Q} is added to an original choice set {Brands X and Y} involving two attributes (e.g., packaging and taste). In this original set, suppose that Brand X is superior on packaging while Brand Y is superior on taste. When the decision makers are unsure of which attribute matters more to the prospective audience, neither option emerges as dominant. In the new set, Brand Q is superior to Brand X, and even more superior to Brand Y, on packaging. Brand Q is also inferior to Brand X, and even more inferior to Brand Y, on taste. Adding Brand Q, therefore, makes Brand X a compromise or midpoint alternative on both attributes in the new choice set that now includes {Q, X, and Y}. If the decision maker is uncertain about which of the two attributes (packaging versus taste) is more important, selecting the compromise alternative allows the decision maker to avoid the appearance of giving up one attribute for another (see Simonson, 1989; Simonson & Nowlis, 1998).

[7] The class of judgments described by our bias-attenuation conclusion resembles what Kerr, MacCoun, and Kramer (1996) treat as "sins of omission" (failing to use a "good cue") and "sins of imprecision" (failing to integrate information in the normatively prescribed manner). Similarly, the class of judgments described by our bias-amplification conclusion resembles "sins of commission" (unknowingly using a "bad cue").

& Boettger, 1989). Research on the dilution effect (i.e., the tendency for nondiagnostic evidence to dilute the predictive power of diagnostic evidence) serves as a particularly useful example. Given that the dilution effect stems from use of normatively irrelevant evidence, motivating accountable participants to become more vigilant thinkers should send accountable participants off on inferential wild goose chases in which they attempt to weave together into a coherent story the disparate pieces of normatively—but not obviously—irrelevant information contained in diluted conditions. Results from two experiments confirm this prediction. When attempting to predict a student's grade point average, accountable and unaccountable participants gave weight to irrelevant information contained in thumbnail sketches of students (e.g., the number of plants a student keeps), but accountable participants were even more likely to do so (Tetlock & Boettger, 1989; Tetlock, Lerner, & Boettger, 1996). Compared with accountable participants, unaccountable participants relied more on the sole valid predictor—namely, the number of hours the student studied per week. In short, when bias arises from the use of normatively (but not obviously) irrelevant information, accountability amplifies bias by increasing indiscriminate use of that information.

At this point, readers may wonder how the conclusion that accountability amplifies use of normatively irrelevant cues can be reconciled with the fact that irrelevant cues are present in virtually all real-life problems. Why doesn't accountability always amplify judgment bias?

The answer may be straightforward: Amplification hinges on whether the cues have been presented to the judge by someone presumed to have knowledge about the task. Consider two hypothetical situations in which a manager needs to evaluate applicants for an accounting position. Suppose that in one situation, the manager reads all the resumes herself. Most likely, this manager will focus on performance-relevant information in the resume (e.g., math skills) and will try to disregard performance-irrelevant information (e.g., personal hobbies of the applicant). Now suppose that in another situation, the manager's boss delivered to her not the resumes themselves, but the boss's own notes about each resume. The boss's notes contained a category for hobbies and called attention to the fact that one of the applicants was an expert sailor. Unlike in the previous situation, this time the performance-irrelevant hobby information will likely enter into the manager's decisions. The manager will follow the reasonable assumption (when receiving information from a knowledgeable other) that all information provided is relevant to the task at hand (see Grice, 1975; Sperber & Wilson, 1986). The same is true in experiments. Not wanting to appear foolish, accountable respondents try to make use of all information given to them by the experimenter (Tetlock & Boettger, 1989). From this vantage point, the presentation of information in such experiments can be likened to a conversation between the researcher and the participant—an interaction in which participants assume that the experimenter (their conversational partner) is following a widely accepted norm of stating only relevant information in social discourse (see Grice, 1975; Sperber & Wilson, 1986).

Theoretically, it should be possible to attenuate this indiscriminate use of normatively irrelevant information by leading participants to question the otherwise reasonable assumption (when participating in experiments) that all information provided by the experimenter is somehow relevant to the task at hand. Tetlock, Lerner, and Boettger (1996) tested this hypothesis on the dilution effect. Some participants were explicitly told that the axioms of conversation (assume relevance of all information) did indeed apply and that the experimenter had carefully screened the information provided to participants to ensure its relevance for the prediction task. Other participants were explicitly told that the information may well not be relevant to the prediction task. Still other participants were not given any explicit guidance one way or the other concerning the relevance of the information. Accountable participants demonstrated a robust dilution effect when conversational norms were explicitly primed as well as in the no-priming control condition but no dilution at all when conversational norms were explicitly deactivated. Nonaccountable participants demonstrated the dilution effect across norm-activation (information-relevant) conditions, with the strongest effect under the activation of conversational norms. In other words, accountable participants were fully capable of disregarding irrelevant information, but only when they believed that conversational norms no longer required them to search for relevance in communications from others. So long as they believed conversational norms applied, their judgments were at least as biased as those of nonaccountable participants.

Synthesis

Predecisional accountability to an unknown audience will attenuate biases that arise from lack of self-critical attention to one's decision processes and failure to use all relevant cues.[8] By contrast, accountability is likely to amplify bias to the extent that (a) a given judgment bias results from using normatively (but not obviously) proscribed information or (b) a given choice bias results from the fact that the option that appears easiest to justify also happens to be the biased option.[9] Finally, accountability is likely to have no effect on biases that result exclusively from lack of special training in formal decision rules.

Reconsidering this section (on bias) in light of our earlier conclusions about accountability to specific kinds of audiences, it should not be surprising that bias reduction also depends on qualitative features that define the accountability relationship. Spe-

[8] It is worth noting that the universe of accountability effects on judgment is more complex than previous taxonomies predicted. It turns out that self-critical attention to one's judgment process—induced by accountability—not only reduces strategy-based errors (i.e., errors resulting from insufficient effort, Arkes, 1991), it also reduces certain association-based errors (i.e., errors resulting from associations within semantic memory, Arkes, 1991; see also source-confusion errors, Wilson & Brekke, 1996). For example, increased complexity of thought among accountable participants reduced the influence of (a) previously primed emotions and (b) covertly primed trait constructs by increasing the influence of other relevant cues (Bodenhausen et al., 1994; Lerner et al., 1998).

[9] These inductive conclusions are consistent with Fischhoff and Bar-Hillel's (1984) conclusions about the impact of focusing techniques on judgment performance. Specifically, they found that instructing people to focus on each item of information not only promoted use of otherwise neglected cues but also promoted use of normatively irrelevant cues. Much like predecisional accountability, focusing inductions improved or degraded performance in probability judgment tasks as a function of whether a given variable was appropriately ignored or attended to without the experimental manipulation.

cifically, three kinds of audience features moderate the attenuation effects listed on Table 1: (a) Accountability to an illegitimate audience undermined improvements in the use of effortful judgment strategies (Cvetkovich, 1978). (b) Accountability to an audience exclusively interested in outcomes, rather than processes, undermined improvements in use of effortful strategies (Doney & Armstrong, 1996); awareness of one's judgment process (Siegel-Jacobs & Yates, 1996); the precision with which participants quantify the uncertainty surrounding their likelihood estimates (Siegel-Jacobs & Yates, 1996); and in commitments to sunk costs (Simonson & Staw, 1992). (c) Accountability to an audience who favored a specific outcome (a.k.a. with known views), rather than generalized accuracy, undermined improvements in predictive accuracy (Mero & Motowidlo, 1995), the ability to perceive common interests among negotiators (Thompson, 1995), and omission errors (Skitka et al., 1996).

Does Accountability Alter How People Think or Merely What People Say They Think?

On the basis of evidence in the preceding section, one might conclude that accountability alters fundamental cognitive processes such as how people perceive, encode, and retrieve information. In brief, this cognitive-process interpretation holds that accountability pressures moderate basic processes of human thought. Theorists who prefer sharp separations among levels of analysis, however, might conclude that accountability does not affect how people think at all—it just affects their willingness to say what they are thinking. In this view, accountability effects are of little interest to basic psychological disciplines because these effects are merely an independent overlay to otherwise intact cognitive processes. Once the audience is no longer salient, people will snap back in elastic-band fashion to their original position (Cialdini et al., 1976). In brief, this temporary self-presentation view holds that unaccountable and accountable participants think essentially the same way in private. Publicly, however, they may say different things as accountable participants temporarily adopt opinions that will please the audience of the moment.

The accumulated accountability literature suggests that neither the cognitive process nor the temporary self-presentation interpretation holds all of the time. Rather, the evidence requires a more nuanced assessment of accountability effects. Depending on a host of moderators, accountability can affect cognitive processing or temporary presentations or a combination of the two. We describe five methodological strategies that researchers can use to elucidate the mechanisms that mediate accountability effects (see Table 2).

Strategy 1: Manipulate Pre- Versus Postexposure Accountability

Some research pits the cognitive-process and strategic self-presentation explanations against each other by varying the timing of accountability—either before exposure to the evidence on which participants must base their judgments or only after exposure to the same evidence. In support of the idea that accountability influences underlying encoding and processing strategies, account-

Table 2
Strategies for Determining the Locus of Accountability Effects

Strategy	Rationale	Exemplar studies
Pre- versus postexposure to evidence accountability	If accountability influences underlying encoding and processing strategies, it should have a far more pronounced effect in pre- rather than postexposure to stimuli conditions. An exception to this can occur in postexposure accountability, but only if participants have the motivation, opportunity, and capacity to reprocess the evidence.	Tetlock (1985), Tetlock (1983b), Tetlock & Kim (1987), Thompson et al. (1994)
Cognitive load	If effortful processing drives accountability effects, the effects should be greatly diminished when participants are prevented from engaging in such processing.	Kruglanski & Freund (1983, Studies 1–3), Webster et al. (1996), Thompson et al. (1994)
Content analyses of thought protocols	If accountability affects how participants think, not just what they say, participants' thought protocols should reflect greater (a) differentiation among perspectives and (b) integration of those perspectives.	Gordon & Stuecher (1992), Tetlock (1983a), Tetlock (1985), Tetlock & Kim (1987), Tetlock & Boettger (1989), Tetlock & Boettger (1994), Tetlock et al. (1989)
Statistical modeling of judgment process	If accountability motivates participants to process social information in more analytic and complex ways, then not just the final judgment but also judgment-process indicators (e.g., cue utilization in regression models) will reflect improvements.	Regression models: Cvetkovich (1978), Hagafors & Brehmer (1983), Johnson & Kaplan (1991), Weldon & Gargano (1988), Lerner et al. (1998) Partitioning accuracy and confidence covariation: Siegel-Jacobs & Yates (1996), Tetlock & Kim (1987) Partitioning accuracy scores: Mero & Motowidlo (1995), Siegel-Jacobs & Yates (1996), Tetlock & Kim (1987)
Use the audience-cancellation method	If accountable participants express what they actually think—not just what the audience wants to hear—then canceling the expectation of an interview should not cause participants to shift their views.	Cialdini et al. (1976), Cialdini et al. (1973), Pennington & Schlenker (in press), Fitzpatrick & Eagly (1981), McFarland et al. (1984)

ability reduced overattribution, overconfidence in the accuracy of one's predictions, and the primacy effect (i.e., over-reliance on information that appears early in a sequence) only when participants learned of being accountable *before* exposure to the evidence (Tetlock, 1983b; Tetlock, 1985; Tetlock & Kim, 1987). Participants who learned of being accountable only after encoding the information, by contrast, could not retroactively compensate for a faulty encoding process.

Accountability *after* exposure to evidence has, however, been shown to improve judgment if accountability is induced in combination with instructions that explicitly emphasize the value of forming accurate judgments. Under this kind of multidimensional induction, post exposure-accountable participants who initially encoded evidence in heuristic fashion return to the evidence and reprocess it in a more systematic fashion (Thompson et al., 1994).

Strategy 2: Factorially Cross Cognitive Capacity and Accountability

Researchers often manipulate participants' capacity to process information by imposing cognitive load (e.g., distracting tasks) or time pressure (Gilbert & Osborne, 1989). Consistent with the hypothesis that changes in effortful processing drive accountability effects, accountable participants were immune to primacy effects, numerical anchoring on initial values, and stereotypic impression formation only when they were not prevented from systematic processing by time pressure (Kruglanski & Freund, 1983). Similarly, accountable participants were immune to the influence of covertly primed trait terms on impression formation of ambiguous targets only when they were (a) not distracted by another cognitively demanding task and (b) able to retrieve the relevant evidence from working memory (Thompson et al., 1994). There is, however, a potential inconsistency in the evidence: Accountability did compensate for constraints imposed by mental fatigue in the work of Webster et al. (1996), raising at least two possibilities: (a) participants in Webster et al. had surplus reserves of cognitive effort that they could deploy if they had to, or (b) there was a simple low-effort solution to the accountability predicament created by Webster et al.

Strategy 3: Content Analyze Thought Protocols

Several studies use content analyses of free-response open-ended data to assess the complexity of thought or the nature of decision rules used. It is critical, though, that participants believe the thoughts they report are private and not traceable to them personally. Otherwise, critics can argue that the thoughts reported are themselves forms of self-presentation.

A study by Tetlock and Kim (1987) illustrates use of this strategy. Trained coders rated the *integrative complexity* of the free-response impressions respondents formed of target individuals. Integrative complexity is defined in terms of both conceptual differentiation and integration.[10] The coding system used for this purpose has demonstrated reliability and construct validity. It has been successfully applied in numerous research contexts to test hypotheses concerning personality and situational determinants of complexity of information processing (Schroder, Driver, & Streufert, 1967; Streufert & Streufert, 1978).

Results revealed that (a) only preexposure accountability increased the integrative complexity of the impressions respondents formed of target individuals whose later behavior was to be predicted; (b) preexposure accountability improved both the accuracy of behavioral predictions and the appropriateness of the confidence expressed in those predictions; and (c) analysis of covariance revealed that the impact of preexposure accountability on both predictive accuracy and confidence calibration was partly mediated by the increased complexity of thoughts reported. In other words, the integrative complexity of participants' initial interpretations of the information partly underlay increases on two key indexes of judgmental performance: correctly predicting others' behavior and assigning appropriate degrees of confidence to one's predictions.

Content-analytic strategies also allow researchers to investigate the impact of accountability outside of lab experiments. Gordon and Stuecher (1992) found, for example, that when students expected to explain how they rated their own teacher to another faculty member, the linguistic complexity of their open-ended teacher-evaluators increased (indicated by conclusion markers, e.g., therefore, thus, hence, according). Levi and Tetlock (1980) found—in an archival study of the internal deliberations of Japanese decision makers prior to the 1941 decision to go to war with the United States—a surge in complex and self-critical cognition in imperial conferences at which military leaders expected to justify their views to a skeptical, high-status audience (the Emperor and his key advisors). Both studies provide potentially instructive examples of multimethod convergence in accountability research.

Strategy 4: Use Statistical Models of Judgment Process

There are at least three subtypes of this strategy: (a) regression models, (b) partitioning confidence and accuracy covariation, and (c) partitioning accuracy scores.

Regression models allow researchers to measure the degree of correspondence between (a) the actual statistical contribution of a given cue in predicting participants' judgments and (b) the amount of influence participants believe a cue has in predicting their judgments. If accountable participants have greater insight into their own judgment processes, the correspondence between (a) and (b) should be greater among accountable participants than among unaccountable participants. Consistent with a cognitive-mediation hypothesis, regression models demonstrated that accountable (versus unaccountable) participants recalled judgment policies with greater accuracy (Cvetkovich, 1978), applied a judgment strategy with greater consistency (Hagafors & Brehmer, 1983, as indexed by the multiple correlation between the cues and participants'

[10] *Differentiation* refers to the number of evaluatively distinct interpretations that a person considers in analyzing an event or issue. For instance, a subject might take an undifferentiated view of a target person by focusing on only one consistent theme running through the evidence (e.g., this person does nothing but study). A more differentiated statement would recognize potentially opposing perspectives on the person. *Integration* refers to the development of complex connections among differentiated characteristics. The complexity of integration depends on whether the person perceives the differentiated characteristics as existing in isolation (low integration), in simple interactions (moderate integration), or in multiple, contingent patterns (high integration).

predictions), demonstrated greater self-insight than nonaccountable auditors (as indexed by correlating omega-squared estimates of cue utilization with the subjective weights provided by each auditor, Johnson and Kaplan, 1991), achieved greater accuracy and applied knowledge more consistently (as indexed by the multiple correlation between the participant's ratings of three financial ratios for sixteen sample companies and ratings assigned by Moody's Investors Service; Ashton, 1992), and resisted cognitive loafing in a group decision task (as indexed by multiattribute cue utilization and then inferring cognitive effort from the relative fit of the normative model, Weldon & Gargano, 1988).

Many other regression-based strategies for modeling judgment processes exist. Path-analytic models, for example, regress decision outcomes against participants' ratings of individual cues. These analyses allow researchers to assess the extent to which participants used normatively prescribed versus proscribed cues in arriving at their judgments. A study on the attribution of responsibility in fictional tort cases illustrates this path-analytic method. Researchers compared the observed path weights for accountable and unaccountable participants against the normative baseline of Shaver's prescriptive model for the attribution of responsibility (Lerner et al., 1998). Results showed that unaccountable participants relied on both normatively justifiable (e.g., the degree of actor intentionality) and unjustifiable cues (e.g., the participant's own anger over a previous event) but accountable participants relied exclusively on justifiable cues.

A second kind of statistical modeling involves partitioning the covariance between accuracy scores and confidence ratings into three additive components (for more discussion, see Lichtenstein et al., 1982). The first component simply reflects the baserate (or inherent variability) of the to-be-predicted event. This component is not a function of probability assessments; in accountability experiments, it has not been expected to vary across experimental conditions. Of much greater interest for our purposes are the second and third components: *calibration* and *resolution*. Calibration is the degree to which confidence in a judgment corresponds with the accuracy of a judgment. More formally, it is the weighted average of the mean square differences between the proportion of correct predictions in each category and the probability value of that category. Perfect calibration means that for all answers assigned a given probability (say, 70%), the proportion correct equals the probability assigned. Calibration is an especially useful dependent variable because one cannot improve calibration by indiscriminately lowering or raising one's threshold for expressing confidence; doing so requires careful monitoring of the correspondence between one's probability estimates and the observed relative frequencies. Resolution measures a judge's ability to assign confidence ratings to predictions in such a way that the proportions of correct answers in different categories are maximally different—it is the variance of correct predictions across the confidence categories. Results from two studies suggest that preexposure accountability for judgment processes to an audience with unknown views improves calibration (Siegel-Jacobs & Yates, 1996; Tetlock & Kim, 1987) and that this occurs without cost to resolution (Tetlock & Kim, 1987).[11] Participants were not just indiscriminately bunching up all of their confidence ratings at the low end of the probability scale in response to accountability demands.

An alternative method for decomposing the variance in probability scores allows separate examination of probabilities assigned on those occasions when the to-be-predicted target event does occur versus judgments made when the target event does not occur. The following example from Siegel-Jacobs and Yates (1996) reveals the utility of separately examining these two kinds of probability. Suppose we wanted to predict whether it would rain on a given day. It is critical to accurately predict not only the occurrence of rain when it actually does rain but also the nonoccurrence of rain when it does not rain. (We want to bring an umbrella when it will rain and avoid carrying an umbrella when it will not rain.) Moreover, any variance in a set of predictions about rain should be exclusively attributable to the occurrence or nonoccurrence of rain, rather than to irrelevant factors. To gauge these features of judgment accuracy, Siegel-Jacobs and Yates decomposed probability scores into a useful subindex called *scatter.* Scatter reflects inconsistency in judgments; it increases to the extent that participants incorporate irrelevant information—that is, any information that is not linked to the occurrence or nonoccurrence of the target event (Siegel-Jacobs & Yates, 1996). Accordingly, overall accuracy is highest when scatter is low. Across three experiments in which participants received information about individuals, then judged the likelihood that each of the individuals held a particular attitude (the target event, in this case), results revealed that predecisional accountability for judgmental procedures reduced scatter (Siegel-Jacobs & Yates, 1996). This pattern suggests that accountable participants apply judgment strategies with greater consistency than unaccountable participants—a result corroborated by other studies (Ashton, 1992; Hagafors & Brehmer, 1983). In sum, these statistical models reveal that accountability can (a) lead judges to hold more appropriate levels of confidence in the accuracy of their judgments without simply leading judges to reduce all confidence estimates and (b) improve the consistency with which judges make accurate predictions—regarding both the occurrence and nonoccurrence of target events.

A third way to statistically model judgment processes comes from Cronbach's (1955) influential partitioning of accuracy scores in person perception. Especially important here is the concept of *differential accuracy,* which refers to the ability of judges to predict the differences among test takers on each item after controlling statistically for variation across test takers in the overall predictability of their responses and across items in the predictability of the responses they elicit from test takers. As previously described, holding raters accountable for their ratings and rewarding raters on the basis of ratee performance improved this kind of judgmental accuracy (Mero & Motowidlo, 1995). Similarly, holding observers in a personality prediction task accountable improved accuracy in predicting particular test-taker-by-item combinations and *stereotype accuracy* (accuracy in predicting responses to particular items, Tetlock & Kim, 1987). Finally, procedural-accountability improved *discrimination* ("the extent to which probabilities assigned when the target event does occur differ from those assigned when it does not"), but only when all the available cues were relevant to the likelihood estimation (Siegel-Jacobs &

[11] Although calibration can sometimes be improved indirectly—as a byproduct of improved performance—improved calibration in these experiments appears to reflect genuine differences in processing (e.g., increases in (a) integrative complexity of thought and (b) thoroughness of memory search).

Yates, 1996, p. 4). As previously discussed, when some of the cues presented in a judgment task are normatively (but not obviously) irrelevant, accountability can amplify use of irrelevant cues and thereby degrade discrimination. Participants think: "Why would I have been given this information if I were not supposed to make use of it?" In sum, partitioning accuracy scores—through such indexes as differential accuracy, stereotype accuracy, and discrimination—allows researchers to pinpoint the precise cognitive improvements that particular types of accountability produce. As revealed by the discrimination index, it also allows researchers to pinpoint the precise boundary conditions on those improvements.

Strategy 5: Use the Audience-Cancellation Method

It is theoretically possible to distinguish between true attitude change involving cognitive processing and mere elastic shifts of opinion by canceling the prospective audience and seeing whether participants' opinions shift back to their preliminary position. Those who snap back signal tactical shifts, whereas those who persist signal truly changed attitudes (Cialdini et al., 1973; Cialdini et al., 1976; Fitzpatrick & Eagly, 1981; Hass & Mann, 1976; McFarland, Ross, & Conway, 1984).

Elastic snap-back occurs among postdecisionally accountable participants who moderated their opinions under conditions of low-importance/immediate interview and polarized their opinions under low-importance/delayed interview and high-importance/delayed interview (Cialdini et al., 1976). Apparently, people who (a) braced themselves for a delayed interview by polarizing their opinions, or (b) attempted to cut their losses in an immediate/low-relevance interview by shifting toward an easily defensible midpoint, simply reverted to their initial position when the interview was canceled. If one collapses across audience view manipulations in a separate study, snap-back also occurs among postdecisionally accountable participants who initially moderated their opinions (Cialdini et al., 1973).

Snap-back is rarely total, however, and may not occur at all under certain conditions. For example, attitudes do not snap back when participants (a) expect to interact with an opponent as expert as themselves on an issue (Fitzpatrick & Eagly, 1981) or (b) expect an immediate discussion of a personally important issue (Cialdini et al., 1976; Pennington & Schlenker, in press). The durability of attitude shifts in these conditions may be attributable to the tendency to engage in cognitive activity supportive of the change—generating proattitudinal thoughts (Cialdini et al., 1976; Fitzpatrick & Eagly, 1981).

Synthesis

Whether accountability does more than just alter public posturing depends on a host of moderators. An important methodological lesson follows from this analysis. Studies that simply compare a private control condition with a public accountability condition—and do not employ any of the five strategies for identifying the locus of effects—are invariably open to reinterpretation.[12]

The impression management processes triggered by accountability can interact in complex ways with cognitive processes. In this vein, one should not draw too sharp a distinction between private thought and public posturing (Tetlock & Manstead, 1985). A key function of private thought is preparation for public performances: What would I say if challenged? How might they respond? The net result is often a complex process of preemptive self-criticism that partly inoculates people against cognitive biases grounded in mindless application of simple, easy-to-execute heuristics. In response to other types of accountability, the result can also be more thought—but of a self-justificatory rather than a self-critical nature—that increases unquestioned commitment to prior decisions. In either case, a conceptual distinction between cognitive processes and impression management is misleading. Social pressures for justification affect underlying cognitive processes just as cognitive processes affect impression management.

What Goals Do Accountable Decision Makers Seek to Achieve?

Up to this point, we have accepted investigators' classifications of response tendencies as errors and biases. It is worth noting, however, that many effects examined here are open to challenge on pragmatic, philosophical, or even political grounds (cf. Fiske, 1992). When should a response tendency be considered a bias? What standards are appropriate? The answers depend on the particular goals that accountable decision makers seek to achieve. More precisely, accountability can alter the standards that we use to label particular effects as errors or biases. An effect that appears to be evidence of irrationality in one social or institutional context may be judged quite rational within another (what Tetlock, 1998, calls a normative boundary condition).

Accountability can alter the classification of effects as errors or biases, in part, by changing the utility of specific outcomes. For example, the costs of judgment inaccuracy may be offset by the social or political benefits of getting along with a conversation partner by respecting norms (Dulany & Hilton, 1991; Grice, 1975; Hilton, 1990; Krosnick, Li, & Lehman, 1990; Schwarz, Strack, Hilton, & Naderer, 1991; Tetlock et al., 1996). Accountable decision makers might reason, "I previously defined that task as making as much money or being as accurate as possible but now I define the task as avoiding the censure, or gaining the approval, of this constituency." To invoke another example, is the reluctance of accountable bargainers to make concessions a bias (Carnevale, Pruitt, & Britton, 1979; Carnevale, Pruitt, & Seilheimer, 1981) or a rationale desire to protect their political home base? A recent set of studies suggests that accountable negotiators flexibly shift their goals according to their constituency's views. Thompson (1995) found that when negotiators believed they would be rewarded for their objectivity, accountable bargainers were better able to perceive interests compatible with the other party than were unaccountable bargainers. By contrast, when they believed they would be rewarded for their partisanship, accountable bargainers were less able to see compatible interests than were unaccountable participants.

One can also question how accountability affects the utility of outcomes in an enormous range of paradigms for studying judgment and choice. Consider the status quo effect—preferring a previously chosen option over a superior new option even after

[12] This problem arises, for example, in the rather extensive literature on counter defensiveness (Bradley, 1978; Tetlock, 1980) and unrealistic optimism (McKenna & Myers, 1997).

controlling for the transaction costs associated with altering the status quo option. Samuelson and Zeckhauser (1988) have argued that this represents a bias. But is preferring the status quo a bias or a rational preference among accountable decision makers to avoid imposing losses on influential constituencies (see Tetlock & Boettger, 1994)? Are heightened tendencies among accountable decision makers to choose compromise and average options (Simonson, 1989; Simonson & Nowlis, 1998; Simonson & Nye, 1992) biases or rational decisions based on evidence that one is less likely to be blamed by taking the middle road (Tetlock, 1992)? Is heightened ambiguity aversion among accountable decision makers a bias (Curley et al., 1986; Taylor, 1995) or a rational decision to protect the self from feelings of regret (Larrick, 1993)? Is the fundamental attribution error a failure of the intuitive psychologist to understand causal relationships (Ross, 1977) or is it a calculated, even ideologically driven, attempt by intuitive politicians to hold others strictly accountable for their conduct—even if others have plausible situational justifications or excuses (Tetlock, 1992)? The list of normatively controversial effects is long. The point, however, should be clear. Before labeling a response tendency a cognitive flaw, we should clarify the interpersonal, institutional, or political goals that people are trying to achieve by making particular judgments.

Conclusions

This review underscores the falsity of the conventional wisdom—often born out of frustration at irrational, insensitive, or lazy decision makers—that accountability is a cognitive or social panacea: "All we need to do is hold the rascals accountable." Two decades of research now reveal that (a) only highly specialized subtypes of accountability lead to increased cognitive effort; (b) more cognitive effort is not inherently beneficial; it sometimes makes matters even worse; and (c) there is ambiguity and room for reasonable disagreement over what should be considered worse or better judgment when we place cognition in its social or institutional context. In short, accountability is a logically complex construct that interacts with characteristics of decision makers and properties of the task environment to produce an array of effects—only some of which are beneficial.

This review also underscores the difficulty of reducing the full range of accountability effects to a simple drive/social facilitation framework. If one uses judgments under uncertainty as a proxy for difficult judgments (see Pelham & Neter, 1995), it is not the case that accountability improves easy judgments and fails to improve difficult judgments. Instead, it is the case that improved judgment depends on interactions among qualitatively distinct types of accountability and numerous attributes of both the decision maker and the judgment/choice task. For example, even among studies that incorporate the specific kind of accountability most likely to enhance cognitive effort—predecisional accountability to an audience with unknown views—effects are highly variable across judgment tasks and dependent variables. The review documents that this form of accountability is most likely to attenuate bias to the extent that a given bias results from (a) lack of self-critical attention to the judgment process and (b) failure to use relevant cues. This form of accountability is likely to amplify biases to the extent that (a) a given judgment bias results from using normatively (but not obviously) proscribed information or (b) a given choice bias results from the fact that the option that appears easiest to justify also happens to be the biased option. Finally, this form of accountability is likely to have no effect on bias to the extent that (a) a given bias results from lack of special training in formal decision rules and (b) no amount of increased effort illuminates these rules.

To conclude, the recent proliferation of accountability research holds considerable promise for students of social cognition. First, it expands the potential for theory development by providing a much-needed link between individuals and the authority relationships within which they work and live (Tetlock, 1992). Indeed, this link begins to meet the need identified by Stryker and Statham (1985, p. 311) for "a theoretical framework . . . that facilitates movement from the level of social structure to the level of the person, and vice versa, as well as explanatory principles articulating the two levels that reflect the inherent complexity of both."

Second, this review lays the basis for linking work on accountability not only to more macro institutional and political theories that address how social systems operate but also to more micro cognitive theories that address inside-the-head topics of information processing. It does so by highlighting empirical boundary conditions (ways in which various forms of accountability amplify or attenuate existing effects) and normative boundary conditions (ways in which the very classification of effects as errors or biases changes as a function of the character of the accountability demands on perceivers and decision makers, Tetlock, 1998).

Third, on a more practical level, accountability research can increasingly shed light on how best to structure reporting relationships in organizations—a timely contribution given the intensity of recent public debates about accountability in both the private and public sectors. To the extent that this literature may inform such debates, an observation on external validity merits note. The accountability effects reviewed here are presumably minimal estimates of effects in everyday life. Regardless of the kind of accountability one examines, laboratory contexts typically create a situation in which people expect only a brief encounter with someone they have never met before and never expect to meet again (to use a game theory metaphor, there is no shadow of either past or future). In the (rare) lab studies where participants have had a prior relationship with the audience, that audience has had little incentive to reprimand or reward the participants given the nonconsequential nature of the judgment task. Despite these minimalist manipulations, participants still reliably respond as if audience approval matters. Assuming modest monotonicity as we ratchet up the intensity of accountability manipulations, it may therefore be reasonable to expect much more substantial effects for consequences in everyday life.

Finally, this literature holds promise for students of social cognition because it raises awareness of a fact that laboratory-based investigations often overlook: People do not think and act in a social vacuum. The social necessity of explaining our actions shapes thought—although not always in ways that academic observers applaud. This social functionalist theme is not new, but it did fall out of intellectual fashion for a long time (for a notable exception, see Schlenker, 1980; Schlenker, 1985). The notion that thought is the servant to action was central to pragmatic (see James, 1890/1983), Marxist (see Vygotsky, 1978), and symbolic interactionist schools of thought (see Cooley, 1922; Mead, 1934) in the early 20th century. Indeed, Mead argued that "the very

process of thinking is, of course, simply an inner conversation that goes on . . . He thinks it out, and perhaps writes it in the form of a book; but it is still a part of social intercourse in which one is addressing other persons and at the same time addressing one's self, and in which one controls the address to other persons by the response made to one's own gesture'' (1934, p. 141). As the 20th century ends, the research literature on accountability gives new empirical content to this theoretical proposition.

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