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Why so confident? The influence of outcome desirability on selective exposure and likelihood judgment ☆

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ABSTRACT

Previous studies that have directly manipulated outcome desirability have often found little effect on likelihood judgments (i.e., no desirability bias or wishful thinking). The present studies tested whether selections of new information about outcomes would be impacted by outcome desirability, thereby biasing likelihood judgments. In Study 1, participants made predictions about novel outcomes and then selected additional information to read from a buffet. They favored information supporting their prediction, and this fueled an increase in confidence. Studies 2 and 3 directly manipulated outcome desirability through monetary means. If a target outcome (randomly preselected) was made especially desirable, then participants tended to select information that supported the outcome. If made undesirable, less supporting information was selected. Selection bias was again linked to subsequent likelihood judgments. These results constitute novel evidence for the role of selective exposure in cases of overconfidence and desirability bias in likelihood judgments.

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Introduction

People routinely face uncertainty and grapple with questions such as "Is it true?" and "Will it happen?" In this Information Age, when people ponder such questions, they can often readily access relevant information. However, the available information can be heterogeneous in its implications, and the sheer amount of it can be daunting. Therefore, the act of selecting some information to consider further, while leaving other information neglected, becomes critical. The potential for bias is substantial. It is easy to imagine how fund managers, policy makers, medical patients, and others who seek only selective types of information could develop distorted expectations and confidence about target outcomes, leading to bad decisions and consequences.

The present paper addresses the influence that people's motives for a particular conclusion can have on information selection and resulting confidence levels (i.e., likelihood judgment). We had three main research questions. First, does the desirability of an outcome have a causal impact on information selection. Second, what is the direction of the effect?—Does high desirability fuel the seeking of supporting evidence? Third, what role does a selection bias have in shaping confidence/optimism about the outcome? As a

concrete example, imagine that Alex learns from her financial advisor that she will earn more from her stock holdings if Company A and B merge. Naturally, Alex now hopes these two companies will merge. If she becomes curious about the prospects of the merger, would Alex's desire for the merger bias her interest in reading information that appears to support or cast doubt on the merger? Does the desire ultimately bias her perception of the likelihood of the merger?

To test our research questions, we developed a paradigm that involves experimental manipulations of outcome desirability, as well as measures of both information selection and likelihood judgment. We know of no other published study that includes all these features. There are, however, two literatures that include studies relevant to various parts of our research—the literature on motivated reasoning and the more narrowly defined literature on the desirability bias. In the following sections, we first discuss how our work relates to—and is distinguishable from—existing research on motivated reasoning. Then we discuss how our research extends the current literature on the desirability bias.

Motivated reasoning

The literature defined by the term *motivated reasoning* is vast. As many review papers attest, people are often prone to arrive at conclusions they find desirable or comforting (Balcetis, 2008; Kunda, 1990; Pyszczynski & Greenberg, 1987; Roese & Olson, 2007; Taylor & Brown, 1988; Trope & Liberman, 1996). Many cognitive processes

are flexibly dependent on directional motives—including attention, visual perception, memory processes, depth of processing, and logical reasoning (e.g., Balcetis & Dunning, 2006; Clark & Wegener, 2008; Dawson, Gilovich, & Regan, 2002; McDonald & Hirt, 1997). Most pertinent to the present paper would be research showing that motivations influence information selection. For example, Holton and Pyszczynski (1989) found that receiving harsh feedback from a confederate increased participants' interest in seeing negative information about the confederate. And work using selective-exposure paradigms reveals that people's tendency to view and process information depends on whether it is expected to fit with current attitudes and recent choices (for reviews, see Hart et al., 2009; Jonas, Schulz-Hardt, Fischer, & Frey, 2006).

This motivated-reasoning research provides general fodder for expecting that participants in our studies would tend to select information favoring an outcome they desire. However, there are two features of our research that inject some healthy skepticism as to whether findings from previous work can be presumed to provide answers to our research questions (i.e., with no need for an empirical test).

One important feature is that we focus on cases in which people are tasked with judging likelihood, and they are aware that there will be a *moment of truth*. That is, we are interested in cases when people know that they will be learning whether the outcome about which they provided a judgment did or did not happen (was or was not true). This characteristic distinguishes our studies from many studies within the literature on motivated reasoning. In most studies of motivated reasoning, people do not need to worry about their conclusions being invalidated or checked for accuracy. For example, when people change their attitudes to avoid dissonance (Festinger & Carlsmith, 1959), change their self-perceived traits after learning what traits bode well for a successful life (Dunning, 2003; Kunda & Sanitioso, 1989), or change how they rate the validity of a test because they failed it (Wyer & Frey, 1983), they do not need to worry that their motivated conclusions will be invalidated soon (or perhaps ever). There is no impending moment of truth.

There are reasons to suspect that optimistic distortions in information search and subsequent judgments might be dampened or absent (possibly even reversed) when there is a moment of truth in sight. When a moment of truth is relevant, accuracy motivations might be enhanced, leading people to attend to evidence more carefully and avoid letting motivated biases influence their information gathering and processing (Gilovich, Kerr, & Medvec, 1993; see also Armor & Sackett, 2006; Tyler & Rosier, 2009). Also, in contexts when a person desires an outcome and will soon learn the true outcome, that person knows he/she will either be pleased or disappointed. Because unexpected bad news is worse than expected bad news, people might brace for bad news by becoming increasingly pessimistic (see Shepperd & McNulty, 2002; Shepperd, Ouellette, & Fernandez, 1996; Sweeny & Krizan, in press; Weber, 1994). They might even become more curious about whether bad news is coming, so they seek out and check information consistent with an undesirable outcome, which could provide evidence for a pessimistic likelihood judgment.

A second important feature is that we designed our paradigm to test for the effect of desirability when it is clearly unconfounded with other factors. In our main studies, which are described later, we used random assignment and experimentally created different levels of outcome desirability (the desirability was newly established), thereby ensuring that outcome desirability varied independently of other outcome characteristics or associations. This strategy differed from previous studies that have harnessed existing differences in desirability rather than directly manipulating it. The strategy of using existing differences leaves these previous studies open to alternative interpretations. For example, several studies have shown correlations between the extent to which respondents rated political or sports outcomes as desirable and the extent to which they expected those outcomes to occur (e.g., Babad, 1997; Granberg & Brent, 1983). Whereas one interpretation of these correlation is that desires drove expectations, the opposite causal path is equally plausible (see Kay, Jimenez, & Jost, 2002), and third-variable interpretations are also viable (for discussions, see Krizan, Miller, & Johar, 2010; Krizan & Windschitl, 2007, 2009; Massey, Simmons, & Armor, 2011).

Even among studies that have avoided obvious confounds associated with not experimentally manipulating desirability, problems relating to preexisting differences still persist. Consider, for example, a clever paradigm used by Ditto, Munro, Apanovitch, Scepansky, and Lockhart (2003) in which participants had to interpret the results for a saliva test. They scrutinized the test results to different degrees as a function of whether they thought the result suggested good health outcomes or bad health outcomes. This is an important and fascinating result. However, as Ditto and his colleagues documented, the college-student participants had an *a priori* expectation that the test results would be favorable—leading to greater scrutiny of an unfavorable result. Ditto et al. noted that the *a priori* expectation might be due, quite rationally, to the fact that participants tended to have a history of good health (or motivational processes that operate over time to bolster an expectation of good health).[1] These unresolved possibilities do not provide an answer to whether a newly established desire that is unconfounded with other factors can have immediate consequences on information selection and optimism.

Previous studies on the desirability bias

The most direct way of testing the influence of desirability on optimism is to experimentally manipulate outcome desirability independently of other outcome characteristics or associations, and then solicit forecasts about the outcomes. This is precisely what many studies on the *desirability bias* (aka *wishful thinking*) have done (e.g., Bar-Hillel & Budescu, 1995; Bar-Hillel, Budescu, & Amar, 2008; Irwin, 1953; Lench & Ditto, 2008; Marks, 1951; Windschitl, Smith, Rose, & Krizan, 2010). In a typical version of these studies, participants learn about two possible outcomes and are given a monetary reason—manipulated independently of all other factors—for hoping that one outcome is the true outcome.

One of the more surprising findings to emerge from this literature is that the nature of the forecast being solicited—a discrete prediction vs. a scaled judgment—has a strong impact on the whether a desirability bias is detected (for a meta-analysis, see Krizan & Windschitl, 2007). Studies using a classic marked card paradigm in which participants make a discrete outcome prediction about whether a marked card will be drawn from a deck show that participants are more likely to predict a marked card when it would be a desirable outcome rather than neutral (e.g., Irwin, 1953; Marks, 1951; Windschitl et al., 2010). However, the fact that discrete predictions are influenced by desirability can be explained without assuming that people alter their internal assessments of likelihood about the outcomes. For example, a differential-threshold account suggests that the desirability of an outcome doesn't change how evidence is sought or evaluated, but instead simply lowers the threshold for making an affirmative prediction (Bar-Hillel & Budescu, 1995; Krizan & Windschitl, 2007; Price & Marquez,

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[1] In an attempt to isolate the role of motivation, Ditto et al. (2003) showed that observer participants, who did not share the same motivations as actor-participants, did not exhibit the same effects when making judgments about actor participants described in a vignette. However, we believe there are significant limitations with this approach (e.g., observer-participants would have not only lacked the same motivations as actor-participants, they would have also lacked any basis for strong *a priori* expectations about the actors).