

“Naive Cynicism” in Everyday Theories of Responsibility Assessment: On Biased Assumptions of Bias

Justin Kruger and Thomas Gilovich
Cornell University

Evidence from several lab and field studies is presented that indicates that people have cynical intuitions about how others assess responsibility. Married couples (Study 1), video game enthusiasts (Study 2), debaters (Study 3), and darts players (Study 4) divided responsibility for a series of desirable and undesirable joint outcomes and estimated how others would apportion responsibility. In all studies, participants expected the responsibility allocations of others—but not their own—to be motivationally biased. This was true regardless of whether responsibility assessments actually were biased. In Studies 3 and 4, participants assumed that their teammates would be less biased than their opponents, suggesting that factors known to influence motivation can moderate the strength of this “naive cynicism.”

When assessing responsibility for collective endeavors—be it one’s role in a comedy troupe, one’s efforts on a coauthored paper, or one’s contribution to a household task—people’s judgments are systematically biased. In the most widely cited demonstration of this phenomenon, M. Ross and Sicoly (1979) asked married couples to divide responsibility between themselves and their spouses for a series of activities such as “initiating discussions about the relationship” and “spending time on appearance to please the other.” The authors then added the proportions the two respondents claimed for themselves. If the couples were accurate in their assessments, their estimates should have summed to 100%. They did not. Couples collectively claimed more than the maximally allowable 100% for a variety of joint tasks. For example, the husband might estimate that he walks the dog 70% of the time

whereas his wife reports that she walks the dog 50% of the time. Together, these estimates sum to 120%—20% more than even the most energetic dog could have walked. This finding has been replicated by a number of researchers using several slightly different methodologies (Christensen, Sullaway, & King, 1983; Deutsch, Lozy, & Saxon, 1993; Thompson & Kelley, 1981). It has also been documented beyond the marriage bond in such areas as athletic contests (Brawley, 1984; M. Ross & Sicoly, 1979), group discussions (Gilovich, Medvec, & Savitsky, 1999; M. Ross & Sicoly, 1979), problem-solving tasks (Burger & Rodman, 1983), and academic projects (M. Ross & Sicoly, 1979).

M. Ross and Sicoly (1979) offered an information-processing interpretation of this bias, one based on the differential availability of one’s own and another person’s contributions. Simply put, people have an easier time remembering their own input than someone else’s. It is much easier recalling the times we walked the dog, did the dishes, or reined in our anger than the times our spouse did. And because the ease with which specific instances come to mind is used to estimate frequency (Schwarz et al., 1991; Tversky & Kahneman, 1973), the ready availability of people’s own efforts results in inflated views of their own relative contributions.

A number of findings support this availability interpretation. First and foremost, people often overestimate their responsibility for both desirable and undesirable activities (Brawley, 1984; M. Ross & Sicoly, 1979; Thompson & Kelly, 1981). M. Ross and Sicoly, for example, found that married couples overestimated their contribution not only to activities that reflect positively on the person who did them, such as “initiating discussions about the relationship,” but also to those that reflect negatively on the responsible party, such as “causing arguments that occur between the two of you.” In addition, experimental instructions that manipulate whether people focus on their own or someone else’s contributions produce corresponding differences in responsibility allocations (Burger & Rodman, 1983; M. Ross & Sicoly, 1979,

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Correspondence concerning this article should be addressed to Justin Kruger or Thomas Gilovich, Department of Psychology, Cornell University, Uris Hall, Ithaca, New York 14853-7601. Electronic mail may be sent to jsk18@cornell.edu or to tdgl@cornell.edu.

Experiment 5). Also consistent with this availability interpretation is the positive correlation between the difference in the number of self and other inputs recalled (a measure of differential availability) and attributions of responsibility (M. Ross & Sicoly, 1979, Experiment 1; Thompson & Kelley, 1981). Finally, people report using information about themselves more than information about others when making such judgments (Brawley, 1984; Thompson & Kelley, 1981, Study 3).

Although this bias in responsibility allocation is both reliable and of obvious practical importance, it is not a terribly surprising finding. The average person, in all likelihood, can be counted on to anticipate such a pattern of data—at least for socially desirable activities. Much more surprising, perhaps, is the information-processing interpretation that M. Ross and Sicoly (1979) offered to account for the effect. Indeed, M. Ross and Sicoly argued that one reason the phenomenon can be so pernicious is that people are likely to misidentify what is often its true cause. Instead of attributing another person's inflated assessment to the availability bias, people are likely to see it as a motivated grab for excess credit. To be sure, self-serving motivations do contribute to this bias (M. Ross & Sicoly, 1979, Study 2; Schlenker & Miller, 1977). But exclusive reliance on such a motivational account can lead to costly misperceptions. In particular, a benign cognitive explanation is overlooked in favor of a potentially more explosive motivational account. The other person is seen as being willfully blind to the truth or, even worse, as trying to "pull a fast one."

Despite the fact that people's explanations for biased responsibility judgments can be every bit as important as the bias itself, no work to date has examined the average person's intuitions about this phenomenon. The research presented here was designed to fill that gap. How do people expect others to allocate responsibility? Do they expect others to do so accurately, or do they expect others to claim excess responsibility for themselves? Do their expectations differ for socially desirable and undesirable activities? Finally, if people expect others to claim excess responsibility for either type of activity, why do they expect them to do so?

One possible answer to these questions is that people expect others to see things just as they do, a component of what has come to be known as *naïve realism* (Robinson, Keltner, Ward, & Ross, 1995; L. Ross & Ward, 1995, 1996; see also Asch, 1952; Ichheiser, 1951; Inhelder & Piaget, 1955/1958; Piaget, 1923/1926, 1924/1928, 1926/1929). Thus, a married individual may hold biased assessments of his or her contributions to household maintenance and then compound this mistake by assuming—erroneously—that his or her spouse shares this view.

Alternatively, people may anticipate bias in attributions of responsibility. In particular, people may expect the judgments of others to be motivationally biased, a presumption we term *naïve cynicism*. Nearly everyone, psychologist and layperson alike, is familiar with the concept of wishful thinking, and with the idea that people "see what they want to see" through "rose-colored glasses." People are seldom surprised, for example, when a friend holds more lofty views of a romantic partner than the evidence seems to corroborate, nor are they shocked when someone claims to be a better driver than a steady stream of traffic tickets, bent bumpers, and white-knuckled passengers would attest.

Such naïve cynicism would lead people to expect overestimation for activities that reflect positively on the person who does them. Thus, each member of a married couple might expect the

other to exaggerate responsibility for such activities as "initiating discussions about the relationship" and "spending time on appearance to please the other." In contrast, such an assumption of self-serving judgment should lead people to the opposite prediction for activities that reflect negatively on the person who does them. Couples should expect underestimation on the part of their spouses for such joint activities as "breaking things" and "causing arguments that occur between the two of you."

This suggests both accuracy and error in people's intuitions about allocations of responsibility. On one hand, people may correctly anticipate overestimation for positive activities. People's responsibility judgments are frequently motivationally driven, and even when they are not, differential availability often produces the same result. On the other hand, people's intuitions may be off base when it comes to negative activities. They may be surprised to find that others often claim too much responsibility for these activities as well. People's assumptions of bias, then, may be biased themselves.

To shed light on these issues, we conducted four studies that compare intuition and reality in attributions of responsibility. Our approach was the same in all four: Participants divided responsibility between themselves and one or more other participants for a joint activity with both desirable and undesirable components and estimated how others would divide responsibility. We then compared actual with assumed responsibility allocation in order to examine when theory and reality align well, when they align poorly, and why.

Study 1: Love and Marriage

Study 1a

As an initial exploration of naïve cynicism in everyday theories of responsibility allocation, we asked married couples to apportion credit and blame for a series of joint marital tasks in a manner similar to that of M. Ross & Sicoly (1979)—but with a twist. We also asked each person to anticipate how his or her spouse would divide responsibility. Would participants expect their spouses to be motivationally biased?

On the basis of prior research and the fact that married individuals' own actions are likely to be more available than their spouses', we predicted that respondents would overestimate their responsibility for both desirable and undesirable activities. In contrast, we predicted that respondents would expect their spouses to overestimate responsibility for desirable activities and underestimate responsibility for undesirable activities.

Method

Participants. One-hundred eight married individuals (54 couples) were recruited from the international airports in San Francisco, San Jose, Minneapolis, and Syracuse. Couples volunteered to fill out questionnaires while waiting for their flights.

Procedure. Spouses completed a two-part questionnaire separately. We took special care to ensure that participants understood that their responses were confidential and would not be shared with their spouses.

In one part of the questionnaire, participants divided responsibility between themselves and their spouses for 10 joint activities by marking a slash along a 135-mm line with endpoints labeled *primarily wife* and *primarily husband*. To clarify, if the wife believes she is responsible for

50% of a particular activity, she would put the slash mark halfway between *husband* and *wife*; if she thinks she is responsible for 75% of this activity, she would put the mark three quarters of the way toward *wife*.

Half of the activities were socially desirable, and half, undesirable. The five desirable activities were "resolving conflicts that occur between the two of you," "spending time on appearance to please the other," "conserving energy in the home (turning off lights, etc.)," "being assertive in your relationship," and "initiating discussions about the relationship." The five undesirable activities were "taking out frustrations on partner," "causing arguments that occur between the two of you," "breaking things (dropping dishes, damaging car, etc.)," "forgetting to do things (forgetting to take out trash, pay bills, etc.)," and "criticizing the other."

To verify our intuitions regarding what constitutes desirable and undesirable activities, we asked a group of 22 Cornell undergraduates to rate each activity in terms of "whether the activity is a bad thing or a good thing for a married person to do." These ratings were made on an 11-point scale ranging from *bad* (1) to *good* (11). Consistent with our intuitions, each of the desirable activities was rated significantly more favorably (with mean scale ratings ranging from 7.1 to 10.4) than was each of the undesirable activities (ranging from 2.2 to 4.1); all $ps < .0001$.

The other part of the questionnaire was similar, except that individuals estimated how they thought their spouses would divide responsibility. To ensure that everyone understood how this differed from the other part of the questionnaire, we asked husbands to write the letter "W" above their estimates of how their wives would respond, and wives to write the letter "H" above their estimates of how their husbands would respond. The order in which participants completed the two parts of the questionnaire was counterbalanced across participants.

The design of this study was thus a 2 (actual vs. assumed bias) \times 2 (desirable vs. undesirable activity) fully within-subject factorial.

Results

The order in which participants divided responsibility and estimated how their spouses would divide responsibility did not influence any of the results and thus receives no further mention.

To derive an index of bias in actual responsibility allocations, we summed the responses of both spouses to each of the responsibility questions, converted them to a percentage, and subtracted 100 from this sum. For example, suppose a wife believes she initiates 60% of the discussions about the relationship and her husband believes he is responsible for 50%. Together, they have assigned 110% of the activity to themselves, yielding a bias score of +10%. Two actual responsibility allocation scores were derived for each couple: one averaged across the five desirable activities and the other averaged across the five undesirable activities.

We calculated the amount of bias in assumed responsibility allocations just as we did for the actual allocations, except that instead of summing together the percentages that each member of the couple actually claimed, we summed the percentages that each member assumed the other would claim. Suppose, for example, that each member of a couple believes that his or her spouse will claim 60%. Together, they believe one another will claim a total of 120%, for an assumed bias score of +20%. Once again, two composite scores were computed: one averaged across the desirable activities and the other averaged across the undesirable activities.

Participants' actual and assumed responsibility allocations are shown in Figure 1, and they indicate quite clearly that couples did not accurately anticipate their spouses' assessments. This inaccuracy was highlighted by a 2 (actual vs. assumed bias) \times 2 (desirable vs. undesirable activity) analysis of variance (ANOVA),

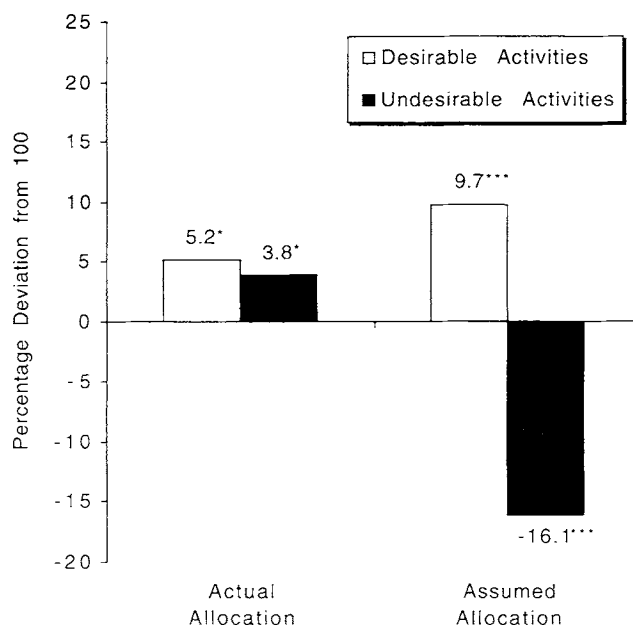


Figure 1. Actual and assumed bias among married couples for desirable and undesirable activities (Study 1). Values significantly different from zero are denoted as follows: * $p < .05$. *** $p < .0001$.

which revealed a significant interaction, $F(1, 53) = 35.90, p < .0001$.

Examined more closely, couples expected their spouses to claim more than their share of the credit for the desirable activities ($M = +9.7\%$)—but less than their share of the blame for the undesirable activities ($M = -16.1\%$). Although this 25.8% difference in assumed bias was quite reliable, paired $t(53) = 7.74, p < .0001$, actual bias did not differ between the desirable and undesirable activities, $t(53) < 1$. As Figure 1 illustrates, participants tended to overestimate their role in both the desirable ($M = +5.2\%$) and undesirable activities ($M = +3.8\%$).¹

Although these data make it clear that participants expected the responsibility attributions of their spouses to be much less even-handed than they actually were, this effect is actually even more extreme than it first appears. The analyses presented above constitute a conservative test of naive cynicism because they compare the amount a couple thought one another would claim with 100%, not with the amount they thought one another actually *deserved*. It is the latter difference, of course, that captures how biased participants thought their partners were. Consider the couple described earlier in which the wife believes she starts 60% of the discussions about the relationship, the husband believes he initiates 50%, and both believe the other will claim 60% for themselves. By necessity, the wife believes her husband is responsible for 40%, and the husband believes his wife is responsible for 50%. Together, they believe one another deserve only 90% but will claim a total of

¹ Although modest, the magnitude of the bias observed in this study is consistent with that obtained in prior research (M. Ross & Sicoly, 1979; Thompson & Kelley, 1981).

120%, for an assumed bias of +30%, not the +20% stipulated in the analysis above.

Because participants' responsibility allocations were only mildly miscalibrated, this analysis yields an amount of assumed bias in this study that is only a bit more pronounced than that of the previous analysis. For the desirable activities, participants thought their spouses would claim 109.7% but deserved only 94.8%, for an assumed bias of +14.9%. For the undesirable activities, participants thought their spouses would claim 83.9% but deserved 96.2%, for an assumed bias of -12.3%.

Discussion

The results of Study 1a support the hypothesis that people expect others to be self-serving when making responsibility judgments. Participants assumed their spouses would claim more or less than their fair share of the credit for a given activity to the extent that the activity reflected positively or negatively on the person who contributed to it. In the present case, couples got only half the story right. They correctly expected overestimation for the desirable activities but incorrectly expected underestimation for the undesirable activities. However, even when couples were correct regarding the direction of bias, they misgauged its magnitude.

Study 1b

One question that Study 1a leaves unanswered is whether participants' expectations of bias resulted from their general intuitions, as we maintain, or because problems with responsibility allocation became evident during the course of marriage. After all, consistent overestimation of one's contribution to the household chores is unlikely to go unnoticed for very long—perhaps not long after the honeymoon is over and any lackluster wedding gifts are returned.

To decide between these two possibilities, we described the design of Study 1a to a separate group of unmarried students and asked them to anticipate how the couples responded. If an intuitive theory of motivational bias was responsible for the results of Study 1a, then participants in the present study should expect self-serving allocations of responsibility, as did the couples themselves.

We also examined whether people expect responsibility judgments to be off the mark because they assume—explicitly—that others are motivationally biased. If so, the present participants should justify their responses by explicitly stating that people's judgments are wishfully distorted in the service of self-interest.

Method

Participants. Participants were 93 Cornell University students enrolled in psychology or human development classes who received extra credit for their participation.²

Procedure. After reading about the details of Study 1a, participants indicated whether they thought the average couple overestimated, underestimated, or was accurate when assigning responsibility. These judgments were rendered twice: once for the desirable marital activities and once for the undesirable activities. Participants also wrote down, for each type of activity, the percentage by which they expected couples to overestimate or underestimate responsibility, if applicable.

Participants indicated the basis for their answers in one of two ways. In

one version of the questionnaire ($n = 33$), participants rated the extent to which the following two explanations captured their thinking: "people want to see themselves in a favorable light," and "since people pay so much attention to what they do, it's easier to remember their own actions." Each rating was made on a 10-point scale ranging from *doesn't capture my reasoning at all* (1) to *captures my reasoning perfectly* (10) and was made separately for the desirable and undesirable activities. The order in which these two rationales were presented was counterbalanced across participants.

In the other version of the questionnaire ($n = 60$), participants were not provided with any theories to evaluate. Instead, after indicating how they thought the couples were likely to respond, they were simply asked to explain their answers.

Results

Assumed responsibility allocation. Consistent with our predictions, participants assumed that married couples would claim 48.1% more responsibility for the desirable activities than the undesirable activities, paired $t(92) = 10.65, p < .0001$. The mean amount of bias expected in the case of desirable activities was +25.5%, one-sample $t(92) = 10.78, p < .0001$. The mean amount of bias expected for the undesirable activities was -22.6%, $t(92) = -8.72, p < .0001$. These responses were similar to the intuitions of the married couples themselves, although somewhat more cynical.

Reasoning. Also as predicted, participants rated the motivational theory "people want to see themselves in a favorable light" as more characteristic of their reasoning than the availability theory "since people pay so much attention to what they do, it's easier to remember their own actions" for both the desirable activities, mean difference = 1.76, $t(32) = 3.66, p < .001$, and the undesirable activities, mean difference = 3.70, $t(32) = 6.25, p < .0001$.

Endorsements of the motivational theory exceeded the midpoint of the scale (5.5) for both the desirable activities ($M = 7.42$), $t(32) = 4.85, p < .0001$, and the undesirable activities ($M = 7.73$), $t(32) = 5.06, p < .0001$. Endorsements of the availability theory, in contrast, fell at or below the midpoint of the scale for both the desirable activities ($M = 5.67$), $t(32) < 1$, and the undesirable activities ($M = 4.03$), $t(32) = -3.33, p < .01$.

An analysis of participants' open-ended responses revealed a similar pattern. Two coders unaware of the hypothesis individually rated the extent to which participants' responses involved an explicit reference to motivation (e.g., motives, desires, wishes), information processing (e.g., availability, memory, attention), or neither. Interrater reliability between the two coders was high for both the desirable activities ($\alpha = .92$) and the undesirable activities ($\alpha = .95$). A third rater, also unaware of the hypothesis, resolved the few discrepancies.

Of the 60 participants who provided open-ended responses, 50 (83%) articulated a theory of motivated bias for at least one of the two types of activities. Forty (67%) thought motivated reasoning accounted for couples' divisions of responsibility for the desirable

² Questionnaires were completed by 17 additional participants whose responses were not included in the data analysis. By prior decision, all participants who had taken the Cornell University social psychology course (in which biases in responsibility allocation are discussed) were excluded, as our hypothesis concerns lay theories, not learned ones.

activities, 11 (18%) provided a cognitive account, and the remainder gave either no explanation or one that fit neither category. Forty-five (75%) thought self-serving biases were behind couples' responsibility allocations for the undesirable activities, with 9 (15%) providing an information-processing explanation, and the rest providing no explanation or one that fit neither category. Binomial tests revealed that the motivational account was given more often than not for both the desirable activities, $z = 2.45, p < .025$, and undesirable activities, $z = 3.74, p < .001$.

Discussion

The results of Study 1b provide further evidence of naive cynicism: Participants relying only on their intuitions expected the responsibility judgments of couples to be self-serving. Although comparisons across studies and subject populations is always risky, the participants in this study appear to have expected the couples' judgments to be more off the mark than was assumed by the couples themselves. The results further suggest that even when participants in Studies 1a and 1b were right, they were right for the wrong reasons. When participants correctly expected overestimation for desirable activities, they did so because they thought married couples were being self-serving. In actuality, the couples were not noticeably self-serving, as evidenced by the fact that they assumed just as much personal responsibility for the socially undesirable activities as they did for the socially desirable activities.

Study 2: Brothers in Arms

Study 2 was designed with several goals in mind. First, we wanted to replicate our field results in a more controlled, laboratory setting—and in a different domain. Toward this aim, participants in this study played multiple rounds of a video game with a teammate, divided responsibility for several elements of the game, and anticipated how their teammate would divide responsibility. We also asked participants to anticipate how a neutral, unbiased observer would divide responsibility, to test whether people believe their own judgments correspond to objective reality.

The central purpose of Study 2, however, was to test the limits of participants' everyday theories of bias. Specifically, we were interested in whether participants would expect others to be self-serving in a situation in which they are in fact just the opposite. Thus, the video game used in this study was highly cooperative, an orientation that past research has found can engender *other-serving* judgments of responsibility (Ames, 1975; Beckman, 1973; Gill, 1980; Johnston, 1967; L. Ross, Bierbrauer, & Polly, 1974; Zucker, 1976, as cited in Zuckerman, 1979). Would participants' motivational theories lead them to expect self-serving allocations of responsibility from their partners even when their partners' assessments might be expected to be anything but selfish?

Method

Participants. Sixty-six Cornell University undergraduates participated in groups of 3. They were recruited from an introductory psychology course and earned extra credit for their participation. One group, whose responses were over 2.5 standard deviations from the mean, was excluded from the analysis.

Apparatus. The video game used in this experiment was a two-person

Nintendo game called "Contra" (1988) in which players work together to battle a common foe. Specifically, the two players each play the role of a Nicaraguan "Contra" out to destroy an army of "Sandinistas." The game was selected for its cooperative orientation: If one player performs poorly, the other suffers a handicap. Despite its gruesome content (or perhaps because of it), participants seemed to enjoy the sessions, as evidenced by animated body movements and excited vocalizations.

Procedure. After being screened to ensure they were unacquainted with one another, participants were escorted into a large laboratory where they were randomly assigned the role of blue player, red player, or observer. Participants then donned name tags on which their roles were indicated.

At this point, the experimenter informed everyone that the experiment was designed to investigate people's ability to assess, monitor, and remember their own and other people's performance. Players then engaged in five rounds of Contra for approximately 30 min while the observer looked on. At the end of Round 5, all 3 participants completed a questionnaire, although only the responses of the 2 players were analyzed.

In Part 1 of the questionnaire, participants divided responsibility between the two players in a manner similar to Study 1a. In particular, individuals indicated their relative responsibility for eight elements of the game by marking a slash along a 135-mm line with endpoints labeled *primarily blue player* and *primarily red player*. Half of the elements were desirable (in the context of the game, at least), and half were undesirable. The four desirable outcomes were "points scored," "power-ups earned (special bonuses that improved firepower)," "opponents (men) shot," and "opponents (gun turrets) shot." The four undesirable outcomes were "falls," "missed shots," "missed power-ups," and "lives lost."

The second and third parts of the questionnaire were completed by players only. In Part 2, players estimated how they thought the other player would divide responsibility for the game outcomes. In Part 3, they estimated how they thought the observer would divide responsibility. Players made these judgments using scales similar to those in Part 1.

Results

Players' actual and assumed responsibility allocations. As in Study 1a, responsibility allocations were derived by summing the judgments of both players to each of the responsibility questions and then subtracting 100 from this sum. For example, if both players credit themselves with 60% of the responsibility for the number of missed shots, they assign themselves a total of 120% of the responsibility, which yields a bias score of +20%. As before, two scores were derived: one averaged across the four desirable game elements and the other averaged across the four undesirable elements. We calculated assumed responsibility allocation similarly, summing together the percentage that each teammate thought the other would claim and subtracting 100 from the sum.

These data, depicted in Figure 2, indicate that players did not accurately anticipate their teammates' responsibility allocations. To compare actual and assumed responsibility allocations, we conducted a 2 (actual vs. assumed bias) \times 2 (desirable vs. undesirable game element) repeated-measures ANOVA, which yielded the expected significant interaction, $F(1, 20) = 6.49, p < .025$.

Participants expected their teammates to credit themselves with 23.0% more responsibility for the desirable game elements than for the undesirable game elements, $t(20) = 3.16, p < .01$. More specifically, participants expected their teammates to claim more than their share of the credit for the desirable game outcomes ($M = +12.2\%$) but less than their share of the blame for the undesirable game outcomes ($M = -10.8\%$). In actuality, players took 8.3% more credit for the *undesirable* outcomes of the game,

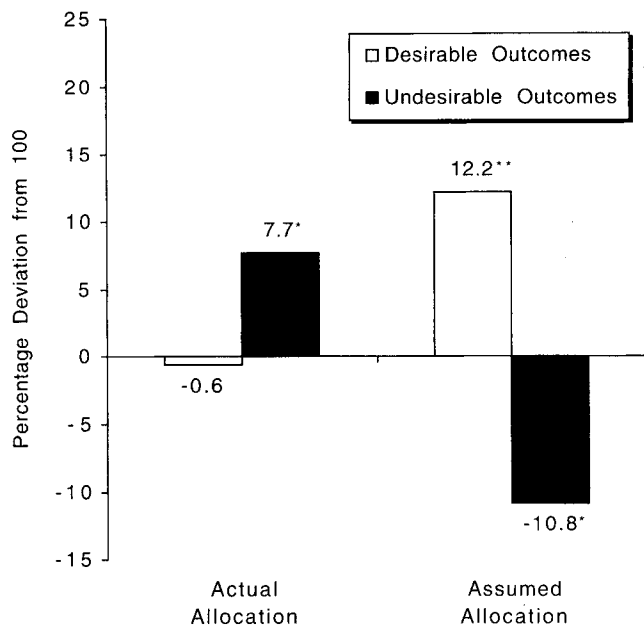


Figure 2. Actual and assumed bias among videogame enthusiasts for desirable and undesirable game outcomes (Study 2). Values significantly different from zero are denoted as follows: * $p < .05$. ** $p < .01$.

although this difference was not statistically reliable, $t(20) = -1.41$, $p = .175$. As Figure 2 illustrates, participants were evenhanded when dividing responsibility for the desirable game elements ($M = -0.6\%$) but took more than 100% of the blame ($M = +7.7\%$) for the undesirable elements.

As in Study 1a, the overall pattern of results does not change appreciably when participants' estimates of what their partners will claim are compared not with 100% but with what they think their partners deserve. For the desirable elements, participants thought one another would claim 112.2% but deserved 100.6%, for an assumed bias of +11.6%. For the undesirable activities, in contrast, participants thought one another would claim 89.2% but deserved 92.3%, for an assumed bias of -3.1%.

Assumed neutral observer responsibility allocation. Clearly, participants thought their teammates would allocate responsibility very differently than they did themselves. Did participants feel this way about the unbiased observers? To examine this question, we compared the responsibility that players assigned themselves with the responsibility players assumed the neutral observer would assign them in a 2 (actual-player allocation vs. assumed-observer allocation) \times 2 (desirable vs. undesirable game element) repeated-measures ANOVA. This analysis yielded only an uninteresting marginally significant main effect for desirability, $F(1, 20) = 3.90$, $p = .062$: Players assigned themselves more responsibility for the undesirable elements and assumed the observers would do the same. More important, however, there was no significant main effect for whether participants were rendering their own responsibility judgments or whether they were anticipating the allocations of observers, $F(1, 20) < 1$, nor was there a significant interaction, $F(1, 20) = 1.90$, $p = .183$. These data indicate that players thought the judgments of a dispassionate observer would not differ from their own.

Discussion

As in Studies 1a and 1b, participants in this study expected others to be self-serving in their responsibility allocations. This time, however, their theories failed them completely: Participants' allocations of responsibility were actually other-serving.

Thus far we have demonstrated that people's theories of bias are frequently off the mark, such that they expect others to be more self-serving than is actually the case. But perhaps we have not given their theories a fair test. In Studies 1 and 2, after all, we chose to examine situations in which people's actual judgments of responsibility were unlikely to be self-serving. But what about those occasions in which people's judgments are self-serving? It could be argued that such situations are more characteristic of day-to-day life, where motivations are more pronounced than in the cooperative settings we examined in Studies 1 and 2. Do people's theories of responsibility allocation serve them when motivations are more pronounced? We conducted Studies 3 and 4 to find out.

Study 3: Us and Them

To examine the accuracy of people's intuitions in a more motivationally charged situation, we conducted a field study in which 2-person teams competed against one another in a debate. As in the previous studies, participants divided responsibility for a series of outcomes that reflected either positively or negatively on the person who did them—in this case, arguments that either helped or hurt their own team.

In this study, however, participants divided responsibility four ways: between themselves, their teammate, and their two opponents. Similarly, participants estimated how much credit and blame their teammate and two opponents would claim. This enabled us to examine the impact of cooperation and competition on assumptions of bias. If, as we maintain, people hold motivational theories of bias, then factors known to influence motivation should affect the application of such theories. Because intergroup rivalries tend to increase in-group cohesion and out-group derogation (Brewer, 1979; Coser, 1956; Janis, 1982; Sherif, 1966; Sherif, Harvey, White, Hood, & Sherif, 1961; White, 1977), we expected assumptions of bias to be far greater between-team than within-team.

We also expected this in-group versus out-group orientation to impact actual bias, as studies have shown that people are more self-serving in their allocations of responsibility when they compare themselves with an opponent than when they compare themselves with a teammate (Gill, 1980; Sherif et al., 1961). Whether this in-group versus out-group distinction would impact actual bias as powerfully as assumed bias, however, remained to be seen.

Method

Participants. Participants were 25 Cornell University students enrolled in a debate course. Debaters were paid \$20 for their semester-long participation in the study.

Procedure. Participants engaged in several two-on-two debates throughout the semester, yielding a total of 18 debates in the study. The debates were approximately 45 min long, each on a topic relating to U.S. policy in Southeast Asia (e.g., "Should the United States aid Vietnam in their land-mine removal efforts?"). Several days after each debate, those

who had participated completed a questionnaire over electronic mail. Special care was taken to ensure that participants understood that their responses were confidential and would not be shared with the other debaters or their professor.

The electronic questionnaire required participants to divide 100 units of responsibility between themselves and the other three debaters for four aspects of the debate, half of which were desirable and half undesirable. The two desirable aspects were "important statements (statements the debater made that helped his or her team)" and "effective rebuttals (statements that weakened the opposing side)." The two undesirable aspects were "speech errors (botched pronunciations or hesitations)" and "disorganized arguments (arguments not delivered as impactfully as intended)." Participants also estimated the responsibility each of the other three debaters would claim for themselves.

Results

We hypothesized that participants would render different responsibility judgments depending on whether they were made with reference to their opponents or to their teammates, and that this would be particularly true for assumed rather than for actual responsibility assessments. To examine whether this was the case, we first conducted a 2 (desirable vs. undesirable debate aspect) × 2 (actual vs. assumed bias) × 2 (within-team vs. between-team) repeated-measures ANOVA, which revealed a marginal three-way interaction, $F(1, 17) = 3.71, p = .071$. Although this interaction did not reach significance, the effect size, $\eta^2 = .18$, is large by Cohen's (1977) classification.

Between-team judgments. To examine the data in more detail, we conducted a series of two-way ANOVAs. The first was designed to compare actual and assumed responsibility allocations between-team.³ Toward this aim, we conducted a 2 (desirable vs. undesirable debate element) × 2 (actual vs. assumed between-

team bias) ANOVA, which revealed the expected significant interaction, $F(1, 17) = 28.05, p < .0001$.

Examined more closely, debaters expected their opponents to claim 69.8% more of the credit for the desirable outcomes than for the undesirable outcomes, paired $t(17) = 9.16, p < .0001$. As Figure 3 illustrates, this assumption was wildly exaggerated. Debaters in fact credited their own team with 21.0% more of the credit for the desirable outcomes than for the undesirable outcomes, $t(17) = 5.39, p < .0001$. Looked at differently, debaters overestimated how much responsibility their opponents would claim for the desirable outcomes by 28.3%, $t(17) = 4.03, p < .001$, and underestimated how much responsibility they would accept for the undesirable outcomes by 20.5%, $t(17) = -3.51, p < .01$.

Within-team judgments. To compare actual and assumed responsibility allocations within-team,⁴ we conducted a 2 (desirable vs. undesirable debate element) × 2 (actual vs. assumed within-team bias) ANOVA, which revealed a marginally significant interaction, $F(1, 17) = 3.11, p = .096$.

Examined more closely, debaters expected their teammates to claim 26.0% more of the credit for the desirable outcomes than for the undesirable outcomes, paired $t(17) = 2.55, p < .025$. In fact, as in Study 2, participants were not self-serving when dividing responsibility between themselves and their teammates, $t(17) < 1$. Looked at differently, debaters overestimated how much credit their teammates would take for the desirable aspects of the debate by 17.5%, $t(17) = 2.25, p < .05$, and underestimated how much responsibility they would accept for the undesirable outcomes by 6.1%, although the latter difference was not significant, $t(17) < 1$.

Between- versus within-team judgments. Did debaters expect their opponents to be more self-serving than their teammates? In a

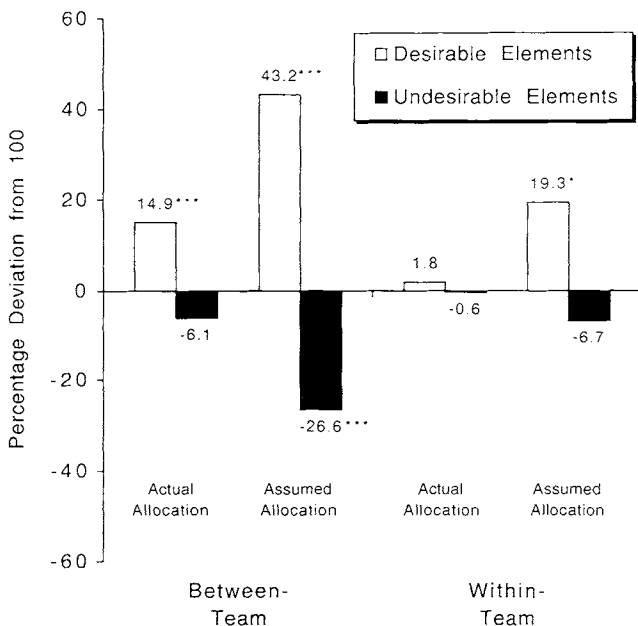


Figure 3. Actual and assumed bias among debaters for desirable and undesirable debate elements (Study 3). Values significantly different from zero are denoted as follows: * $p < .05$. *** $p < .0001$.

³ To calculate between-team bias, we took the percentage of output each debater thought his or her team deserved, averaged these estimates across the two players on each team, and then summed these averages across the two opposing teams. We then subtracted 100% from these sums to get an index of bias. We calculated assumed between-team bias by similarly combining the percentage contribution that each debater thought his or her opponents would claim. For example, if each debater credits his or her own team with 60 units of responsibility and believes his or her opponents will take credit for 60 units, the bias in both actual and assumed between-team responsibility allocation is +20%. As in the previous studies, these indexes were computed separately for the desirable and undesirable outcomes.

⁴ To calculate within-team bias, for each team we added the percentage of the team's output for which the two teammates thought they were personally responsible. We then averaged these sums across the two opposing teams and subtracted 100. For example, imagine a debate in which all four debaters credit themselves with 40 units of responsibility, their teammates with 20 units, and each of their opponents with 20 units. Each debater thus takes credit for 67% of his or her team's performance (40 units ÷ 60 units), and the players on each team credit themselves with a total of 133% of the team's contribution. Averaging across the two teams yields a within-team bias score of +33% (133% - 100%). We calculated assumed within-team bias in the same way, except that instead of combining the percentage contribution that each debater actually claimed, we combined the percentage contribution that each debater thought his or her teammate would claim. These indexes were computed separately for the desirable and undesirable outcomes.

word, yes. A 2 (desirable vs. undesirable debate elements) \times 2 (between- vs. within-team assumed bias) ANOVA revealed a significant interaction, $F(1, 17) = 19.16, p < .001$, indicating that debaters held different assumptions about how their opponents and teammates would allocate responsibility. In particular, for the desirable outcomes, debaters expected their opponents to claim 23.9% more responsibility than they expected their teammates to claim, paired $t(17) = 4.05, p < .001$, whereas the actual difference between in-group and out-group bias was only 13.1%. For the undesirable outcomes, debaters assumed their opponents would accept 19.9% less responsibility than they expected their teammates to accept, $t(17) = -3.18, p < .01$, whereas the actual in-group versus out-group difference was only 5.5%.

These effects are considerably more pronounced when participants' assumptions of responsibility are compared with what they believed their teammates and opponents actually deserved. Participants thought their opponents would claim 58.1% more responsibility than they deserved for the desirable debate elements and 32.7% less than their fair share of the undesirable debate elements—a difference of 90.8%. In contrast, the difference between the amount of miscalibration participants expected from teammates for the desirable and undesirable outcomes of the debate was 28.4%.

Discussion

The results of Study 3 provide further support for naive cynicism in everyday theories of responsibility assessment. As predicted, factors known to influence motivations (in this case, an in-group versus out-group orientation) also influenced the application of participants' theories of motivational bias. Debaters thought their opponents would be far more self-serving than their teammates. However, this in-group versus out-group orientation exerted far less of an impact on actual biases than it did on assumed biases.

The second purpose of Study 3 was to test the accuracy of people's theories in a situation in which they are on the right track—when self-serving motivational influences are strong. Our results suggest, however, that even when people are correct regarding the direction of bias, they misgauge its magnitude. This was true not only when debaters anticipated the responsibility allocations of opponents, but when they anticipated the responsibility allocations of teammates as well.

Study 4: Darts

Although all analyses in Study 3 were carried out at the level of the group, the statistical tests should be interpreted with caution because some debaters participated in several debates. Study 4 was thus designed as a conceptual replication without this limitation. Two-person darts teams competed against one another in a darts match, divided responsibility for desirable and undesirable outcomes of the game, and anticipated how their teammates and opponents would divide responsibility. This also enabled us to test whether our field results would replicate in a more controlled, laboratory setting.

Method

Participants. Forty Cornell University students from several introductory psychology courses earned extra credit for their participation. They were recruited in groups of 4.

Procedure. After being screened to ensure that they were unacquainted with one another, participants were divided into two teams of two players each. Participants then put on name tags indicating their team affiliation (i.e., Blue Team or Red Team).

The experimenter used the same cover story employed in Study 2. Specifically, he informed everyone that the experiment was designed to investigate people's ability to assess, monitor, and remember their own and other people's performance.

The dartboard was divided into varying point regions, from -3 to $+3$. Players were instructed to score as many points as they could, and to enhance motivation, they were informed that the highest scoring team would (and subsequently did) receive a cash prize of \$25. Players then took turns throwing darts for approximately 20 min.

Several days after the experiment, players returned to the lab individually to complete a follow-up questionnaire. The questionnaire required players to divide responsibility between themselves, their teammates, and their two opponents for a desirable feature of the game (the $+3$ -point throws) and an undesirable feature of the game (the -3 -point throws). Players then estimated how their teammates and opponents would divide responsibility.

Results

The data were analyzed exactly as in Study 3, and with similar results. We first conducted a 2 (desirable vs. undesirable game element) \times 2 (actual vs. assumed bias) \times 2 (within-team vs. between-team) repeated measures ANOVA. This analysis revealed the expected three-way interaction, $F(1, 9) = 5.94, p < .05$, indicating that players' assumptions about their opponents were different than their assumptions about their teammates.

To examine this interaction more closely, we first subjected participants' between-team judgments to a 2 (desirable vs. undesirable game element) \times 2 (actual vs. assumed bias) ANOVA. As in Study 3, this analysis revealed a significant interaction, $F(1, 9) = 8.93, p < .025$. Players expected their opponents to give themselves 24.8% more credit for the desirable outcomes than for the undesirable outcomes, whereas the actual difference was less than 5%.⁵

Participants' judgments of their teammates, in contrast, were more realistic. A 2 (desirable vs. undesirable game element) \times 2 (actual vs. assumed bias) ANOVA yielded neither a significant interaction nor any significant main effects (all F s < 1.05). Moreover, simple effects tests revealed no significant differences between the desirable and undesirable game outcomes for either assumed or actual responsibility allocations (both t s < 1). Thus, responsibility judgments were not self-serving within teams—nor did participants expect them to be.

⁵ Participants were far more self-serving in Study 3 than in the present study. This is not surprising, given the high-stakes nature of Study 3. Debaters had a strong, vested interest in performing well. They spent the better part of 2 weeks preparing for each debate, for which their performance constituted the bulk of their course grade. In addition, many of the debaters were interested in careers such as law and politics, for which debate skills are essential. In short, debaters in Study 3 had a lot more to gain by being credited with performing well than did the darts players in the current study.

Finally, did players expect their opponents to be more self-serving than their teammates? As in Study 3, a 2 (desirable vs. undesirable game element) \times 2 (between- vs. within-team assumed bias) ANOVA revealed a significant interaction, $F(1, 9) = 7.06$, $p < .05$, suggesting that they did indeed. Specifically, players expected their opponents to claim 14.6% more responsibility than they expected their teammates to claim for the desirable game outcomes and 13.9% less responsibility for the undesirable outcomes.⁶

Discussion

The results of Study 4 provide further support for naive cynicism in everyday theories of responsibility assessment. As in Study 3, factors known to influence motivations (i.e., an in-group versus out-group orientation) also influenced the application of people's theories of motivational bias. In particular, darts players thought their opponents would be more self-serving than their teammates and more self-serving than they actually were.

General Discussion

From the moment biases in responsibility allocation were empirically demonstrated, social and clinical psychologists began exploring their implications. The net result of that work is that it is now clear that biased allocations of responsibility have a host of deleterious consequences (for reviews see Gilovich, Kruger, & Savitsky, 1999; Leary & Forsyth, 1987; M. Ross, 1981). These include, but are doubtless not limited to, relationship discord (Fincham & Bradbury, 1989; Thompson & Kelley, 1981), bargaining impasse (Babcock & Loewenstein, 1997), and work dissatisfaction (DeConinck, Stilwell, & Brock, 1996; Heneman & Schwab, 1985).

Why do biased assessments of responsibility do such damage? According to equity theorists (Walster, Walster, & Berscheid, 1978), people desire proportionality between inputs and outcomes, both for themselves and for others. It is this proportionality—this fairness—that determines people's satisfaction with their social and business interactions. But if people consistently overestimate their own contributions, they may feel they are doing more than their share—and that others are doing less than theirs.

It is not surprising, then, that research indicates that those who offer inflated assessments of responsibility are unlikely to win any popularity contests. Forsyth, Berger, and Mitchell (1981) conducted a study in which participants engaged in a group discussion, divided responsibility for the outcome, and ostensibly learned how the other group members had divided responsibility. In actuality, the feedback had been crafted so that some participants appeared to claim more or less than their fair share. Participants who had ostensibly taken the lion's share of responsibility for a success were less well liked than participants who had taken less credit. Furthermore, participants assumed these individuals were harder to get along with and found them to be less desirable coworkers.

The good news is that when it comes to apportioning credit and blame, people are not always biased—and when they are, it is not always in a self-serving direction. Indeed, people are often quite gracious in their allocations of responsibility, accepting more blame for a negative outcome than credit for a positive one (Ames, 1975; Beckman, 1973; Gill, 1980; Johnston, 1967; Maass & Vol-

pato, 1989; L. Ross et al., 1974; Zucker, 1976, as cited in Zuckerman, 1979). The "brothers in arms" in Study 2, for instance, overestimated their responsibility for the undesirable game outcomes—but not the desirable game outcomes.

The bad news, however, is that people consistently expect others to be motivationally biased. The robust finding across all four sets of studies reported here is that participants expected others (but not themselves) to be self-serving in their judgments—regardless of whether they actually were. And even when participants *were* self-serving, they were not self-serving to the degree that others expected them to be, a finding consistent with a growing body of research (Diekmann, Samuels, Ross, & Bazerman, 1997; Miller & Ratner, 1998; Robinson et al., 1995; Robinson & Keltner, 1996). To borrow a distinction made by Miller and Ratner, although participants were not especially self-interested *agents*, they were ardent self-interest *theorists*.

Such misjudgments can be particularly troublesome because, except during those rare occasions in which responsibility allocation is explicit (e.g., when two authors must decide who is to be first author), the credit-taking or credit-denying tendencies of others can only be assumed. And because people's assumptions of bias are far more unflattering than their actual biases, the end result will be more social conflict, more distrust, and more pointed fingers than are warranted. A number of theorists have argued that self-aggrandizing biases confer distinct personal advantages (e.g., Taylor & Brown, 1988). It appears, however, that people may sometimes suffer the disadvantage of being *seen* as self-serving without the benefit of actually being self-serving.

The naive cynicism we have documented here is unlikely to be limited to allocations of responsibility. Recent work suggests that people may, as a general rule, expect the judgments of others to be motivationally biased. In one pilot study from our lab, for example, we found that people expect others to hold inflated views of their own traits and abilities (Kruger & Gilovich, 1998a; a similar finding has recently been reported by Krueger, 1998). Participants were, in other words, intuitively aware of the "above-average effect." They, like the participants in Study 1b, also believed that these distortions were motivationally driven by a tendency for people to "see what they want to see." Of course, as in the case of biased responsibility allocation, the above-average effect is in part a cognitive phenomenon (Dunning, Meyerowitz, & Holzberg, 1989; Kruger, in press; Kruger & Dunning, 1999). But here, too, people's everyday intuitions seem to overlook such a benign cognitive account in favor of a potentially more explosive motivational one.

Happily, there are factors that can attenuate people's derogatory theories of bias. Our results indicate that a cooperative, in-group orientation can attenuate (Study 3) or eradicate (Study 4) the assumption that others are motivationally biased. In addition, the couples we interviewed (Study 1a) anticipated less bias on the part of their spouses than was assumed by a separate group of participants (Study 1b), perhaps because of differences in intimacy and affection. Consistent with this idea, a recent pilot study conducted

⁶ Because participants' actual responsibility allocations were only mildly miscalibrated, these effects are similar when participants' assumptions of responsibility are compared, not with 100%, but with what they believe their teammates and opponents actually deserve.

in our laboratory suggests that marital satisfaction is related to couples' theories of bias. The more satisfied the couple, the less they expect one another to be self-serving (Kruger & Gilovich, 1998b).

Is there any conflict between the tenets of naive cynicism and naive realism that needs reconciliation? Not at all. The core elements of naive realism are that people assume they see the world the way it really is, and that a dispassionate observer will share this view (Robinson et al., 1995; L. Ross & Ward, 1995, 1996). But not all observers are dispassionate, of course. The naive cynicism we have documented here applies to people's intuitions about the judgments of individuals who are seen as having a vested interest in the matter at hand, as is the case for anyone dividing responsibility for desirable and undesirable outcomes of a collective endeavor. Naive cynicism thus complements the central tenets of naive realism. This complementarity is perhaps most apparent in the results of Study 2. Recall that participants in that study assumed that an unbiased observer would attribute responsibility the same way they did themselves (naive realism), but that a more involved party would be motivationally biased (naive cynicism). What was remarkable about that study, of course, was how easy it was for individuals to lose their perceived objectivity: The two players viewed each other's motives cynically even though the structure of the game encouraged cooperation rather than competition. It appears that the assumptions and judgments that underlie the application of naive realism and naive cynicism are often more cynical than realistic.

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