The Mistaken Preference for Overclaiming Credit in Groups

Daniel H. Stein, Derek A. Schatz, Juliana Schroeder, & Jennifer A. Chatman

University of California, Berkeley

Draft – Under Review
January 6, 2020

Abstract

People often inaccurately claim credit for their work in groups, both *overclaiming* (taking *more* credit than their due) and also *underclaiming* (taking *less* credit than their due). Six studies and three supplemental experiments (N=3,395) test whether actors believe overclaiming or underclaiming credit will make them appear competent and warm to observers, as well as which strategy actually establishes them as more competent and warm. Studies 1-3 demonstrate that actors mistakenly believe overclaiming is an effective impression management strategy that makes them look more competent. Observers, however, judge actors who overclaim (vs. underclaim) to be less warm and no more competent. Studies 4-6 examine the generalizability of this interpersonal penalty for overclaimers in real-world groups, finding that group members both evaluate overclaimers negatively, and also prefer not to work with them again. Finally, both overclaiming and underclaiming are penalized compared to accuracy, suggesting that being (inaccurately) modest offers little social upside.

Keywords: person perception; overclaiming; underclaiming; biases; groups; social relations model; accuracy; team viability; actor-observer bias

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On January 2, 2018, U.S. President Donald Trump claimed that he alone prevented airplane crashes in 2017: "Since taking office, I have been very strict on Commercial Aviation. Good news - it was just reported that there were zero deaths in 2017, the best and safest year on record!" President Trump's Twitter post generated nearly 60,000 responses, many criticizing President Trump for overstating his contribution to this remarkable accomplishment, suggesting the statistic is the result of a general trend stretching back over a decade. Did President Trump believe that exaggerating his contribution to airline safety would make him look better in the eyes of his followers? Further, would President Trump's Twitter followers have reacted more positively if he had understated, rather than overstated, his contribution to airline safety?

We examine these questions in the current paper, first testing whether individuals in groups ("actors") believe that overclaiming credit, defined as claiming to contribute *more* than one's actual share of work done, rather than underclaiming credit, which we define as claiming to contribute *less* than one's actual share of work done, will make them appear more competent to others ("observers"). Second, we compare actor beliefs with observers' reactions, testing which actor behavior – overclaiming or underclaiming credit – actually establishes a more favorable impression with observers. Thus, we examine the possibility that actors' credit-claiming strategies are not well aligned with their goals of improving observers' impressions of them.

To conceptualize overclaiming and underclaiming credit, we consider actors in groups who claim to accomplish more or less, respectively, than their actual contribution. Prior research has studied the factors contributing to group members' claiming behavior, particularly when and why members overclaim credit for group tasks (Brawley, 1984; Kruger & Gilovich, 1999;

Kruger & Savitsky, 2009; Ross & Sicoly, 1979; Schroeder, Caruso, & Epley, 2016; Thompson & Kelley, 1981; for a review, see Leary & Forsyth, 1987). We suggest that research on overclaiming has overlooked two key factors. First, research has not comprehensively identified the interpersonal consequences of claiming-behavior. Since a key reason for why people claim credit in group tasks is to try to present a positive self-image to others (Schlenker, 1980), it is critical to understand the perceived and actual interpersonal consequences of claiming credit in group tasks. Second, prior research has examined overclaiming but not underclaiming behavior. In the current research, we explicitly test when people strategically overclaim or underclaim credit to establish a favorable image in the eyes of others. We develop a theory of claiming behavior, proposing that: (1) actors perceive that overclaiming (versus underclaiming) is an effective impression-management strategy to appear competent; (2) in contrast, observers assess underclaimers more positively than overclaimers, but still not as positively as those who make accurate claims about their contributions; and (3) both overclaiming and underclaiming, which are prevalent group behaviors[1], can influence a group's willingness to work together in the future.

Our theory of credit-claiming proposes a discrepancy between predicted and actual impressions of credit-claiming behavior, such that actors strategically overclaim (vs. underclaim) credit in groups to enhance observers' impressions of actors' competence, but observers perceive actors who overclaim as less warm, and no more competent, than actors who underclaim. This asymmetry indicates that actors engage in mistaken self-presentation strategies because their

[1] In a pilot study ($N = 200$) in which we asked participants to estimate how often they engage in different claiming behaviors, group members reported underclaiming in more than a quarter of their group activities ($M = 27.16\%$), and overclaiming relatively less often ($M = 15.47\%$). See more details in the Supplemental Materials.

preference for overclaiming incurs an interpersonal penalty (in terms of warmth judgments) without any gain (in terms of competence judgments).

In addition to measuring interpersonal perceptions in our studies, we also examine a behavioral outcome that follows from interpersonal perceptions: observers' willingness to work with the actor in a group setting. Specifically, if observers judge actors who overclaim as less warm (and therefore less likable) than actors who underclaim, observers might also be less interested in working with overclaiming actors on a group together in the future. Given that willingness to work with group members in the future contributes to group viability and group effectiveness, it is important to understand what drives such willingness (e.g., Hackman, 1987; Kozlowski & Bell, 2003).

By identifying an asymmetry between actors and observers regarding their credit-claiming behavior and perceptions, our theory makes three contributions. First, we offer a more comprehensive understanding of the interpersonal consequences of engaging in different types of claiming behavior. Second, we focus on the potentially negative consequences of underclaiming behavior for individuals and groups, which have not been well-studied in the claiming literature. Third, we add to research on actor-observer differences to better understand how a person's vantage point can lead to mistakes in how people choose to behave. Given the prevalence of work in groups across many organizational settings, it is particularly important to understand how a lack of congruence in actors' intentions compared to observers' evaluations leads to conflict and potentially worse outcomes for both individuals and groups.

Actor Perspective: Credit-Claiming Strategies for Establishing a Favorable Impression

Decades of research in social psychology suggests that appraisals of warmth and competence underlie interpersonal impressions (e.g., Bakan, 1966). The warmth dimension

captures traits that are related to perceived intent, including friendliness and helpfulness, whereas the competence dimension reflects traits that are related to perceived ability, such as intelligence and skill (Fiske, Cuddy, & Glick, 2007; Leach, Ellemers, & Barreto, 2007; Todorov, 2011; Wojciszke, 2005). The Dual Perspective Model of Agency and Communion (Abele & Wojciszke, 2014) theorizes that actors (compared to observers) are especially interested in communicating their competency, more so than their warmth, to others because actors are already well-aware of their own (good) intentions (e.g., their warmth) and so their intentions appear to them to be self-evident and unnecessary to illuminate to others. As a result, actors prioritize communicating their ability to accomplish their objectives (i.e., competence) to others, recognizing that their abilities need to be demonstrated to others (e.g., Abele, Bruckmüller, & Wojciszke, 2014; Abele & Wojciszke, 2007, 2014; Wojciszke, 1998). Supporting this theory, research has shown that: (1) actors (vs. observers) are more likely to describe themselves using competence traits than warmth traits after a short interaction (Abele et al., 2014), and (2) people find competence traits to be more desirable for evaluating themselves, but warmth traits to be more informative for evaluating another person (Abele & Wojciszke, 2007).

In prioritizing communicating competence to observers through credit claiming, actors may prefer to overclaim (vs. underclaim) to appear competent for two primary reasons. First, underclaiming may be interpreted as lacking self-confidence or having uncertainty in one's own abilities (e.g., Brunell et al., 2008), both of which could threaten perceptions of actors' competence (De Cremer & van Knippenberg, 2004; Sniezek & Van Swol, 2001). Second, there is a robust association between contributions and competence judgments, such that individuals who contribute a lot to their group are perceived as more competent than are individuals who contribute little to their group (e.g., Anderson & Kilduff, 2009; Cuddy, Glick, & Beninger, 2011;

Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). Actors may, thus, believe that claiming to contribute a lot is a pathway to appearing competent.

Putting together these prior findings—that people prioritize demonstrating their competence more than their warmth to others, and that actors presume that overclaiming (vs. underclaiming) signals competence—we predict that, in attempting to improve observers' impressions of their competence, actors will prefer to overclaim rather than underclaim. Further, because we theorize that actors prioritize communicating their competence more than their warmth to others, we predict that actors may believe that their credit-claiming behavior will have little influence on observers' impressions of their warmth.

Hypothesis 1: Actors will overclaim (vs. underclaim) credit to appear more competent (but not warmer) to observers.

Observer Perspective: Actual Impressions of Credit-Claiming Strategies

Observers' interpersonal assessments of actors who overclaim credit versus underclaim credit may differ from actors' presumed assessments. Whereas actors are especially interested in communicating competence, evidence suggests that warmth is the primary focus among observers. The Stereotype Content Model (e.g., Fiske, 2018; Fiske et al., 2007) theorizes that observers tend to assess others' warmth before assessing others' competence, because ascertaining whether another person's intentions are good or bad towards you – that is, their warmth – is more important to survival than knowing whether the other person can fully carry out those intentions – that is, their competence (Fiske et al., 2007; Hack, Goodwin, & Fiske, 2015; Ybarra, Chan, & Park, 2001). Providing empirical evidence that observers attend more to actors' warmth than competence, warmth traits better predict global impressions of people than do competence traits (Abele & Bruckmüller, 2011; Wojciszke, Bazinska, & Jaworski, 1998),

and, when given a choice, observers are more interested in gathering information about others' warmth traits than about their competence traits (Ames & Bianchi, 2008; De Bruin & Van Lange, 2000; Wojciszke et al., 1998). Further, people are faster to recognize warmth-related traits than competence-related traits in lexical decision tasks in which participants must determine whether a list of traits are words or non-words (Ybarra et al., 2001), a finding which also suggests that people attend to others' warmth before attending to others' competence.

In the context of credit-claiming, those who overclaim credit may be seen as lacking warmth for several reasons. First, when actors overclaim credit, they disregard others' contributions and signal a general inclination toward self-focused behavior, which calls into question their perceived intent and reliability in acting benevolently toward others (Cross, Bacon, & Morris, 2000; Gardner, Gabriel, & Lee, 1999; Mills & Clark, 1994; Van Lange, 1999). Conversely, actors may appear humble by letting their accomplishments "speak for themselves" rather than publicizing them (Peterson & Seligman, 2004) or by intentionally claiming less credit than is warranted by their actual contributions to the group. To the extent that underclaiming is seen as comparable to humility (being appreciative for the self and others and/or self-abasement; Weidman, Cheng, & Tracy, 2016), and modesty (underrepresenting one's positive traits, contributions, or accomplishments; Cialdini & DeNicholas, 1989), both of which are associated with more meaningful and trusting relations with others (Exline & Geyer, 2004; Gregg, Hart, Sedikides, & Kumashiro, 2008; McElroy et al., 2014; Means, Wilson, Sturm, Biron, & Bach, 1990; Wosinka, Dabul, Whetstone-Dion, & Cialdini, 1996), actors who underclaim may thus be more likely to be perceived as warm and likable compared to actors who overclaim. Indeed, displaying humility in group contexts has been shown to increase social acceptance and liking

(Anderson, Srivastava, Beer, Spataro, & Chatman, 2006), which arises from perceptions that the actor is prioritizing the interests of the group above their own interests (Ridgeway, 1982).

If observers judge warmth to be more important than competence in others, and overclaiming is linked to potentially negative intentions, observers should evaluate actors who overclaim (vs. underclaim) credit as less warm. In contrast, observers' assessments of an actor's competence may not be as strongly influenced by that actor's credit claims. Prior research makes competing predictions about whether credit-claims affect perceived competence. On the one hand, being overconfident can lead to peer-perceptions of greater competence (Anderson, Brion, Moore, & Kennedy, 2012; Anderson & Kilduff, 2009; Kennedy, Anderson, & Moore, 2013), so overclaiming may result in a competence boost compared to underclaiming. On the other hand, overclaiming credit may actually be interpreted as overcompensation for inferior abilities (e.g., Dickinson, & Pincus, 2003), making observers skeptical about the actor's true competence and resulting in lower competence ratings for actors who overclaim (vs. underclaim) credit. Thus, while we expect that observers will judge overclaiming (vs. underclaiming) actors as less warm, given these prior divergent results, we believe it is unlikely that claiming behavior will net out as a meaningful predictor of observers' perceptions of actors' competence.

Hypothesis 2: Observers will rate actors who overclaim (vs. underclaim) credit as less warm (but not more competent).

Overview of Studies

We test our actor and observer predictions across six studies and a variety of contexts (online vignettes, laboratory groups, and naturalistic groups working together in a field setting). Study 1 investigates how actors overclaim or underclaim to satisfy different impression goals after completing a task together in the laboratory. Study 2 then measures the actual impressions

that observers form of these actors as a function of actors' overclaiming and underclaiming behavior. Study 3 further examines the discrepancy between the predicted and actual consequences of over- vs. underclaiming in a fully randomized design using a new task paradigm. Taken together, Studies 1-3 support our two primary hypotheses, establishing that actors prefer to overclaim (vs. underclaim) to appear competent, whereas observers judge actors who overclaim (vs. underclaim) as less warm and no more competent.

Studies 4, 5, and 6 address several possible reasons why actors may believe overclaiming is more effective than underclaiming in enhancing competence judgments. For one, as Studies 1-3 prioritized internal validity over external validity, actors may think that overclaiming is highly valued in intact work groups. Studies 4 and 5 examine this possibility and find overclaiming is still evaluated more negatively than underclaiming in consequential work situations: face-to-face dyads solving a business case (Study 4) and study groups in an executive MBA leadership course (Study 5). Another possibility is that actors may believe that they will personally contribute more than others in their group and that objectively high contributions will buffer the negative interpersonal consequences of overclaiming. Thus, Study 6 examines this potential boundary condition and tests whether actual contributions (e.g., high or low) moderate the effect of claimed contributions on impressions. This study reveals that overclaimers (vs. underclaimers) who contribute highly to a team are rated as *lower* on warmth but *higher* on competence, whereas those who contribute less are rated lower on warmth but not higher on competence, providing evidence that, indeed, the actor's level of contribution influences observers' impressions of their claiming behavior. Taken together, Studies 4-6 provide robust and externally valid evidence that actors who overclaim (vs. underclaim) are consistently judged as less warm.

Finally, our studies additionally examine interpersonal perceptions of accurate credit claims (i.e., claiming to do what one actually did).[2] Accurate claiming is likely to be interpersonally valued because it appears honest and fair (Fehr & Schmidt, 1999; Graham et al., 2013; Trivers, 1971; Walster, Walster, & Berscheid, 1978). Therefore, it is possible that group members who accurately claim credit will be particularly interpersonally valued compared to members who overclaim *or* underclaim credit. However, it may also depend on the amount of work that the group member actually contributes; we examine whether the appeal of accurate claiming is moderated by actual contributions in Study 6.

Across all of our studies, we report how we determined our sample size, all data exclusions, all manipulations, and all measures (Simmons, Nelson, & Simonsohn, 2012). Our data, code, and survey materials are available in the Open Science Framework repository for this project (https://osf.io/2ng7e/?view_only=494120933c9e4c3d81778f5dcd4ca443). Additional analyses are also conducted throughout the manuscript and summarized in the Supplemental Materials.

Study 1: Overclaiming and Underclaiming Behavior

We recruited study participants to work in dyads and complete a novel cooperative task together. We designed the task so that each actor contributed 50% to the task. Subsequently, actors reported the percentage of the work that they personally contributed to the task, thereby providing their credit claim. Participants also reported how much they would claim to contribute to satisfy three fundamental impression management goals: to appear competent, to appear

[2] Our Supplemental Studies further examine reactions to equal-claiming (i.e., claiming to do the commensurate share of the work based on an equal division of the number of people in the team). Equal-claiming may be accurate or inaccurate; in many groups, the true contributions of each member are unknown and in these cases accuracy may matter less for evaluations than equality.

warm, and to attract future group members. We predicted that actors would prefer to overclaim (versus underclaim) specifically to be seen as competent and to get others to work with them.

Method

We pre-registered our analysis plan and predictions on AsPredicted (https://aspredicted.org/blind.php?x=3ky5qj).

Participants. We advertised 40 different laboratory session time slots for two participants each in a laboratory experiment to an undergraduate participant pool at a west coast university. We aimed to recruit at least 60 participants (30 dyads) because we knew not all 40 time slots would fill; ultimately, 58 participants (29 dyads) participated in exchange for $7 (20 male, 37 female, 1 unreported; M_{age} = 20.89, SD_{age} = 1.97).

Procedure. We randomly paired participants upon their arrival to the laboratory. We told them that they would complete a task together, which was to write an "entertaining story" together by alternating sentences. Each actor contributed one sentence at a time to the story in a sequential back-and-forth manner for seven minutes, creating one single story with their partner (see OSF for the full set of stories). We randomly assigned one actor to write the first sentence, and we gave actors different colored pens to distinguish their contributions to the story. We provided an incentive to the actors to take the task seriously by giving them an opportunity to win a $5 bonus if a non-overlapping sample of neutral evaluators rated their story as the most entertaining.

We designed this story-writing task with three specific criteria in mind: First, we selected a novel task that participants did not have prior experience completing, in order to render all participants' experience level as effectively the same. Second, we selected a task in which the actual contribution by each participant was fixed at 50% (i.e., because each actor wrote one

sentence in turn). Although it is possible that some participants were more entertaining or wrote longer sentences than others, across our sample such perturbations should effectively cancel out so that, at least in aggregate, individuals will have contributed 50% on average. This equal contribution allows us to study credit claiming impression management strategies and offers a conservative test of our hypotheses. Third, we selected a collaborative task that would be at least somewhat enjoyable and engaging for participants. After completing the task, we separated the actors, who then completed a post-task questionnaire.

Materials (Survey).

Contribution claims. After completing their story, actors reported what they would "tell another person that they personally contributed to the story" to satisfy three goals: 1) to "get the person to like you," which measured the actor's goal of being seen as warm (*warm-goal condition*); 2) to "get the person to think you are smart and hard-working," which measured the actor's goal of being seen as competent (*competent-goal condition*); and 3) to "get the person to want to work with you in the future," measuring the actor's goal of attracting future teammates (*attract-teammates-goal condition*). For example, study participants viewed the following instructions for the warm-goal condition:

> For the next part of the study, please imagine that someone else reads the story that you and your partner just created. That person will know which pen you used when they read the story. Imagine that you have to tell the person how much you personally contributed to the story. If you had to just report a single percentage that you contributed toward the story **to get the person to like you**, what would it be? (0% means that you contributed nothing to the story, and 100% means that you contributed everything to the story).

Actors always answered the warm-goal and competent-goal questions first in randomized order, and subsequently answered the attract-teammates-goal question last. We operationalize claiming greater or less than 50% as overclaiming and underclaiming, respectively, whereas claiming exactly 50% is accurate-claiming.

Alternative claim likelihood measures. In addition to simply stating the amount that they would claim, actors further responded to the following question three times (to satisfy the three goals listed above: to be perceived as warm, competent, and to attract future teammates): "If you really want the person to [like you/think you are smart and hard-working/want to work with you in the future], how much would you tell the person that you contributed toward making the story?" with the following three items: (1) "I would say I did EXACTLY 50%"; (2) "I would say I did MORE than 50%"; (3) "I would say I did LESS than 50%" (1 = *definitely not*, 7 = *definitely*). We chose the anchor of 50% as it is a normative standard for equality within a dyad, and the task was designed such that each person would contribute about 50%.

Actual contribution claim. As the last item in the survey, actors estimated their true contribution to the story: "Overall, please estimate your true contribution to the story as accurately as possible" (0% = *contributed nothing*, 100% = *contributed everything*; *M* = 52.79%, *Med* = 50%, *SD* = 10.38%)[3].

Results

Contribution claims. To satisfy their goals to appear warm, competent, and to attract future teammates, actors reported that they would claim to have contributed *M* = 53.63% (*SD* = 14.22%, Median = 50%), *M* = 59.79% (*SD* = 13.44%, Median = 60%), and *M* = 58.58% (*SD* = 14.63%, Median = 55%), respectively (one sample t-tests against 50%: *ts*(57) = 1.94, 5.54, and 4.46, *ps* = .056, <.001, and <.001, *ds* = 0.26, 0.73, and 0.59, respectively). In other words, actors

[3] As previously stated, based on how we designed the task, we believe that 50% is the true contribution of each person (on average). However, subjects claimed slightly above 50% on average (*M* = 52.8%). One possible explanation for this deviation from equality in reported actual claims could be that participants used different definitions of 'contribution.' While each partner writes one sentence at a time, the length, complexity, or entertainment value of the sentences could vary widely, and if such attributes are considered when participants estimate their actual contribution, variation from 50% could result. Furthermore, prior research shows that people egocentrically claim credit on tasks simply because they find it easier to remember and focus on their own contributions than on their partner's contributions (e.g., Caruso, Epley, & Bazerman, 2006; Ross & Sicoly, 1977; Schroeder, Caruso, & Epley, 2016).

believed they should overclaim their contributions—at least compared to the objective contribution of 50%—to satisfy all three goals. Figure 1 presents the frequency with which actors accurately-claimed (claimed 50%), overclaimed (claimed more than 50%), and underclaimed (claimed less than 50%) their contributions to satisfy each goal.

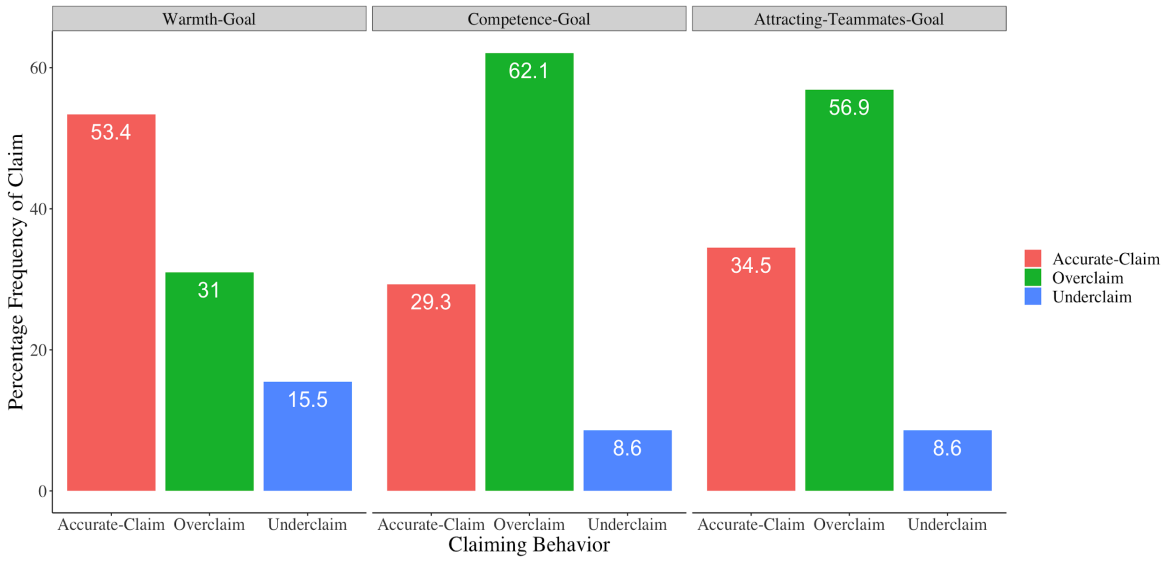

Figure 1. Frequency distribution of the actors who accurately claimed credit (claimed exactly 50%), overclaimed credit (claimed more than 50%), or underclaimed credit (claimed less than 50%) as a function of whether their goal was to be warm, competent, or attract future teammates in Study 1.

Supporting our primary prediction, actors were most likely to overclaim when trying to satisfy the goal to appear competent. A random-effects model with a random intercept for participant revealed that the claims participants made to appear competent and to attract future teammates did not differ, $t(114) = 0.59$, $p = .556$, $d = 0.09$, but that these claims were both significantly higher than the claim made to appear warm, respectively, $ts(114) = 3.01$ and 2.42, $ps = .003$ and .017, $ds = 0.44$ and 0.34.

We further examined whether actors' contribution claims to satisfy different impression goals deviated from the actual estimated contribution that they reported at the end of the survey

(*M* = 52.79%, *Med* = 50%, *SD* = 10.38%). This provides a more conservative test of our hypotheses because actors believed that they actually did more than 50%, so they may not see their behavior as overclaiming but instead see it as accurate (e.g., Ross & Sicoly, 1977). We therefore tested whether actors would *purposely* overclaim beyond even their own estimation of actual contributions; indeed, actors did engage in this purposeful overclaiming to appear competent and attract-teammates, *one-sample ts*(57) = 4.78 and 3.01, *ps* < .003, *ds* = 0.63 and 0.40, but not to appear warm, *one-sample t*(57) = 0.47, *p* = .635, *d* = 0.06.[4]

Alternative claim likelihood measures. We observed consistent results on our alternative contribution claim measure (i.e., 7-item Likert scale questions about the likelihood of engaging in different claiming behaviors). Actors reported a higher likelihood that they would overclaim to appear warm, competent, and attract future teammates (*Ms* = 3.33, 4.05, and 3.90, *SDs* = 1.95, 1.82, and 1.80, respectively) than underclaim (*Ms* = 2.57, 2.05, and 2.05, *SDs* = 1.71, 1.53, and 1.49), *ts*(57) = 2.11, 5.72, and 5.21, *ps* = .039, <.001, and <.001, *ds* = 0.28, 0.75, and 0.68, respectively. However, actors reported the highest likelihood of accurate-claiming (i.e., saying that they did exactly 50% to appear warm, competent, and attract teammates: *Ms* = 4.84, 4.26, and 4.71, *SDs* = 1.85, 1.89, and 1.84, respectively) compared to overclaiming, *ts*(57) = 3.67, 0.49, and 1.98, *ps* = <.001, .626, .052, *ds* = 0.48, 0.06, and 0.26, respectively, or underclaiming, *ts*(57) > 5.69, *ps* <.001, *ds* > 0.75.

Discussion

Study 1 provides evidence that individuals adjust their contribution claims to meet specific impression management goals. Although the dyads in this study had direct access to

[4] Given individual actors were nested within dyad, we conducted supplemental analyses with standard errors clustered by dyad. Consistent with the prior analysis, actors did overclaim to appear competent and attract-teammates (*ts*(57) = 4.87 & 3.33, *ps* < .002), but not to appear warm (*t*(57) = 0.48, *p* = .634).

their own and their partner's contributions and they worked on a collaborative task designed to elicit equal contributions from each partner, they overclaimed their contributions to external observers to appear competent and to attract others to work with them in the future. Moreover, they overclaimed despite knowing that observers would be able to view their story directly.

Study 2: Evaluations of Overclaimers and Underclaimers

To test whether actors' contribution claims in Study 1 had the intended influence on observers' impressions of them, we recruited a separate pool of participants ("observers") to examine each actor's actual work product and the amount that he or she claimed to have contributed, and then report their impressions of the actor. Contrary to actors' expectations, we predicted that observers would perceive actors who overclaimed (vs. underclaimed) as less warm and less appealing to work with in the future. We also explored whether observers judged overclaiming actors as more competent than underclaiming actors (as the actors expected).

Method

We pre-registered our analysis plan and predictions on AsPredicted (https://aspredicted.org/blind.php?x=n8zd4r).

Participants. We predetermined our sample size to target 30 evaluations per each of 58 actors from Study 1. Because there were three between-subjects experimental conditions and each observer evaluated six actors, we determined that we needed 870 participants. In total, 870 adults from the U.S. on Amazon's Mechanical Turk (474 male, 392 female, 4 unreported, M_{age} = 37.31, SD_{age} = 11.03) completed the study in return for $1.30.

Design. We created an experiment with a 3 × 3 mixed design, where the first factor varied between-subjects (Claim Estimate Set: A, B, or C) and the second factor varied within-subjects (claim viewed: overclaim, underclaim, accurate-claim).

Procedure. Observers read six stories produced in Study 1 (which were presented in a standardized font on a computer) and evaluated one actor from each dyad (across the three claim conditions, within-subjects) immediately after reading that actor's story. We asked observers to evaluate one actor from the dyad rather than both members to isolate the effects of a single actor's claiming behavior. The stories were written in blue or black text so that the observer could immediately see the contribution of the actor they were evaluating (i.e., the blue-text writer or the black-text writer). Observers first estimated the actors' "contribution to the story as accurately as possible" (from 0 to 100%, where 0% means that the actor contributed nothing to the story, and 100% means that the actor contributed everything to the story). Interestingly, observers believed that actors had done slightly more than 50% on average (M = 52.15%, SD = 13.82%, *Median* = 50%), a finding consistent with prior research on focalism (e.g., Windschitl, Kruger, & Simms, 2003). Observers then evaluated the actor after imagining that the actor had made three different claims (overclaim, underclaim, or accurate-claim, in randomized order).

We created three Claim Estimate Sets (A, B, and C) that we used between-subjects for this study. Each set contained an overclaim, an underclaim, and an accurate-claim as within-subject factors. While the accurate-claim in all three sets was always 50%, the over- and underclaim amounts were informed by the actual average of the claims generated by subjects in Study 1 for each of the three goals (warmth-goal M = 54%, competence-goal M = 60%, and attract-teammates-goal M = 59%). The actual mean claims from Study 1 formed the overclaiming estimates because they were always above 50%, and we subtracted a symmetric amount from 50% to derive the underclaim estimates (see Table 1 to view each Claim Estimate Set). The purpose of creating these particular estimate sets was to directly examine how actors'

beliefs about what they should claim (Study 1) corresponded to observers' assessments of those claims (Study 2).

We randomly assigned observers to evaluate each actor based on whether that actor had overclaimed, underclaimed, or accurately claimed (within-subjects, in randomized order) within one "set" of percentage estimates (e.g., in Set B, observers evaluated a worker who had ostensibly claimed 60%, 40%, or 50%).

Table 1

Percentage Estimate Conditions Used in Study 2

Between-subjects Claim Estimate Sets:	Overclaim Percentage	Underclaim Percentage	Accurate-Claim Percentage
Set A (derived from average warmth-goal condition estimates in Study 1)	54%	46%	50%
Set B (derived from average competence-goal condition estimates in Study 1)	60%	40%	50%
Set C (derived from average attract-teammates-goal condition estimates in Study 1)	59%	41%	50%

Observers evaluated the actors on the same three attributes (measuring warmth, competence, and interest in working again) that the actors themselves had predicted (in Study 1; "How much would you like the person?", "How much would you think that the person was smart and competent?", and "How much would you want to work with the person?") in each of the three claiming conditions, making a total of nine assessments for each actor. For instance, in the overclaiming Set B condition, we asked observers three questions in randomized order: (1) "If the person claimed to have contributed 60% to the story, to what extent would you like the

person?" (1 = *would not at all like*, 7 = *would extremely like*); (2) "If the person claimed to have contributed 60% to the story, to what extent would you think that the person was smart and hard-working?" (1 = *would think the person was not at all smart and hard-working*, 7 = *would think the person was extremely smart and hard-working*); (3) "If the person claimed to have contributed 60% to the story, to what extent would you want to work with the person in the future?" (1 = *would not at all want to work with the person*, 7 = *would definitely want to work with the person*). Observers also completed these three measures corresponding to the underclaim and accurate-claim conditions (randomized order). After making all nine assessments of one actor, observers were then presented with another story and made another nine assessments for the next actor, and so on until they had evaluated six actors total (randomized order).

Results

To test our predictions, we conducted mixed-effects modeling with crossed random factors for observers and actors because our study design involved ratings nested within observers and actors (i.e., Judd, Westfall, & Kenny, 2017). Across the three Claim Estimate Sets, observers viewed underclaimers as warmer (M = 4.74, SD = 1.40) than overclaimers (M = 4.64, SD = 1.56; $t(869) = 2.40$, $p = .016$, $d = 0.07$), supporting our prediction. Observers did not, however, think underclaimers were more competent (M = 4.64, SD = 1.43) than overclaimers (M = 4.70, SD = 1.56) and did not want to work more with underclaimers (M = 4.69, SD = 1.49) than overclaimers in the future (M = 4.65, SD = 1.64; $ts(869) = -1.36$ and 0.69, $ps = .174$ and .491, $ds = -0.04$ and 0.02; main effect of claim on warmth, competence, and willingness-to-work-together: $Fs(2, 869) = 159.54$, 195.97, and 194.57, $ps < .001$). Moreover, observers believed accurate-claimers were warmer, more competent, and were more interested in working with them

in the future (*Ms* = 5.06, 5.05, and 5.11, *SDs* = 1.39, 1.41, and 1.47) compared to underclaimers (*ts*(869) = 10.58, 13.44, and 12.63, *ps* < .001, *ds* = 0.23, 0.29, and 0.28) and overclaimers (*ts*(869) = 13.66, 12.19, and 13.84, *ps* < .001, *ds* = 0.29, 0.24, and 0.29). See Figure 2.

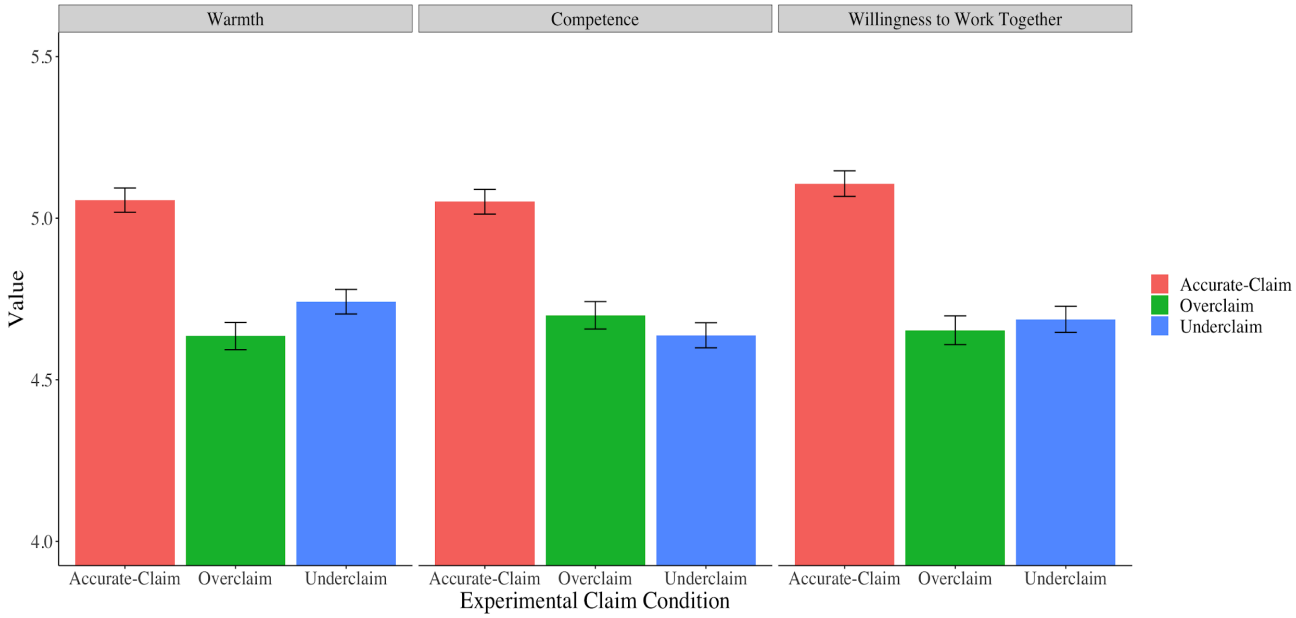

Figure 2. The effect of experimental condition (accurate-claim, overclaim, underclaim) on how much observers believed an actor was warm and competent, and how much observers wanted to work with the actor in the future in Study 2. The y-axis represents participants' survey responses on 7-point scales. Error bars represent the 95% confidence intervals around the mean.

Additional analyses. We conducted additional robustness tests. First, we tested whether observers' beliefs about actors' actual contributions moderated the effect of actors' claims (experimental condition: overclaiming, underclaiming, accurate-claiming) on observer perceptions. As shown in the Supplemental Materials Table S1, underclaiming was still evaluated more positively than overclaiming when controlling for assessments of actual contribution, suggesting our primary results are robust. We further found that perceived contribution moderates the association between claim condition and impressions, such that when observers believed that actors' actual contribution was higher (versus lower), they evaluated

overclaimers (versus underclaimers) more positively (e.g., warmer, $b = 0.031$, $SE = 0.001$, $p < .001$, more competent, $b = 0.029$, $SE = 0.001$, $p < .001$, and more attractive to work with, $b = 0.033$, $SE = 0.001$, $p < .001$). These interactions suggest that when an actor's claims were more aligned with observers' beliefs about that actor's actual contributions, observers' impressions of that actor became more favorable. See Supplemental Materials for additional robustness tests.

Discussion

Regardless of the exact percentage that actors claimed to contribute, actors who overclaimed (versus underclaimed) their contributions were perceived by neutral observers (i.e., raters who were not part of the working dyad) as less warm, and no more competent or attractive to work with. Further, actors who accurately claimed their contributions were seen as warmer, more competent, and more appealing to work with than both overclaiming and underclaiming actors. This pattern of evaluations contrasts with the impressions that the actors in Study 1 were intending to create in observers; whereas actors chose to overclaim (versus underclaim) to improve others' impressions of them, observers in Study 2 evaluated the overclaiming actors most negatively. Overclaiming therefore appears to be a mistaken strategy for impression management. Notably, observers' impressions were further influenced by their actual beliefs about how much work was contributed; when they believed actors had done more, they evaluated actors' overclaiming more positively but underclaiming more negatively. In other words, the higher the apparent inaccuracy of the actors' claims (from the observers' perspective), the more negatively the actors were evaluated.

Study 3: Actor-Observer Differences on Overclaiming and Underclaiming

Study 3 provides a conceptual replication of Studies 1 and 2 in the same experiment with a different paradigm to increase generalizability. Unlike Study 1 in which the actors expected to

be evaluated by external observers who would see their work product, Study 3 tests what actors claim to contribute in communicating with their own group members. This is a conservative test of overclaiming behavior because actors might be less likely to overclaim to their own group members (because it may be seen as particularly unfair). As in Studies 1 and 2, we predicted that actors would strategically overclaim to seem more competent, but that observers would evaluate overclaimers as less warm (and not more competent) than underclaimers.

Method

Participants. We predetermined 100 participants for each of two experimental conditions. In total, 202 adults (123 male, 79 female, $median_{\,age\ range}$ = 26-34[5]) from Amazon Mechanical Turk participated in exchange for $0.50 compensation.

Design. The experiment design was two conditions (Actor vs. Observer) between-subjects.

Procedure. Participants in the *Actor condition* (i.e., actors) were told to "imagine that you are working on a group project (for class or work) with three other people who you do not know very well. After completing the task over the course of several days, the team debriefs each other by sharing how much each person thought they contributed to the group effort." Actors then imagined pursuing various impression-management goals in randomized order ("Imagine that, in this moment, your goal is to get your teammates to…"). Our primary intent was to examine the three impression management goals that we tested in Studies 1 and 2: a goal to be seen as warm ("get your teammates to like you as much as possible"), a goal to be seen as competent (which we tested using two separate items: "get your teammates to think you are very

[5] In Study 3, we measured age ranges instead of actual ages.

smart" and "get your teammates to think you were very productive") and a goal to attract teammates ("get your teammates to want to work with you again").[6]

After reading each goal, actors were asked, "How likely are you to report the following" with regard to three behaviors shown in randomized order: overclaim ("I would report that I did *more than* I actually did"), underclaim ("I would report that I did *less than* I actually did"), and accurate-claim ("I would report that I did *as much as* I actually did") on a scale from 0 (*not at all likely to report*) to 100 (*extremely likely to report*). We did not force the scale responses to add to any particular number; participant could thus report that they were extremely likely to engage in all three claiming behaviors.

Participants in the *Observer condition* (i.e., observers) imagined the same scenario: "Imagine that you are working on a group project (for class or work) with three other people whom you do not know very well. After completing the task over the course of several days, the team debriefs each other by sharing how much each person thought they contributed to the group effort." Observers then imagined that "one of your teammates reported that they did more work than what you think they did" (*Overclaiming condition*) and that "one of your teammates reported that they did less work than what you think they did" (*Underclaiming condition*) in randomized order. We did not ask observers to assess the accurate-claim condition because we assumed, based on the results in Studies 1 and 2, that this condition would be the most valued and we were more interested in the relative assessment between overclaimers and underclaimers.

After reading each prompt, observers evaluated the group member on traits that were matched to the same impression management goals that the actors had assessed: (1) Evaluation

[6] We also pilot tested other goals (to seem humble, fair, and confident) which we viewed as manipulation checks; indeed, actors reported being more likely to underclaim (vs. overclaim) to seem humble and fair but more likely to overclaim to seem confident and observers concurred (see Supplemental Materials for details; to streamline the paper we do not discuss these items further in the main text).

of warmth: "How do you feel toward that teammate?" (1 = *strongly dislike*, 7 = *strongly like*[7]); (2) Evaluation of competence, measured with two items: "How smart do you think that teammate is?" (1 = *not at all smart*, 7 = *very smart*) and "How productive do you think that teammate is?" (1 = *not at all productive*, 7 = *very productive*); (3) Evaluation of willingness to work together again: "How would you feel about working with that teammate again in the future?" (1 = *very negative*, 7 = *very positive*).

Results

In reporting the results of this study, it is important to note that actors reported their *likelihood* of engaging in different claiming behaviors whereas observers reported their *evaluations* of different claiming behaviors. As such, we compared actors' reported likelihood with observers' reported evaluations qualitatively rather than statistically because the questions were different.

As hypothesized and conceptually replicating Study 1, Table 2 shows that actors preferred to overclaim more than underclaim to appear likable, smart, productive, and to attract others to work with them, $ts(99) = 2.08$, 7.13, 8.67, and 3.14, $ps = .040$, $<.001$, $<.001$, and .002, $ds = 0.21$, 0.71, 0.87, and 0.31, respectively. Furthermore, actors preferred accurately-claiming to achieve each of the four goals compared to overclaiming, $ts(99) > 4.01$, $ps < .001$, $ds > 0.40$, or underclaiming, $ts(99) > 12.21$, $ps < .001$, $ds > 1.22$.

In contrast to actors' stated preference to overclaim more than underclaim, observers rated underclaimers as being more likable, smart, productive, and reported being more likely to want to work with them in future compared to overclaimers, $ts(101) = 5.41$, 1.91, 3.02, and 5.67,

[7] All survey items were measured on a 7-point scale; however, some items ranged from 0 to 6, while others ranged from -3 to 3. We numerically coded scale anchors to be 1 to 7 to be consistent with other studies. Exact survey items are available on OSF.

ps = .001, .059, <.001, and <.001, *ds* = 0.54, 0.18, 0.30, and 0.56, respectively. In other words, actors' beliefs about how they should claim to satisfy impression management goals were the opposite of observers' reported evaluations on the primary impression management goals of appearing warm, competent, and attracting future teammates.

Table 2

Descriptive Results in Study 3

	Actor Condition: Likelihood of Engaging in Overclaiming, Underclaiming, or Accurate Claiming to Satisfy Impression-Management Goal *(0=Not at all likely; 100=Extremely likely)*			**Observer Condition:** How Highly Observers Rate a Group Member Who Engages in Overclaiming or Underclaiming on Each Impression Item *(1=Not at all; 7=Very much)*		
	Would Overclaim	**Would Underclaim**	**Would Accurately Claim**	**Difference Score (Overclaim - Underclaim)**	**Group Member Who Overclaims**	**Group Member Who Under-claims**	**Difference Score (Overclaim - Underclaim)**
Warmth (Liking)	28.20 (32.87)	19.76 (25.97)	74.75 (27.47)	8.55 (40.55)	3.35 (1.71)	4.75 (1.45)	-1.39 (2.60)
Competence (Smart)	41.31 (35.93)	12.80 (20.28)	75.15 (27.94)	28.51 (39.93)	4.00 (1.39)	4.38 (1.31)	-0.38 (2.02)
Competence (Productive)	45.55 (37.20)	12.61 (21.62)	69.96 (30.10)	32.94 (37.96)	3.68 (1.62)	4.52 (1.66)	-0.84 (2.81)
Attract Teammates	30.21 (32.67)	18.07 (26.54)	77.05 (25.07)	12.14 (38.56)	3.11 (1.74)	4.71 (1.62)	-1.60 (2.85)

Notes. In each cell we report the Mean (Standard Deviation). A positive difference score in the Actor condition reflects greater average likelihood for actors to overclaim than to underclaim. A positive difference score in the Observer condition reflects that observers rated overclaimers more positively than underclaimers. A qualitative comparison reveals that actors prefer to overclaim than underclaim to be seen as *more* warm, competent, and attract teammates but that observers rate overclaimers (versus underclaimers) as *less* warm, competent, and attractive to work with.

Discussion

Results from Study 3 offer additional support for our theory that actors mistakenly prefer to overclaim more than underclaim when trying to satisfy fundamental impression-management goals such as to appear competent. Whereas actors reported they would be more likely to overclaim than to underclaim to achieve these goals, observers rated underclaimers more positively than overclaimers on the same dimensions. It is important to note, however, that actors' dominant preference is to accurately-claim; although we did not measure evaluations of accurate-claimers in this study, based on the results from Study 2, it is likely that accurate-claimers would likewise be evaluated the most positively. Therefore, actors do have an accurate sense of the optimal strategy for impression management (i.e., accurately claiming credit), but are specifically mistaken about the relative value of overclaiming to underclaiming: believing that overclaiming will have more interpersonal value when in fact it has less.

There are several possible explanations for why actors appear to misunderstand the relative value of overclaiming versus underclaiming. First, actors could be envisioning a different type of work project than are observers; perhaps a project with more ambiguity and complexity in the contribution structure or a project with higher stakes. Second, actors could be considering their own real contribution differently: perhaps actors think they will contribute a lot to the group (e.g., Alicke et al., 1995), and that their high contributions will buffer the negative effects of overclaiming. In other words, actors may believe observers' assessments of overclaimers could be moderated by the actual amount of work done: overclaiming would not be assessed more negatively than underclaiming when the claimer actually contributed a high (versus low) amount of work. Each of these possibilities raise important questions about whether there are different contexts in which overclaiming could be more or less valued compared to

underclaiming. We therefore turn in our final three studies (Studies 4, 5, and 6) to address these questions.

Study 4: The Causal Effect of Claiming in a Real Task

To test the causal effect of overclaiming or underclaming on impressions in a more realistic work setting, we assigned individuals to work with a confederate who always completed the same amount of work but either underclaimed, overclaimed, or accurately-claimed credit for their work. We designed the task so that the confederate did about half of the work; the participant and confederate analyzed a negotiation case to determine the most mutually beneficial solution for the case. We then measured how claiming behavior influenced impressions and willingness to work together in the future.

Method

We pre-registered our experimental design and hypotheses before data collection on OSF (https://osf.io/2ng7e/?view_only=494120933c9e4c3d81778f5dcd4ca443).

Participants. We predetermined 50 participants per each of three between-subjects conditions for this study, or 150 in total. In total, we recruited 162 participants from a west coast public university (68 male, 94 female; M_{age} = 21.27, SD_{age} = 2.14) who received course credit as compensation for participation.

Design. The experimental design was between-subjects in which we manipulated partner-claim across three conditions: overclaim (claiming 70%), underclaim (claiming 30%), and accurate-claim (claiming 50%). We specifically selected more extreme percentages (e.g., 70% instead of 60%) to ensure that participants would encode the claim as being an overclaim or underclaim, strengthening our manipulation.

Procedure. For the task, participants reviewed a short negotiation case ("The Job Search"; Fishbach, 2013) with a confederate in the lab. The case involves negotiating a job offer between a new recruit and a hiring manager (the person that the recruit would report to if hired). The new recruit and boss negotiate on three issues: the salary, start date, and location of the new job. Instead of trying to maximize their own points in the negotiation, participants were instructed to "maximize their joint points – you are not trying to 'win' but rather to come up with the best solution collectively." Participants had ten minutes to read the negotiation case, discuss it with the confederate, and come up with a solution that would maximize joint points. We randomly assigned the participant to think more about either the role of the new recruit or boss in the case (and the confederate received the other role). The confederate was blind to experimental condition and hypotheses during this experiment. Throughout the negotiation, the confederate followed a script to ensure that there was little variance in how he or she acted during each session.

Following the negotiation, the experimenter asked each participant to "write down how much you think you contributed to the task today" from 0-100% on a sheet of paper. While the confederate ostensibly recorded the same information, in reality, the experimenter wrote the contribution amount onto the confederate's survey based on the experimental condition to which the participant was assigned, ensuring that the confederate was blind to condition. We randomly assigned participants to one of three conditions: having an overclaiming partner, an accurate-claiming partner, or an underclaiming partner. The experimenter then announced that, "In the spirit of transparency and open communication, I will now let each of you see what the other person claimed to have done for this project." Finally, each person completed a post-task

questionnaire which they were explicitly assured, “Your partner will not see your answers to the post-task survey.”

Materials (Survey). As an attention check, we asked participants to recall their partners’ claimed percent contribution (“What percent of the work did your partner claim to have done for the task?”). As our primary survey measures, participants assessed their partner’s *warmth*: “How do you feel toward your partner?” (1 = *strongly dislike*, 7 = *strongly like*), their partner’s *competence*: “How smart do you think your partner is?” (1 = *not at all*, 7 = *very smart*), and their own *feelings about working* with their partner again in the future: “How would you feel about working with your partner again in the future?” (1 = *very negative*, 7 = *very positive*).

We further collected exploratory measures about participants’ own contributions to the collective output (“What percent of the work did you claim to have done for the task?”) and how much work they believed that their partner completed (“What percent of the work do you think your partner actually did for the task?”) on a continuous scale (0% to 100%). Neither item varied by experimental condition (see Supplemental Materials for details). Last, we collected exploratory measures examining other perceptions of their partner: (1) “If you had to work with your partner again, how fairly do you think they would treat you?”; (2) “If you had to work with your partner again, how hard would you personally work on the next project?”; (3) “If you had to work with your partner again, how hard do you think they would work on the next project?”; (4) “If you had to work with your partner again, how high quality do you think the final product would be?” on 7-point scales (α = .81). Additionally, we collected exploratory measures relating to perceived confidence (“How confident do you think your partner is?”), humbleness (“How humble do you think your partner is?”), and arrogance (“How arrogant do you think your partner

is?"). See Supplemental Materials for results, as these items do not directly relate to the hypotheses in the current paper.

Results

Supporting our hypothesis, participants perceived an underclaiming partner to be warmer (M = 5.43, SD = 0.86) and felt more positively about working together again in the future (M = 5.73, SD = 0.95), compared to an overclaiming partner (Ms = 4.63 and 5.10, SDs = 0.96 and 1.14), $ts(159)$ = 4.00 and 3.02, ps < .002, ds = 0.87 and 0.60, respectively. Surprisingly, participants also perceived the underclaiming partner to be marginally *more* competent (M = 5.69, SD = 0.87) than the overclaiming partner (M = 5.39, SD = 0.89), $t(159)$ = 1.83, p = .068, d = 0.35 (see Figure 3).

Participants also had the most positive evaluations of a partner who accurately claimed credit, however (on warmth, competence, and working together; Ms = 5.72, 6.20, and 6.17, SDs = 1.23, 0.81, and 1.13, respectively) compared to the underclaimer, $ts(159)$ = 1.43, 3.01, and 2.02, ps = .152, .003, and .045, ds = 0.28, 0.60, and 0.41, as well as compared to the overclaimer, $ts(159)$ = 5.61, 5.03, and 5.22, ps <.001, ds = 0.99, 0.96, and 0.94 (one-way ANOVAs on warmth, competence, and work together: $Fs(2, 159)$ = 16.99, 12.84, and 13.86, ps < .001, η_p^2 = 0.17, 0.14, and 0.15).

Robustness analyses indicated that there was no main effect of role randomization, ps > .108, nor did role interact with experimental condition on the dependent variables, ps > .739. There was also no effect of confederate (i.e., which person was playing the confederate role; ps > 527) or interaction of confederate and experimental condition (ps > .742), suggesting that the effect of condition did not depend on which person played the confederate role.

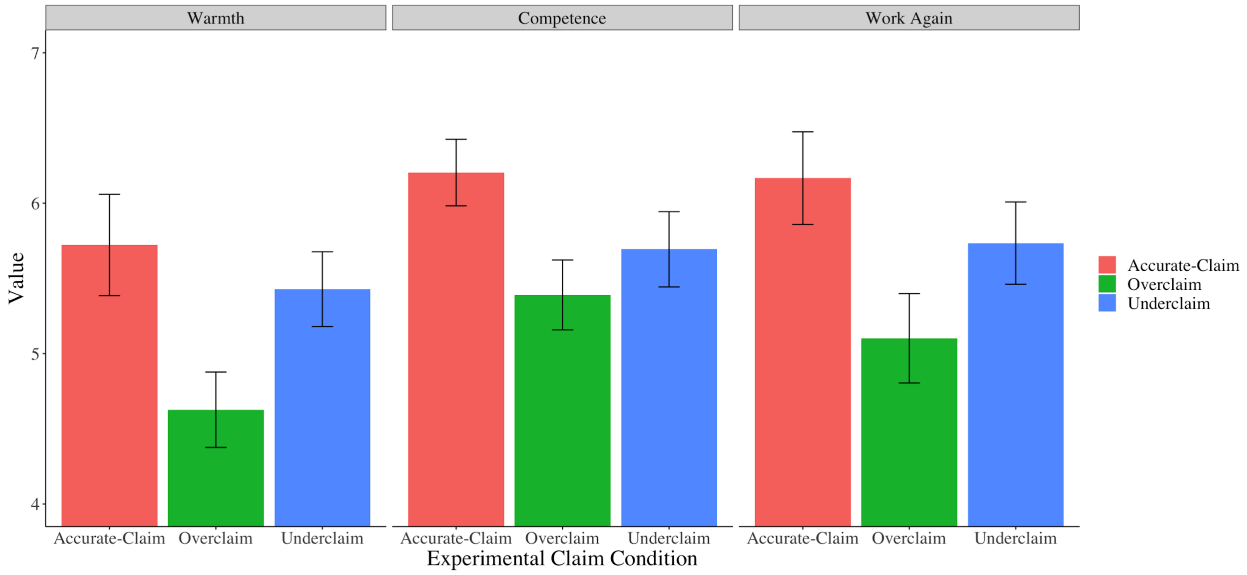

Figure 3. The effect of experimental condition (three conditions: accurate-claim, overclaim, underclaim) on warmth, competence, and willingness to work together again in Study 4. The y-axis represents participants' survey responses on 7-point scales. Error bars represent the 95% confidence intervals around the mean.

Discussion

In Study 4, using a more naturalistic work context, group members who overclaimed their contributions were perceived more negatively than were those who underclaimed (or accurately-claimed). We observed this effect in a context in which the partner always did exactly the same thing during the group task, highlighting the causal power of contribution claims to affect judgments. This shows that the effect of contribution claiming on group members' judgments is not due to just imagining different types of group tasks, partners, or contexts, since all of those attributes were kept constant across the experimental conditions in Study 4.

Study 5: Overclaiming Credit in a Field Setting

Study 5 examines real overclaiming and underclaiming behavior in a consequential field setting, in which executives worked together on a complex group project for 15 weeks. The project was a significant part of the executives' grade in a class that they cared about (Executive Leadership, one of the most popular classes in the program they took), making their performance

in the group highly incentivized. At the end of the group project, before receiving their grades, each individual reported their own and their group members' contributions to the group (in a round-robin design; Kenny, 1994) and rated their impressions of their group members. We test whether overclaimers (those who claimed to have contributed more than what their group members believed, factoring in both perceiver and target effects) were rated less positively by their group members than underclaimers, as our theory predicts.

Method

Participants. We predetermined that we would analyze survey data from all of the MBA students who took an Executive Leadership class at a west coast public university since its inception six years prior. In total, 268 students[8] (165 male, 103 female, M_{age} = 38, Age range = 26-57) who were part of an executive program for working professionals participated in this study.

Procedure. At the beginning of the semester, students self-selected into formalized study groups (N = 58) that ranged in size from four to six members (M = 4.86, Median = 5, SD = 0.48). Throughout the course, these groups had two objectives: (1) to draft a paper together related to effective leadership, and (2) to study the course material together. At the end of the course, students completed an individual and private feedback form which consisted of a self-evaluation as well as cross-evaluation of each individual's respective group members. Thus, the feedback was collected in a round-robin design.

[8] Overall, 359 students participated in the class over six years. Of those 359 students, we could not estimate SRM effects for 91 students because (1) of missing values, in which students which have no data are automatically removed from the analysis (e.g., missing values occur if participants do not rate anybody, for instance), and/or (2) their group had 3 or fewer subjects, as the calculation of SRM variables requires a minimum group size of 4 (Schönbrodt, Back, & Schmukle, 2012).

Materials (Survey). We selected the variables (reported below) that would allow us to test our hypotheses; the full list of survey items are shown in the Supplemental Materials.

Independent variable: Overclaim contribution index. Participants rated their own contribution to the group as well as their group members' contribution using the following instructions: "Please rate the extent to which person contributed to the successful running of and outcomes generated by the team" (1 = *extremely low*, 9 = *extremely high*).

Dependent variable: Leadership evaluations. Participants evaluated their group members and the self on several group-relevant leadership dimensions: (1) cooperation ("Extent to which the person was cooperative, interested in teamwork, and valued the group's objectives"); (2) leadership: ("Extent to which the person guided team members toward goal accomplishment"); (3) achievement ("Extent to which the person completed the tasks assigned to him or her in a timely and effective manner"); and (4) equity concerns ("Extent to which the person demonstrated a concern for establishing and maintaining fairness and equity among group members"; 1 = *extremely low*, 9 = *extremely high*).

Control variables: Participant personality. The Big Five factors of neuroticism, extraversion, openness, agreeableness, and conscientiousness were calculated for each participant using the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003).

Results

Analytic strategy. We used the TripleR package in R (Schönbrodt, Back, & Schmukle, 2012) to implement a *Social Relations Model* analysis (SRM; Kenny, 1994, 2019; Kenny & La Voie, 1984) of the round-robin (i.e., peer) contribution ratings.[9] We calculated an overclaiming

[9] SRM decomposes a judgment made by a perceiver into three sources of variance: perceiver, target, and relationship. For instance, a perceiver effect is the extent to which a perceiver sees all targets as contributing or not contributing, a target effect is the extent to which a target is seen as contributing or not by perceivers, and the relationship effect is the unique impression that a perceiver has of a particular target's contribution level.

contribution index (developed by Kwan, John, Kenny, Bond, & Robins, 2004) by comparing each participant's self-rating of their contribution against his or her tendency to over- or under-rate others on contribution (perceiver effect) and against others' ratings of him or her (target effect; see also Anderson et al., 2006). Specifically, contribution overclaiming is calculated as: OC = S – P – T – C (see Kwan et al., 2004, Eq. 2), where OC is overclaiming, S is the focal participant's self-perception, P is the perceiver score, T is the target score, and C is the grand mean of all self-ratings. A zero on the overclaiming index indicates an unbiased self-perception (i.e., accurate-claiming), while positive scores indicate overclaiming and negative scores indicate underclaiming. Perceiver and target effects as well as self-ratings are corrected for group membership, which removes group differences (i.e., makes scores statistically independent of group membership; Schönbrodt et al., 2012) and thus appropriate for conventional OLS procedures that assume independence of observations.

To ascertain that SRM is an appropriate analytic strategy, we examined the variance across our independent and dependent variables using the SRM (see Table 3). The results for contribution (independent variable) show relatively high levels of consensus (i.e., whether two different perceivers agree about the standing of a target); nearly 30% of variance in ratings of contribution is target-based. The measure with the next highest level of consensus is cooperation (dependent variable), followed by the other dependent variable measures: achievement, leadership, and equity. Altogether, these results are consistent with previous research (e.g., for affect/liking, about 10%–20% of the variance can be attributed to targets; Kenny, 1994) and suggest the SRM can reliably provide estimates of target (peer) rating.

Table 3

Social Relations Model Variance Partitioning for Measures in Study 5

	Contribution	Cooperation	Leadership	Achievement	Equity
Perceiver Variance	0.352	0.411	0.373	0.339	0.562
Target Variance	0.297	0.204	0.161	0.181	0.072
Relationship Variance	0.350	0.384	0.466	0.479	0.367

Notes. Variances are standardized; that is, any one variance component is divided by the sum of the total variance, and thus the sum of relative perceiver variance, relative target variance, and relative relationship variance always equals 1. Since only one indicator per construct is measured, the relationship variance cannot be disentangled from error variance; thus, the estimates for relationship variance also contain all error variance.

Supporting our hypothesis, there was a negative association between overclaiming and leadership evaluations (four items standardized and averaged to form one index of leadership evaluations; $\alpha = .85$), suggesting that individuals who overclaimed credit on their post-class evaluation form received lower leadership evaluations by their group members, $\beta = -0.46$, SE(β) = 0.05, $t(266) = -8.46$, $p < .001$ (see Figure 4). Furthermore, the negative association between overclaiming and leadership evaluations remained robust when controlling for participants' own rating of their contributions (SRM-self ratings) and an unbiased index of peer ratings (SRM-target ratings), $\beta = -0.12$, SE(β) = 0.05, $t(264) = -2.24$, $p = .026$. We additionally observed moderation of the association between overclaiming and impressions based on participants' peer rating level (SRM-target rating).[10]

[10] Interestingly, peers' average rating of participants did moderate the association between overclaiming and impressions, such that there is a positive interaction between overclaiming and peer-rating level on impressions (β = 0.087, SE(β) = 0.024, $t(262) = 3.54$, $p < .001$). This suggests that perhaps higher contributions can buffer the interpersonal penalty from overclaiming; however, we are unable to form causal conclusions from these data. Therefore, we examine this question (of whether the size of one's contribution influences how one's claim affects impressions) in greater detail in Study 6.

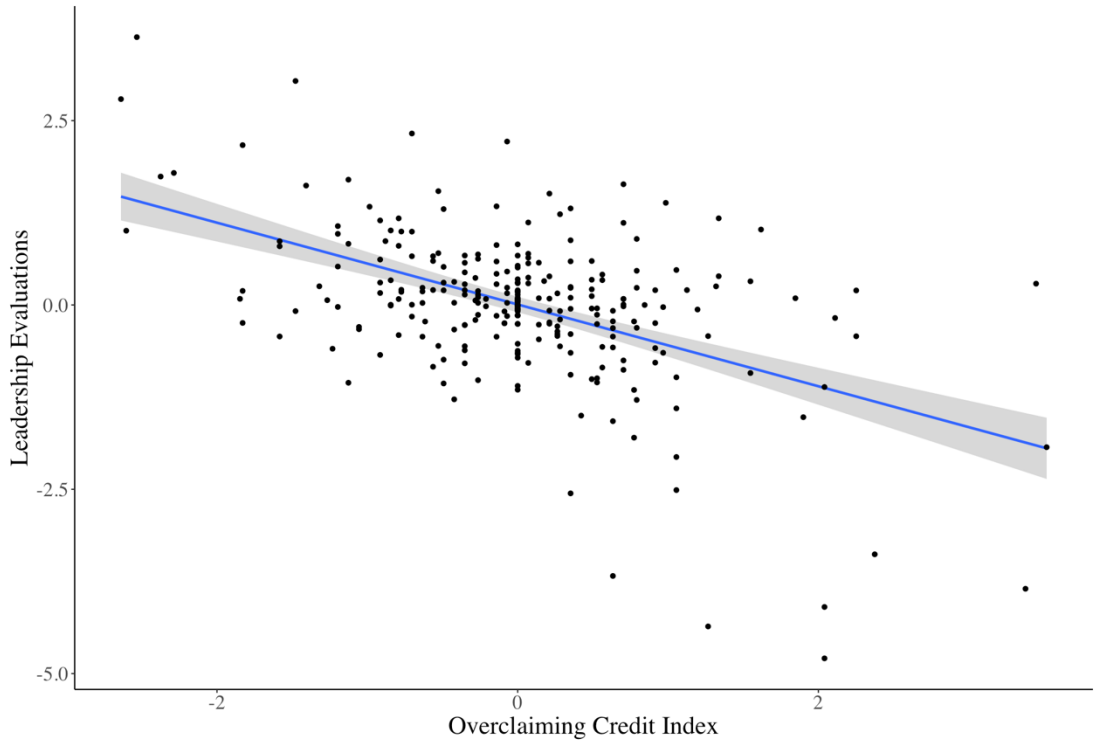

Figure 4. The association of the SRM-overclaiming index on leader evaluations (SRM-target ratings) in Study 5. The y-axis represents participants' survey responses on 9-point scales. Both the SRM-overclaiming index and leader evaluations are standardized. The grey zone represents 95% confidence interval bands. We removed an outlier (more than 6 SDs from mean) from graph for visualization purposes; however, the analyses reported include the outlier and the figure with the outlier is presented in the Supplemental Materials for transparency.

Table 4 presents additional results controlling for participant demographics (gender, race: Asian, African American, Hispanic, Native American, White), group-level characteristics (number of members, year/semester), and participant personality (Big 5 personality characteristics). Overall, the results remain robust when controlling for these additional factors, suggesting that participants' overclaiming (rather than factors that may correlate with overclaiming, such as personality) drive the negative association with partners' impressions.

Table 4

Models for Leadership Evaluation Index in Study 5

	Dependent variable: Leadership Evaluations			
	OLS		*Mixed Linear Models*	
	(1)	(2)	(3)	(4)
Overclaiming Index	-0.460*** (0.054)	-0.120** (0.054)	-0.131*** (0.054)	-0.129** (0.055)
Peer-Rated Contribution		0.679*** (0.056)	0.669*** (0.057)	0.674*** (0.058)
Self-Rated Contribution		0.041 (0.049)	0.042 (0.050)	0.038 (0.051)
Female			0.188** (0.084)	0.200** (0.088)
Group Size			0.000 (0.053)	-0.001 (0.054)
Self-Rated Extraversion				0.000 (0.045)
Self-Rated Agreeableness				-0.005 (0.042)
Self-Rated Conscientiousness				-0.002 (0.044)
Self-Rated Openness				-0.039 (0.043)
Self-Rated Neuroticism				-0.027 (0.044)
Constant	0.000 (0.054)	0.000 (0.040)	-0.114 (0.118)	-0.118 (0.120)
Year Dummy Variables	N	N	Y	Y
Race Dummy Variables	N	N	Y	Y
Observations	268	268	268	268
R^2	0.212	0.579		
Adjusted R^2	0.209	0.574		
Log Likelihood			-281.03	-291.59
Akaike Inf. Crit.			594.06	625.19
Bayesian Inf. Crit.			651.51	700.61
Residual Std. Error	0.889 (df = 266)	0.653 (df = 264)		
F Statistic	71.523*** (df = 1; 266)	120.922*** (df = 3; 264)		

*Notes***.** Model 1 regresses the impressions index on the overclaiming index. Model 2 adds self-ratings and the target effect as covariates. Model 3 adds participant gender, race, group size, and year as covariates. Model 4 further adds participants' self-reported personality as control variables. Since Model 3 and Model 4 include group-relevant variables (e.g., group size) which violate the assumption of independence, we conducted linear mixed-effects modelling with a random factor for group. All continuous variables are standardized. *p<0.1; **p<0.05; ***p<0.01

Discussion

Group members who overclaimed (versus underclaimed) credit for a real-world, collaborative, long-term project also received lower leadership evaluations assessed with round-robin ratings. These results are robust when controlling for participant's personality characteristics, participants' own contribution claims, and peer-rated contribution, offering preliminary evidence that the tendency to overclaim versus underclaim credit, rather than extraneous variables such as personality, may explain peers' impressions. Although ecologically valid and rich in significance and realism, one limitation of this study is that we cannot conclude that contribution claims *causally* influenced leadership evaluations. When combined with the causal evidence from Study 4 however, these results provide additional evidence that the phenomenon we identified in Studies 1-4 indeed occurs in real groups (Chatman & Flynn, 2005).

Study 6: Effect of Actual Contribution on Claim Perception

Study 6 examines whether the effect of contribution claiming on observer evaluations might be influenced by actors' actual contributions. Although Studies 2 and 4 indicated that contribution claims affect evaluations even when the actor's actual contribution is held constant, it is still unclear the role that actual contributions may play in the relationship between actor claims and observer evaluations. At least two possibilities exist: first, actors who contribute more to a group may be buffered against the negative impressions that overclaiming typically incites. If this is the case, then claiming behavior may have less impact on impressions when actors' contributions are high. Alternatively, actors who contribute more to a group may receive particularly strong accolades for acting modest or humble (underclaiming). In this case, claiming behavior may actually have *more* impact on impressions when actors' contributions are high. To examine these possibilities in real groups, we designed a survey in which people recalled the

actual contributions of their group members and then we asked them to report how their impressions would change if the group member had claimed more (overclaimed) or less (underclaimed) than what the participant believed they had actually done.

Method

The study design and analysis plan were pre-registered on AsPredicted (https://aspredicted.org/blind.php?x=vg2va3).

Participants. We predetermined 100 participants in this study; in total, we recruited 103 undergraduate business students from a west coast public university to participate in return for course credit (44 male, 58 female, 1 unreported; M_{age} = 21.66, SD_{age} = 1.85).

Design. The experiment is a 2 (contribution: high vs. low) × 3 (claim: overclaim vs. underclaim vs. accurate-claim) within-subjects design.

Procedure. First, we instructed participants to recall a previous group project:

> As you know, sometimes in college classes, students are given assignments which they must complete with other students. Please recall a time in which there was one such assignment, and you worked in a group of at least four students to produce a major assignment for a course. Importantly, the group that you recall should be a group that had at least one high-contributor (i.e., someone who completed more than their equal share) and one low-contributor (i.e., someone who completed less than their equal share). The designated high-contributor and low-contributor must be someone besides you (i.e., you cannot be the stated high- or low-contributor below). Please take some time now to think about this group that contained at least four people with at least one high contributor and at least one low contributor (other than yourself.)

After writing a few sentences about the group project (free response), participants reported their own percent contribution to the group work and made several assessments about the group such as how many people were in the group, the total number of hours worked, and so on (see Survey section below for the full items). Participants then listed the initials of the high-contributor and low-contributor in a free-response box and reported the "estimated percentage of the total work"

that the high- and low-contributor completed (out of 100%). This served as our measure of the target individual's actual contribution.

Next, we asked participants to imagine overhearing that the target individual told a peer that they were responsible for a percentage of the work that was either an overclaim (defined as claiming 3/2 of the estimated contribution), underclaim (defined as claiming 2/3 of the estimated contribution), or accurate-claim (defined as claiming exactly the estimated contribution). Specifically, participants read the following prompt for the overclaim, underclaim, and accurate-claim condition, respectively:

> You reported that [Initials of Group Member] completed [Participant-Generated Contribution Percent] of the group's output. Now, please imagine that you overheard [Initials of Group Member] tell a peer that he/she was responsible for [Participant-Generated Contribution Percent * 3/2] / [Participant-Generated Contribution Percent * 2/3] / [Participant-Generated Contribution Percent] of the group's output. In other words, [Initials of Group Member] said they did [more than] / [less than] / [exactly what] you thought they did.

For example, if the participant believed that the target group member did 20% of the work, in the overclaim condition, they imagined that the group member claimed to do 30% of the work (3/2*20% = 30%), in the underclaim condition, they imagined that the group member claimed to do 13% of the work (2/3*20% = 13%), and in the accurate-claim condition, they imagined that the group member claimed to do 20% of the work. We rounded all contribution claims to the nearest 1% to make the claim easier to evaluate. Participants evaluated their high- and low-contributor group members on all three claim conditions (overclaim, underclaim, and accurate-claim; in counterbalanced order).

Per our preregistration, five participants that estimated the low-contribution group member's actual contribution was 0% were excluded from our analysis because we could not

manipulate underclaiming due to floor effects. The analysis reported below uses the final sample size of 98.

Materials (Survey).

Assessments of the group. Before the experimental manipulation, we collected information about the group's characteristics: (1) own contribution to group ("Please think about the total amount of work that your group did. What percentage of this work do you think you were personally responsible for?"; 0% = *contributed nothing to the group's output*, 100% = *contributed everything to the group's output*), (2) number of people in group ("How many people were in the group (including you)?"), (3) the semester/year the group project took place ("What semester was the group project?"), (4) hours worked ("How many hours in total did the group work on the project?"), (5) class content ("What department was the course in (e.g., business, chemistry, history)?"), (6) project weight in course grade ("What percentage of your course final grade was the group's assignment(s)?"), (7) project grade ("What grade did your group earn on this project?"), (8) whether the group was formed via assignment or self-selection ("Was the group assigned, or did you select your own group members?"), and (9) satisfaction with the group ("In general, how satisfied were you with your group?"; 1 = *not at all satisfied*, 7 = *extremely satisfied*).

To collect the target group member's actual contribution to the group, we asked participants: "Please think about the total amount of work that your group did. What percentage of this work do you think [Initials of Group Member] was responsible for?"; 0% = *contributed nothing to the group's output*, 100% = *contributed everything to the group's output*). Participants also reported how well they knew the high- and low-contributor before the start of the project (1 = *not at all*, 7 = *extremely well*).

Evaluations of the target group member. After the experimental manipulation, we measured participants' assessments of the target group member's level of warmth and competence using a validated 10-item scale (Fiske, Cuddy, Glick, & Xu, 2002): for warmth: tolerant, warm, good natured, sincere, supportive; for competence: confident, intelligent, competent, independent, competitive (1 = *not at all*, 7 = *extremely*). To be consistent with the measures used in Study 5, we measured the same four group leadership evaluations used in Study 5: "If you heard [Initials of Group Member] say this, to what extent would you think [Initials of Group Member] was cooperative, achievement-oriented, a leader, displayed equity (i.e., concern for establishing and maintaining fairness) in your group?" (1 = *not at all*, 7 = *extremely*). We measured willingness to work with the group member again with the following item: "If you heard [Initials of Group Member] say this, how would you feel about working with [Initials of Group Member] again in the future?" (1 = *very negative*, 7 = *very positive*).

Accuracy check. After completing all of the dependent variables, and to ensure that the overclaiming and underclaiming conditions appeared similarly accurate to participants, we additionally measured the degree to which those conditions were seen as accurate: "How accurate is it for [Initials of Group Member] to claim he/she was responsible for [Participant-Generated Contribution Percent * 3/2] / [Participant-Generated Contribution Percent * 2/3] of the group's output?" (1 = *not at all accurate*, 7 = *extremely accurate*).[11]

Results

To test our predictions, we conducted mixed linear models regressing our dependent variables on fixed effects for contribution, claim, and their interaction term, and a random factor

[11] Due to an error in the survey flow, we did not include an accuracy check for the low-contributor, accurate-claimer condition. Thus, our analysis on this measure excludes the accurate-claiming factor and thus focuses on claim (overclaimer vs. underclaimer) and contribution (high-contributor vs. low-contributor).

for participant (e.g., Brauer & Curtin, 2018; Judd, Westfall, & Kenny, 2017). Collapsing across the claiming condition, unsurprisingly, higher contributors were seen as warmer (M = 4.61, SD = 1.51), more competent (M = 5.06, SD = 1.08), received higher leadership evaluations (M = 5.07, SD = 1.29), and were more desired to work with again (M = 5.15, SD = 1.72) than did lower contributors (Ms = 3.54, 3.46, 2.71, and 2.64, SDs = 1.41, 1.20, 1.22, and 1.57), two-way ANOVA main effects of contribution: $Fs(1, 96)$ = 75.51, 170.69, 272.99, and 213.13, ps < .001, η_p^2 = 0.22, 0.36, 0.62, and 0.72, respectively.

Testing our primary hypothesis, the effect of claiming condition on warmth, but not competence, leadership evaluations, and willingness to work together, was amplified when the actor was a high- (versus low-) contributor (two-way ANOVA interactions: $Fs(2, 96)$ = 5.17, 1.54, 9.53, and 13.93, ps = .007, .217, <.001, < .001, η_p^2 = .04, .01, .10, and .25). We decomposed the interaction to examine the effect of claiming condition when actors were high or low contributors. When they were high contributors, underclaimers were seen as warmer (M = 5.35, SD = 1.18) but less competent (M = 4.73, SD = 1.11), received higher leadership evaluations (M = 5.35, SD = 1.16), and were more desired to work with again (M = 5.86, SD = 1.42) than overclaimers (Ms = 3.40, 5.08, 4.31, and 3.91, SDs = 1.22, 1.04, 1.23, and 1.58, respectively), $ts(95)$ = 12.11, -2.78, 7.58, and 10.05, ps < .006, ds = 1.62, -0.32, 0.86, and 1.30, respectively. The same effects emerged but were weakened among low contributors. When they were low contributors, underclaimers were seen as warmer but similarly competent, received higher leadership evaluations, and were more desired to work with again (Ms = 3.98, 3.29, 2.74, 2.87, SDs = 1.37, 1.23, 1.25, 1.68, respectively) compared to overclaimers (Ms = 2.67, 3.45, 2.34, and 2.01, SDs = 1.15, 1.16, 1.08, and 1.30, respectively), $ts(95)$ = 8.67, -1.19, 3.35, and 5.59, ps = < .001, .234, .001, and <.001, ds = 1.03, -0.12, 0.35, and 0.57 (see Figure 5).

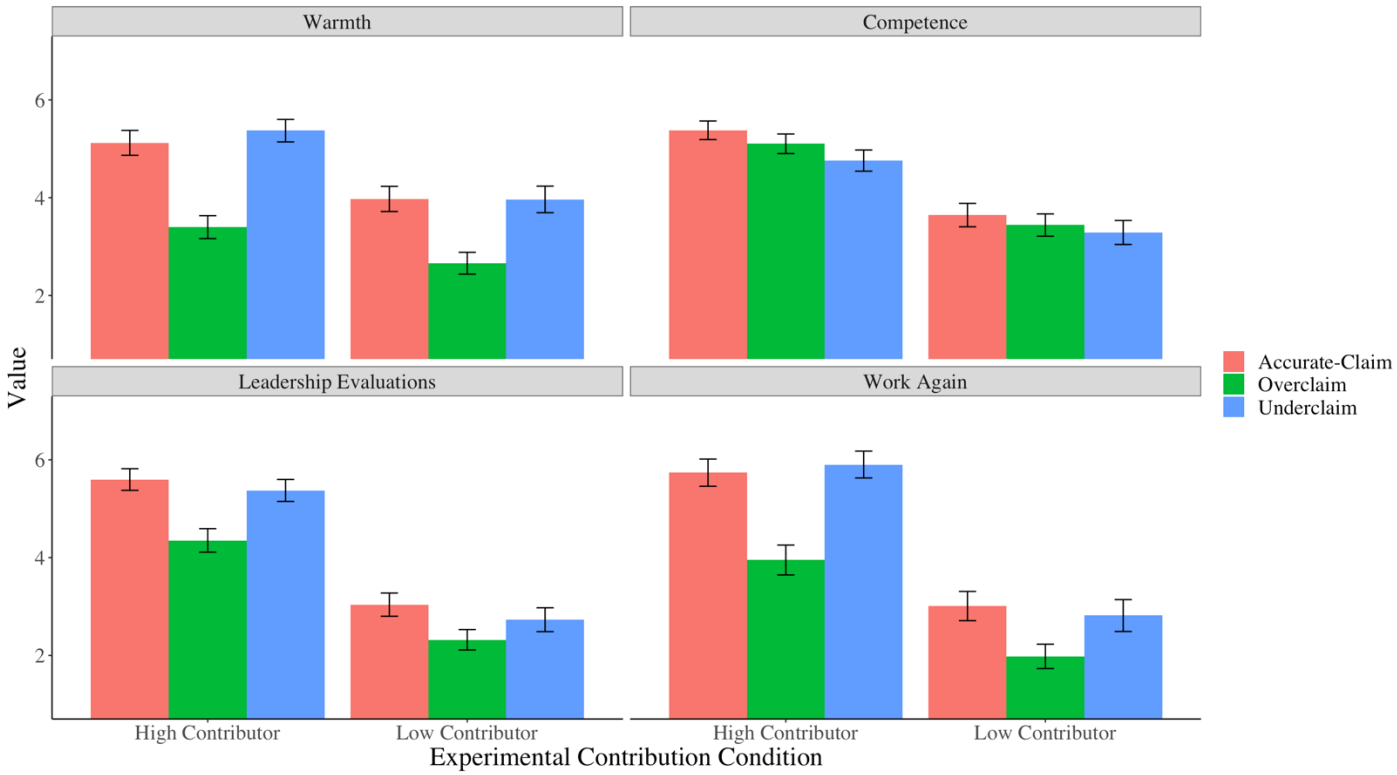

Figure 5. The effect of experimental contribution condition (two conditions: high contributor, low contributor) and claim condition (three conditions: accurate-claim, overclaim, underclaim) on impressions index in Study 6. The y-axis represents participants' survey responses on 7-point scales. Error bars represent the 95% confidence intervals around the mean.

We also compared evaluations of accurate-claiming group members with overclaiming and underclaiming group members. When the actor was a high contributor, accurate-claimers were seen as warmer (M = 5.10, SD = 1.32) and more competent (M = 5.36, SD = 0.98), received higher leadership evaluations (M = 5.57, SD = 1.13), and were more desired to work with again (M = 5.69, SD = 1.43) compared to overclaimers, ts(95) = 11.13, 2.39, 10.32, and 11.11, ps = <.001, .018, <.001, and <.001, ds = 1.34, 0.27, 1.06, and 1.18, respectively. High-contributing accurate-claimers were seen as less warm and more competent, received higher leadership evaluations, and were similarly desired to work with compared to underclaimers, ts(95) = -1.81, 5.33, 2.01, and -1.02, ps = .072, <.001, .046, and .306, ds = -0.20, 0.60, 0.19, and -0.11.

A similar pattern of results, although weaker, emerged when the actor was a low contributor: again accurate-claimers were seen as warmer (M = 3.99, SD = 1.31) and more competent (M = 3.66, SD = 1.20), received higher leadership evaluations more highly (M = 3.06, SD = 1.22), and were more desirable to work with than overclaimers (M = 3.05, SD = 1.54), ts(95) = 9.75, 1.87, 6.97, and 8.16, ps = <.001, .063, <.001, and <.001, ds = 1.07, 0.18, 0.63, and 0.73, respectively. They were seen as similarly warm, more competent, received higher leadership evaluations, and were similarly desired to work with compared to underclaimers, ts(95) = 0.13, 3.81, 3.40, and 1.40, ps = .891, <.001, <.001, and .160, ds = 0.01, 0.30, 0.25, and 0.11, respectively.

While different evaluations of accurate-claimers versus overclaimers were amplified when the actor was a high (versus low) contributor (2x2 interaction on warmth, group-level attributes, and work together: Fs(1, 96) = 4.61, 15.51, and 17.37, ps = .03, <.001, and <.001, η_p^2 = .02, .08, and .30; but not on competence, F < 0.17), the different evaluations of accurate-claimers versus underclaimers were of similar magnitudes regardless of whether the actor was a high or low contributor (2x2 interactions on warmth, competence, group-level attributes, and work together: Fs(1, 96) < 2.88, ps > .09).

Table 5 demonstrates that the main effect of claiming condition (overclaim vs. underclaim and accurate-claim vs. underclaim) on each of the dependent variables, the main effect of contribution (high- vs. low contribution), and the interaction term each remain robust when controlling for group-level characteristics.

Table 5

Regression Models Controlling for Group-Level Attributes in Study 6

	Dependent variables:							
	Warmth	Competence	Leadership Evaluation	Want to Work With	Warmth	Competence	Leadership Evaluation	Want to Work With
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Accurate-Claim	-0.253*	0.626***	0.220**	-0.160	-0.254*	0.626***	0.220**	-0.160
	(0.157)	(0.117)	(0.110)	(0.157)	(0.140)	(0.117)	(0.110)	(0.157)
Overclaim	-1.955***	0.355***	-1.031***	-1.948***	-1.954***	0.355***	-1.031***	-1.948***
	(0.157)	(0.128)	(0.136)	(0.194)	(0.161)	(0.128)	(0.136)	(0.194)
Low Contribution	-1.373***	-1.434***	-2.606***	-2.984***	-1.367***	-1.434***	-2.606***	-2.984***
	(0.157)	(0.161)	(0.183)	(0.227)	(0.167)	(0.161)	(0.183)	(0.227)
Accurate-Claim*Low Contribution	0.265	-0.257*	0.105	0.346*	0.268*	-0.257*	0.105	0.346*
	(0.222)	(0.152)	(0.146)	(0.200)	(0.160)	(0.152)	(0.146)	(0.200)
Overclaim*Low Contribution	0.647***	-0.200	0.635***	1.101***	0.650***	-0.200	0.635***	1.101***
	(0.127)	(0.151)	(0.168)	(0.222)	(0.202)	(0.150)	(0.168)	(0.222)
% Own Contribution					-0.105	-0.161*	-0.148*	-0.025
					(0.092)	(0.093)	(0.083)	(0.106)
% High Contribution					0.018	0.074	0.112	0.008
					(0.082)	(0.084)	(0.075)	(0.095)
% Low Contribution					-0.040	-0.009	-0.027	-0.024
					(0.085)	(0.086)	(0.077)	(0.098)
Group Size					0.087	0.048	0.075	0.008
					(0.079)	(0.080)	(0.071)	(0.087)
% Weight Grade					0.150*	0.095	0.055	0.146*
					(0.076)	(0.077)	(0.069)	(0.088)
Grade (%)					-0.026	-0.052	-0.053	-0.006
					(0.075)	(0.076)	(0.068)	(0.086)
Hours Worked					0.019	-0.020	-0.019	-0.053
					(0.076)	(0.075)	(0.067)	(0.086)
Group Satisfaction					0.104	0.080	0.253***	0.359***
					(0.091)	(0.092)	(0.082)	(0.105)
Constant	5.349***	4.727***	5.343***	5.851***	4.684***	4.341***	5.261***	4.778***
	(0.127)	(0.113)	(0.118)	(0.145)	(0.495)	(0.502)	(0.451)	(0.575)
Observations	588	588	588	588	588	588	588	588
Log Likelihood	-945.574	-824.508	-833.897	-986.411	-904.894	-832.510	-831.999	-981.804
Akaike Inf. Crit.	1,907.149	1,705.015	1,723.794	2,028.823	1,899.787	1,755.020	1,753.999	2,053.609
Bayesian Inf. Crit.	1,942.161	1,827.564	1,846.343	2,151.371	2,096.740	1,951.972	1,950.951	2,250.561

Notes. The reference category for the claim condition is underclaim and high contribution for the contribution condition. Models 1-8 are linear-mixed effects models with a random factor for participant. Models 5-8 include dummy variables for semester/year. Further, all of the covariates in Models 5-8 (e.g., group size, grade, group satisfaction) were measured at the group-level; as a result, they are orthogonal to our within-person experimental manipulation but not our dependent variables. All continuous variables are standardized. Standard errors are in parentheses. *p<.1; **p<.05; ***p<0.01.

Finally, we also explored whether the overclaiming and underclaiming conditions were perceived as being similarly accurate. The underclaim condition (M = 3.32, SD = 1.48) was perceived as more accurate than the overclaim condition was (M = 2.80, SD = 1.40), $F(1, 96)$ = 9.94, p = .002, η_p^2 = 0.03, and the low-contributor condition (M = 3.22, SD = 1.52) was perceived as more accurate than the high-contributor condition was (M = 2.89, SD = 1.39), $F(1, 96)$ = 8.84, p = .003, η_p^2 = 0.03; however, there was no interaction between claim and contribution, $F(1, 96)$ = 1.19, p = .276, η_p^2 = 0.01.

Discussion

The interpersonal penalties incurred when a group member overclaims (versus underclaims) credit are especially pronounced when the focal individual is a higher (versus lower) contributor in the group. Specifically, underclaiming becomes more interpersonally valued (e.g., making the actor seem warmer and more appealing to work with again) when the actor contributes more; however, even underclaimers who contribute a lot are not evaluated more positively than accurate-claimers. In contrast, underclaimers who contribute less are evaluated less positively than accurate-claimers and have weaker interpersonal advantage over overclaimers. These results emerged in the context of real groups, and were robust to controlling to various characteristics of the group and task.

Surprisingly, overclaimers were perceived as more competent than underclaimers when the actor contributed a lot. This pattern of results provides evidence supporting the possibility that high contributions can offset the negative consequences of overclaiming on judgments of competence. However, while high-contributing overclaimers (versus underclaimers) received a competence boost (d = 0.32), they received a much larger interpersonal penalty on warmth (d = -1.62), leadership evaluations (d = -0.86), and willingness to work together again (d = -1.30).

Furthermore, low-contributing overclaimers were not seen as more competent than underclaimers, suggesting that any competence boost from overclaiming may be sensitive to situational factors. Thus, choosing to overclaim is still likely to be a mistaken impression management strategy, given how much overclaiming harmed assessments of warmth and willingness to work together in this experiment.

Study 6 is not without limitations. One concern is that, despite the various controls that we included in our analysis, high contributors could simply be different from low contributors on many possible characteristics that we did not measure, and some of these other characteristics could account for the weakened claiming effect among low-contributors. Another concern is that, as the estimated contribution of the focal individual becomes closer to 0%, both the overclaiming and underclaiming manipulations may feel more subtle (e.g., someone who contributes 2% would be imagined to contribute 3% in the overclaiming condition and 1% in the underclaiming condition, whereas someone who contributes 40% would be imagined to contributed 60% in the overclaiming condition and 27% in the underclaiming condition). This could provide an alternative explanation for the stronger effect of claim condition in the high-contributor versus low-contributor conditions. Furthermore, the underclaim condition was perceived as relatively more accurate than the overclaim condition, which may have contributed to the interpersonal benefits of underclaiming (versus overclaiming) observed in this study.

To address these three concerns, we conducted a subsequent experiment using a 2 (contribution: high vs. low) × 2 (claim: underclaimer vs. overclaimer) between-subjects design (N = 399; 233 male, 166 female; M_{age} = 35.32, SD = 11.12) in which participants simply imagined working on a class project in a four-person group and further imagined that one of their group members was either a high contributor (contributed 35%) or low contributor (contributed

15%) who either overclaimed (high contribution condition: 40%, low contribution condition: 20%) or underclaimed (high contribution condition: 30%, low contribution condition: 10%). This design kept all characteristics of the group, task, and focal individual constant across conditions and ensured that the absolute difference between each condition was the same. We observed the same pattern of results in this experiment as in Study 6, whereby the effect of claiming on leadership evaluations was larger when the focal individual was a high contributor, $t(395) = 4.71$, $p < .001$, $d = 0.84$, and in fact was eliminated when the individual was a low contributor, $t(396) = -1.42$, $p = .155$, $d = -0.17$ (two-way interaction: $F(1, 395) = 18.87$, $p < .001$, $\eta_p^2 = 0.046$). See details in the Supplemental Materials (Supplemental Experiment S1). The convergence of results in both experiments provides stronger evidence that, indeed, the effect of an actor's contribution claims on observers' impressions is weakened when the actor actually contributes less to the group.

Additional Analyses

To address several remaining questions about potentially important moderators that could influence how much credit claiming affects observers' impressions, we conducted two more experiments (Supplemental Experiments S2 and S3). Broadly, these experiments strove to examine: (1) how impressions of overclaimers and underclaimers compare to a baseline condition in which a group member's credit claims are unknown; (2) whether claims affect impressions differently when the focal individual's contribution is unknown; and (3) whether the observer's group membership or status in the group (i.e., a peer worker or supervisor) affects impressions of claimers. Summarizing across the results, we found that (1) at baseline, group members are assumed to contribute an equal-share of work (i.e., the amount of work based on an equal division of the number of people in the group) and unknown-claimers consequently are

evaluated the same as equal-share claimers and accurate-claimers; (2) when the focal individual's true contribution is unknown, overclaimers are still penalized more than underclaimers; and (3) observers' group membership or status has little impact on the relationship between credit-claiming and impressions. Finally, the Supplemental Experiments also provided more support for the observer effect that we found in Studies 2-6: overclaimers are rated lower on warmth, competence, and desirability of working together than underclaimers. All details for these experiments can be found in the Supplemental Materials.

General Discussion

Across different types of groups, tasks, and contexts, six studies indicate that, when overclaiming credit for group tasks, people engage in a mistaken impression-management strategy. In these studies, group members consistently preferred to overclaim than to underclaim their work contributions, yet observers assessed overclaimers more negatively—as less warm—than underclaimers. Moreover, the preference to overclaim not only harmed impressions of the focal individual but also harmed team viability, reducing group members' willingness to work together again.

The pattern of findings that we predicted emerged consistently across six studies (presented in the main text) and three more supplemental experiments, with over 3,000 participants (N = 3, 395). Studies 1 and 2 examined actors (the group members who made contribution claims) and observers (those who assessed the claims) in the context of a cooperative, dyadic story-writing exercise. Study 3 conceptually replicated the results of Studies 1 and 2 using a different paradigm (an imagined work group) and randomly assigning participants to the role of actor or observer. Studies 4 and 5 explored observer judgments of credit-claiming behavior in more naturalistic settings: an in-person dyadic negotiation in the

laboratory (Study 4) and a long-term consequential group project in the field (Study 5). Finally, Study 6 assessed people's recall of real group projects. Altogether, our results suggest actors systematically prefer to overclaim (versus underclaim) credit for group tasks in order to appear competent, which backfires because observers then rate overclaiming (versus underclaiming) actors as less warm but no more competent, and are less interested in working with them again.

Theoretical Implications

Our theory of the interpersonal consequences of credit-claiming behavior in groups contributes to at least three research streams: managerial decision making, impression-management, and person perception in groups. First, decades of decision-making research examines how people claim credit for group tasks and focuses primarily on what predicts overclaiming credit (e.g., Brawley, 1984; Kruger & Gilovich, 1999; Kruger & Savitsky, 2009; Putnam, Ross, Soter, & Roediger, 2018; Ross & Sicoly, 1979; Schroeder et al., 2016; Thompson & Kelley, 1981; for a review, see Leary & Forsyth, 1987). Our findings shift the focus from the predictors of claiming behavior to the interpersonal consequences of such behaviors, adding another dimension to study.

Unlike prior research which has typically focused on overclaiming behavior, we additionally examine *underclaiming* behavior, or the propensity to report contributing less than one's actual contribution to collective endeavors. Underclaiming may be just as prevalent or even more so than overclaiming; in our pilot study of 200 online adults, 27% of people reported regularly underclaiming credit in their group tasks (see Supplemental Materials for details). By studying underclaiming, we also extend prior work on related concepts such as humility, humbleness, and modesty (Anderson et al., 2006; Baumeister & Jones, 1978; Davis, Worthington, & Hook, 2010; Jones & Wortman, 1973; Peterson & Seligman, 2004; Schlenker &

Leary, 1982). This prior literature identifies interpersonal benefits of humility; while we find that underclaiming is more interpersonally valued than overclaiming, it is still penalized compared to accurately claiming credit. The prior findings and our results highlight an apparent divergence in the consequences of humility (which is socially beneficial) versus underclaiming (which incurs an interpersonal penalty). A potential reason for this divergence may be that underclaimers are seen not only as being humble or modest but also as being inaccurate. Moreover, our Supplemental Experiments suggest that underclaimers are sometimes perceived to have actually done less work (e.g., when perceivers do not know how much work the claimer actually did). Our research is one of the first to theoretically conceptualize underclaiming and investigate the perceptual and behavioral consequences of underclaiming behavior in terms of interpersonal perceptions and interest in working with the claimer again.

Second, we contribute to impression management theory by identifying a distinct and mistaken self-presentation strategy: overclaiming (versus underclaiming) credit. Prior research suggests that, to achieve fundamental needs such as belonging and being respected (e.g., Anderson, Hildreth, & Howland, 2015; Baumeister & Leary, 1995), people engage in an array of self-presentation tactics (e.g., Goffman, 1959; Jones & Wortman, 1973; Schlenker, 1980; see Bolino, Long, & Turnley, 2016 for a review). Indeed, many of these tactics are effective in achieving one's self-presentational goal (e.g., ingratiation, intimidation, self-promotion; Jones & Pittman, 1982). Our research adds to a growing literature that identifies novel self-presentation tactics that systematically *backfire* in the eyes of observers. For instance, Sezer, Gino, and Norton (2018) found that, under certain circumstances, actors prefer to humblebrag, or engage in bragging that is masked by a complaint or humility, over bragging or complaining, even though

observers dislike humblebragging more than bragging or complaining (e.g., Steinmetz, Sezer, & Sedikides, 2017).

Third, although research has documented how people's heuristics and biases influence how they form impressions of others (e.g., halo effect, familiarity principle, correspondence bias, and so on: Asch, 1946; Byrne, 1971; Gilbert, 1995; Jones & Nisbett 1971), very little research has examined how such biases can operate within groups and how they affect group outcomes. Prior research examining how people perceive others has traditionally presented participants with a photograph, video, or vignette of a target and asked participants to make a judgment about the target (Gilbert, 1998; Macrae & Quadflieg, 2010). Although this paradigm has been generative in documenting the existence of person perception biases, it does not consider how other individuals can influence biases in judgements of a focal individual (e.g., Malle, 2006).

We explicitly examine group contexts in which multiple people with many relationships interact, making person perception more complicated but also potentially more aligned with real-world dynamics (Moreland, 2010; Moreland, Hogg, & Hains, 1994). We follow a more recent trend to integrate person perception with group research, for example by examining how individual perceivers judge others in group contexts or how characteristics of a group affect perceiver judgments. In one representative line of work on the latter topic of research, Daniels, Neale, and Greer (2017) examine how a group's diversity on one attribute (e.g., race) can affect the perception of that group's diversity on other aspects (e.g., gender; see also Phillips, Weisbuch, & Ambady, 2014; Phillips, Slepian, & Hughes, 2018; Shemla, Meyer, Greer, & Jehn, 2016). Rather than studying the role of group characteristics in judgments of groups, our research instead studies how specific individuals judge other individual group members depending on

how they behave in the group (i.e., credit-claim). We further examine the unique group consequences of these judgements such as team viability.

Future Directions

There are several remaining questions that future research could address. First, further studies could deepen scientific understanding of the emotional and cognitive mechanisms for why people prefer to overclaim or underclaim credit for group tasks. Our studies suggest one reason for why people overclaim—because they think it will make them appear more competent. But there could also be intrapsychic benefits of overclaiming; previous research suggests that self-promoters can experience positive emotions and increased self-esteem (O'Mara, Gaertner, Sedikides, Zhou, & Liu, 2012; Scopelliti, Loewenstein, & Vosgerau, 2015) despite the interpersonal costs of self-promoting (e.g., social disapproval; Colvin, Block, & Funder, 1995; Leary, Bednarski, Hammon, & Duncan, 1997; Paulhus, 1998; Schlenker & Leary, 1982). Another possibility is that people do not receive sufficient feedback on the negative interpersonal consequences of overclaiming credit in their daily lives. The preference to overclaim might be based on miscalibration that would be alleviated with feedback and experience; future work could explore these possibilities.

Second, more work could be done to explore the connection between underclaiming credit and humility. As previously noted, humility can be an effective self-presentation strategy to increase liking (Anderson et al., 2006; Baumeister & Jones, 1978; Davis, Worthington, & Hook, 2010; Jones & Wortman, 1973; Peterson & Seligman, 2004; Schlenker & Leary, 1982). Although historically there is a lack of consensus among researchers about what constitutes humility, Weidman, Cheng, and Tracy (2016) found humility can take two distinct forms: (1) *appreciative humility*, which tends to be elicited by personal success and involves action

tendencies oriented toward appreciation of others and oneself, and (2) *self-abasing humility*, tends to be elicited by personal failure and involves action tendencies oriented toward hiding from others' evaluations and negative self-evaluations. It may be possible to apply this theoretical lens of the two types of humility to help explain different assessments of underclaiming among actors and observers. Perhaps one reason why actors prefer to overclaim more than underclaim is that they perceive underclaiming to be more like self-abasing humility than appreciative humility insofar as it signals that one's work product is inferior. However, if observers view actors that underclaim credit as displaying appreciative (versus self-abasing) humility, this might lead them to value underclaiming more than actors realize. Understanding the circumstances under which actors and observers interpret underclaiming as appreciative versus self-abasing humility could be an avenue for future work.

Relatedly, research could more broadly explore when underclaiming is interpersonally valued by one's group members more than accurately claiming credit. We did not find any evidence across ten studies that underclaiming was appreciated *more* than simply being accurate in one's claims. We specifically tested conditions under which we expected underclaiming would be particularly valued (e.g., among group members' evaluations and when the claimer's actual contributions were objectively high). Future work could explore when humility in claiming credit for a task "pays off" socially.

Reciprocally, are there any interpersonal benefits to overclaiming credit? Across the many contexts we explored, observers consistently disliked overclaiming, rating it more negatively compared to any other claiming behavior. Findings from Study 6 indicated that one condition under which overclaimers may be seen as more competent than underclaimers is when they contribute a lot to the team. Given that actors commonly engage in overclaiming (e.g., in

our own studies), there may be more upsides to overclaiming that we were not able to uncover in our studies. For instance, there may be certain circumstances under which overclaims are not seen as inaccurate but instead encoded as an actor's true contribution. We suspect that such circumstances are relatively rare; our Supplemental Experiments found that even when observers know nothing about an actor's true contributions, actors who claimed to have done more than the commensurate share of work (e.g., claiming to have completed 30% of the work in a four-person group where 25% should be the commensurate share) were interpersonally penalized on both perceived warm and competence.

On the other hand, research has shown that CEOs are disproportionally higher than the general population on narcissism (O'Reilly, Doerr, Caldwell, & Chatman, 2014), a trait that is characterized by overclaiming and explicitly taking credit for others' accomplishments (Brunell et al., 2008; Rauthmann, 2012). This suggests that even though observers have more negative views of those who overclaim, actors who chronically overclaim may be viewed as having leadership qualities and may eventually gain status from their overclaiming. In such a way, observers may succumb to overclaiming in the sense that they may grant more credit, and potentially more status, to those who continuously overclaim. Future research could examine the relationship between chronic overclaiming and judgments of leadership capacity and status.

Practical Implications

Our work is one of the first that points to the causal role of overclaiming (versus underclaiming) in making groups less viable. These findings intuitively align with several anecdotal examples; consider the break-up of one of the most famous music bands in history, the Beatles, in 1970. Although of course the break-up was caused by many factors, a particularly devastating argument between Paul McCartney and John Lennon over who wrote the lyrics to

one of the group's most famous songs, "Eleanor Rigby," highlights the potential role of overclaiming in the band's break-up: Lennon claimed to have written 70% of the song whereas McCartney claimed 80% credit (Gilmore, 2009). The current research helps to delineate some of the psychology behind such high-profile break-ups; whereas actors may want to publicly overclaim credit for reasons such as to reap accolades from their fans, group members instead like overclaimers less and are disinclined to continue working with them.

This finding further suggests a few practical interventions to reduce overclaiming behavior and consequently improve team viability. Specifically, managers should recognize that if employees' contribution claims (which are sometimes collected during performance reviews) are shared publicly, it may create dissatisfaction or dissent among the group members. Moreover, managers may want to prompt employees to try to claim credit as accurately as possible. Prior work has highlighted some means by which to do this, for instance asking employees to first record the contributions of their group members before considering their own contributions (Caruso, Epley, & Bazerman, 2006; Schroeder, Caruso, & Epley, 2016; Schroeder, 2017). Future work could even investigate whether having group members publicly acknowledge other members' contributions (e.g., at the beginning of group meetings), rather than acknowledging their own contributions, can improve group dynamics.

Conclusion

Group members often overclaim or underclaim credit for their contributions to group tasks, reporting to have contributed more or less than their actual contributions, respectively. We show that group members have a preference for overclaiming more than underclaiming credit to satisfy the impression-management goal of being seen as competent, but that observers penalize overclaimers by considering them less warm, and no more competent, than underclaimers. Thus,

overclaiming is a mistaken strategy that not only harms the person who made the claim but also can hurt the entire team's viability.

References

Abele, A. E., & Bruckmüller, S. (2011). The bigger one of the "Big Two"? Preferential processing of communal information. *Journal of Experimental Social Psychology*, *47*(5), 935-948. https://doi.org/10.1016/j.jesp.2011.03.028

Abele, A. E., & Bruckmüller, S. (2013). The density of the Big Two: How are agency and communion structurally represented? *Social Psychology*, *44*, 63-74. https://doi.org/10.1027/1864-9335/a000145

Abele, A. E., Bruckmüller, S., & Wojciszke, B. (2014). You are so kind – and I am kind *and* smart: Actor – observer differences in the interpretation of on-going behavior. *Polish Psychological Bulletin*, *45*(4), 394-401. https://doi.org/10.2478/ppb-2014-0048

Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology*, *93*(5), 751-763. https://doi.org/10.1037/0022-3514.93.5.751

Abele, A. E., & Wojciszke, B. (2014). Communal and agentic content in social cognition: A dual perspective model. *Advances in Experimental Social Psychology*, *50*, 195-255. https://doi.org/10.1016/B978-0-12-800284-1.00004-7

Alicke, M. D., & Govorun, O. (2005). The Better-Than-Average Effect. In M.D. Alicke, D.A. Dunning, & J.I. Krueger (Eds.), *The Self in Social Judgement* (pp. 85-109). New York, NY: Taylor & Francis Group, LLC.

Alicke, M. D., Klotz, M. I., Breitenbecher, D. L., Yurak, T. J., & Vredenburg, D. S. (1995). Personal contact, individuation, and the better-than-average effect. *Journal of Personality and Social Psychology*, *68*(5), 804-825. https://doi.org/10.1037/0022-3514.68.5.804

Ames, D. R., & Bianchi, E. C. (2008). The agreeableness asymmetry in first impressions: Perceivers' impulse to (mis)judge agreeableness and how it is moderated by power. *Personality and Social Psychology Bulletin*, *34*(12), 1719-1736. https://doi.org/10.1177/0146167208323932

Anderson, C., Brion, S., Moore, D. A., & Kennedy, J. A. (2012). A status-enhancement account of overconfidence. *Journal of Personality and Social Psychology*, *103*(4), 718-735. https://doi.org/10.1037/a0029395

Anderson, C., Hildreth, J. A. D., & Howland, L. (2015). Is the desire for status a fundamental human motive? A review of the empirical literature. *Psychological Bulletin*, *141*(3), 574-601. https://doi.org/10.1037/a0038781

Anderson, C., & Kilduff, G. J. (2009). The pursuit of status in social groups. *Current Directions in Psychological Science*, *18*(5), 295-298. https://doi.org/10.1111/j.1467-8721.2009.01655.x

Anderson, C., Srivastava, S., Beer, J. S., Spataro, S. E., & Chatman, J. A. (2006). Knowing your place: Self-perceptions of status in face-to-face groups. *Journal of Personality and Social Psychology*, *91*(6), 1094-1110. https://doi.org/10.1037/0022-3514.91.6.1094

Asch, S. E. (1946). Forming impressions of personality. *The Journal of Abnormal and Social Psychology*, *41*(3), 258-290.

Bakan, D. (1966). *The duality of human existence: An essay on psychology and religion.* Chicago, IL: Rand McNally.

Baumeister, R. F., & Jones, E. E. (1978). When self-presentation is constrained by the target's knowledge: Consistency and compensation. *Journal of Personality and Social Psychology*, *36*(6), 608-618.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497-529. https://doi.org/10.1037/0033-2909.117.3.497

Bolino, M., Long, D., & Turnley, W. (2016). Impression management in organizations: Critical questions, answers, and areas for future research. *Annual Review of Organizational Psychology and Organizational Behavior*, *3*, 377-406. https://doi.org/10.1146/annurev-orgpsych-041015-062337

Brauer, M., & Curtin, J. J. (2018). Linear mixed-effects models and the analysis of nonindependent data: A unified framework to analyze categorical and continuous independent variables that vary within-subjects and/or within-items. *Psychological Methods*, *23*(3), 389-411. https://doi.org/10.1037/met0000159

Brawley, L. R. (1984). Unintentional egocentric biases in attributions. *Journal of Sport and Exercise Psychology*, *6*(3), 264-278. https://doi.org/10.1123/jsp.6.3.264

Brunell, A. B., Gentry, W. A., Campbell, W. K., Hoffman, B. J., Kuhnert, K. W., & DeMarree, K. G. (2008). Leader emergence: The case of the narcissistic leader. *Personality and Social Psychology Bulletin*, 34, 166–1676.

Byrne, D. E. (1971). *The attraction paradigm.* Cambridge, MA: Academic Press.

Caruso, E. M., Epley, N., & Bazerman, M. H. (2006). The costs and benefits of undoing egocentric responsibility assessments in groups. *Journal of Personality and Social Psychology*, *91*(5), 857-871. https://doi.org/10.1037/0022-3514.91.5.857

Chatman, J. A., & Flynn, F. J. (2005). Full-cycle micro-organizational behavior research. *Organization Science*, *16*(4), 327-451. https://doi.org/10.1287/orsc.1050.0136

Cialdini, R. B., & De Nicholas, M. E. (1989). Self-presentation by association. *Journal of Personality and Social Psychology*, *57*(4), 626-631. https://doi.org/10.1037/0022-3514.57.4.626

Colvin, C. R., Block, J., & Funder, D. C. (1995). Overly positive self-evaluations and personality: Negative implications for mental health. *Journal of Personality and Social Psychology*, *68*(6), 1152-1162. https://doi.org/10.1037/0022-3514.68.6.1152

Cross, S. E., Bacon, P. L., & Morris, M. L. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology*, *78*(4), 791-808. https://doi.org/10.1037/0022-3514.78.4.791

Cuddy, A. J. C, Glick, P., & Beninger, A. (2011). The dynamics of warmth and competence judgments, and their outcomes in organizations. *Research in Organizational Behavior*, *31*, 73-98. https://doi.org/10.1016/j.riob.2011.10.004

Daniels, D. P., Neale, M. A., & Greer, L. L. (2017). Spillover bias in diversity judgment. *Organizational Behavior and Human Decision Processes*, *139*, 92-105. https://doi.org/10.1016/j.obhdp.2016.12.005

Davis, D. E., Worthington, E. L. Jr., & Hook, J. N. (2010). Humility: Review of measurement strategies and conceptualization as personality judgment. *The Journal of Positive Psychology*, *5*(4), 243-252. https://doi.org/10.1080/17439761003791672

De Bruin, E. N. M, & Van Lange, P. A. M. (2000). What people look for in others: Influences of the perceiver and the perceived on information selection. *Personality and Social Psychology Bulletin*, *26*, 206-219. https://doi.org/10.1177/0146167200264007

De Cremer, D., & Van Knippenberg, D. (2004). Leader self-sacrifice and leadership effectiveness: The moderating role of leader self-confidence. *Organizational Behavior and Human Decision Processes*, *95*(2), 140-155.

Dickinson, K. A., & Pincus, A. L. (2003). Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of Personality Disorders*, 17, 188–207. https://doi.org/10.1521/pedi.17.3.188.22146

Epley, N., Caruso, E. M., & Bazerman, M. H. (2006). When perspective taking increases taking: Reactive egoism in social interaction. *Journal of Personality and Social Psychology*, *91*(5), 872-889. https://doi.org/10.1037/0022-3514.91.5.872

Exline, J. J., & Geyer, A. L. (2004). Perceptions of humility: A preliminary study. *Self and Identity*, *3*(2), 95-114. https://doi.org/10.1080/13576500342000077

Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. *The Quarterly Journal of Economics*, *114*(3), 817-868.

Fishbach, A. (2013). Job Search negotiation case.

Fiske, S. T. (2018). *Social beings: Core motives in social psychology* (4th ed.). Hoboken, NJ: Wiley.

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*(2), 77-83. https://doi.org/10.1016/j.tics.2006.11.005

Fiske, S. T., Cuddy, A. J. C, Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*(6), 878-902. https://doi.org/10.1037//0022-3514.82.6.878

Gardner, W. L., Gabriel, S., & Lee, A. Y. (1999). "I" value freedom, but "we" value relationships: Self-construal priming mirrors cultural differences in judgment. *Psychological Science*, *10*(4), 321-326. https://doi.org/10.1111/1467-9280.00162

Gilbert, D. T. (1995). Attribution and interpersonal perception. In A. Tesser (Ed.), *Advanced social psychology* (pp. 99-147). New York: McGraw-Hill.

Gilbert, D. T. (1998). Ordinary personology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey, *The Handbook of Social Psychology* (4th ed., pp. 89 – 150). Boston, MA: McGraw-Hill.

Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin*, *117*(1), 21-38. https://doi.org/10.1037/0033-2909.117.1.21

Gilmore, M. (2009, September 3). Why the Beatles broke up. *Rolling Stone.* Retrieved from http://www.rollingstone.com/music/news/why-the-beatles-broke-up-20090903

Goffman, E. (1959). The presentation of self in everyday life. In C. Calhoun, J. Gerteis, J. Moody, S. Pfaff & I. Virk (Eds.), *Contemporary sociological theory* (3rd ed., pp. 46-62). West Sussex, UK: John Wiley & Sons, Ltd.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. Jr. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*(6), 504-528. https://doi.org/10.1016/S0092-6566(03)00046-1

Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S., & Ditto, P. (2013). Moral foundations theory: The pragmatic validity of moral pluralism. *Advances in Experimental Social Psychology*, 47, 55–130. Retrieved from http://doi.org/10.1016/B978-0-12-407236-7.00002-4

Gregg, A. P., Hart, C. M., Sedikides, C., & Kumashiro, M. (2008). Everyday conceptions of modesty: A prototype analysis. *Personality and Social Psychology Bulletin*, *34*(7), 978-992.

Hack, T., Goodwin, S. A., & Fiske, S. T. (2013). Warmth trumps competence in evaluations of both ingroup and outgroup. *International Journal of Science, Commerce and Humanities*, *1*(6), 99-105.

Hackman, J. R. (1987). The design of work teams. In J. Lorsch, *Handbook of Organizational Behavior* (pp. 315-342). Englewood Cliffs, NJ: Prentice-Hall.

Jones, E. E., & Nisbett, R. E. (1971). *The actor and the observer: Divergent perceptions of the causes of behavior.* New York, NY: General Learning Press.

Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self* (Vol. 1, pp. 231-262). Hillsdale, NJ: Erlbaum.

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

Judd, C. M., James-Hawkins, L., Yzerbyt, V., & Kashmina, Y. (2005). Fundamental dimensions of social judgment: Understanding the relations between judgments of competence and warmth. *Journal of Personality and Social Psychology*, *89*(6), 899-913. https://doi.org/10.1037/0022-3514.89.6.899

Judd, C. M, Westfall, J., Kenny, D. A. (2017). Experiments with more than one random factor: Designs, analytic models, and statistical power. *Annual Review of Psychology*, *68*(1), 601-625. https://doi.org/10.1146/annurev-psych-122414-033702

Kennedy, J. A., Anderson, C., & Moore, D. A. (2013). When overconfidence is revealed to others: Testing the status-enhancement theory of overconfidence. *Organizational Behavior and Human Decision Processes*, *122*(2), 266-279. https://doi.org/10.1016/j.obhdp.2013.08.005

Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York, NY: Guilford Publications, Inc.

Kenny, D. A. (2019). *Interpersonal perception. The foundation of social relationships* (2nd ed.). New York, NY: Guilford Publications, Inc.

Kenny, D. A., & La Voie, L. (1984). The social relations model. *Advances in Experimental Psychology*, *18*, 141-182.

Kozlowski, S. W. J., & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen, R. J. Klimoski & I. B. Weiner (Eds.), *Handbook of psychology* (pp. 334-367). Hoboken, NJ: John Wiley & Sons, Inc.

Kruger, J., & Gilovich, T. (1999). "Naive cynicism" in everyday theories of responsibility assessment: On biased assumptions of bias. *Journal of Personality and Social Psychology*, *76*(5), 743-753. https://doi.org/10.1037/0022-3514.76.5.743

Kruger, J., & Savitsky, K. (2009). On the genesis of inflated (and deflated) judgments of responsibility. *Organizational Behavior and Human Decision Processes*, *108*(1), 143-152. https://doi.org/10.1016/j.obhdp.2008.06.002

Kwan, V. S., John, O. P., Kenny, D. A., Bond, M. H., & Robins, R. W. (2004). Reconceptualizing individual differences in self-enhancement bias: An interpersonal approach. *Psychological Review*, *111*(1), 94-110. https://doi.org/10.1037/0033-295x.111.1.94

Leach, C. W., Ellemers, M., & Barreto, M. (2007). Group virtue: The importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *Journal of Personality and Social Psychology*, *93*(2), 234-249. https://doi.org/10.1037/0022-3514.93.2.234

Leary, M. R., Bednarski, R., Hammon, D., & Duncan, T. (1997). Blowhards, snobs, and narcissists. In R. M. Kowalski (Ed.), *Aversive interpersonal behaviors* (pp. 111-131). Boston, MA: Springer. https://doi.org/10.1007/978-1-4757-9354-3_6

Leary, M. R., & Forsyth, D. R. (1987). Attributions of responsibility for collective endeavors. In C. Hendrick (Ed.), *Review of personality and social psychology, Vol. 8: Group processes* (pp. 167-188). Newbury Park, CA: Sage.

Malle, B. (2006). The actor-observer asymmetry in attribution: A (surprising) meta-analysis. *Psychological Bulletin*, *132*(6), 895-919. https://doi.org/10.1037/0033-2909.132.6.895

Macrae, C. N., & Quadflieg, S. (2010). Perceiving people. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (vol. 2, 4th ed., pp. 428-463). Hoboken, NJ: John Wiley & Sons, Inc.

McElroy, S. E., Rice, K. G., Davis, E. D., Hook, J. N., Hill, P. C., Worthington, D. Jr., & Van Tongeren, R. (2014). Intellectual humility: Scale development and theoretical elaborations in the context of religious leadership. *Journal of Psychology and Theology*, *42*(1), 19-30. https://doi.org/10.1177/009164711404200103

Means, J. R., Wilson, G. L., Sturm, C., Biron, J. E., & Bach, P. J. (1990). Humility as a psychotherapeutic formulation. *Counselling Psychology Quarterly*, *3*(2), 211-215. https://doi.org/10.1080/09515079008254249

Mills, J., & Clark, M. S. (1994). Communal and exchange relationships: Controversies and research. In R. Erber & R. Gilmour (Eds.), *Theoretical frameworks for personal relationships* (pp. 29-42). Hillsdale, NJ: Erlbaum.

Moreland, R. L. (2010). Are dyads really groups? *Small Group Research*, *41*(2), 251-267. https://doi.org/10.1177/1046496409358618

Moreland, R. L., Hogg, M. A., & Hains, S. C. (1994). Back to the future: Social psychological research on groups. *Journal of Experimental Social Psychology*, *30*(6), 527-555. https://doi.org/10.1006/jesp.1994.1025

O'Mara, E. M., Gaertner, L., Sedikides, C., Zhou, X., & Liu, Y. (2012). A longitudinal-experimental test of the panculturality of self-enhancement: Self-enhancement promotes psychological well-being both in the west and the east. *Journal of Research in Personality*, *46*(2), 157-163. https://doi.org/10.1016/j.jrp.2012.01.001

O'Reilly, C. A., Doerr, B., Caldwell, D. F., & Chatman, J. A. (2014). Narcissistic CEOs and executive compensation. *The Leadership Quarterly*, 25, 218–231.

Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology*, *74*(5), 1197-1208. https://doi.org/10.1037//0022-3514.74.5.1197

Peterson, C., & Seligman, M. E. P (2004). *Character strengths and virtues: A handbook and classification*. New York, NY: Oxford University Press, Inc.

Phillips, L. T., Slepian, M. L., & Hughes, B. L. (2018). Perceiving groups: The people perception of diversity and hierarchy. *Journal of Personality and Social Psychology*, *114*(5), 766-785. https://doi.org/1037/pspi0000120

Phillips, L. T., Weisbuch, M., & Ambady, N. (2014). People perception: Social vision of groups and consequences for organizing and interacting. *Research in Organizational Behavior*, *34*, 101-127. https://doi.org/10.1016/j.riob.2014.10.001

Putnam, A. L., Ross, M. Q., Soter, L. K., & Roediger III, H. L. (2018). Collective narcissism: Americans exaggerate the role of their home state in appraising U.S. history. *Psychological Science*, *29*(9), 1414-1422. https://doi.org/10.1177/0956797618772504

Rauthmann, J. F. (2012). The dark triad and interpersonal perception: Similarities and differences in the social consequences of narcissism, Machiavellianism, and psychopathy. *Social Psychological and Personality Science*, 3, 487–496

Ridgeway, C. L. (1982). Status in groups: The importance of motivation. *American Sociological Review*, *47*(1), 76-88. https://doi.org/10.2307/2095043

Ross, M., & Sicoly, F. (1977). Facilitation of ego-biased attributions by means of self-serving observer feedback. *Journal of Personality and Social Psychology*, *35*(10), 734-741.

Ross, M., & Sicoly, F. (1979). Egocentric biases in availability and attribution. *Journal of Personality and Social Psychology*, *37*(3), 322-336.

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

Schlenker, B. R., & Leary, M. R. (1982). Audiences' reactions to self-enhancing, self-denigrating, and accurate self-presentations. *Journal of Experimental Social Psychology*, *18*(1), 89-104. https://doi.org/10.1016/0022-1031(82)90083-X

Schroeder, J. (2017). Who's really doing the work? The impact of group size on over-claiming of responsibility. *California Management Review, 60*, 88-101. https://doi.org/10.1177/0008125617727743.

Schroeder, J., Caruso, E. M., & Epley, N. (2016). Many hands make overlooked work: Over-Claiming of responsibility increases with group size. *Journal of Experimental Psychology: Applied*, *22*(2), 238-246. https://doi.org/10.1037/xap0000080

Schönbrodt, F. D., Back, M. D., & Schmukle, S. C. (2012). TripleR: An R package for social relations analyses based on round-robin designs. *Behavior Research Methods*, *44*(2), 455-470. https://doi.org/10.3758/s13428-011-0150-4

Scopelliti, I., Loewenstein, G., & Vosgerau, J. (2015). You call it 'self-exuberance,' I call it 'bragging.' Miscalibrated predictions of emotional responses to self-promotion. *Psychological Science*, *26*(6), 903-914. https://doi.org/10.1177/0956797615573516

Sezer, O., Gino, F., & Norton, M. I. (2017). Humblebragging: A distinct - and ineffective - self-presentation strategy. *Journal of Personality and Social Psychology*, *114*(1), 52-74. https://doi.org/10.1037/pspi0000108

Shemla, M., Meyer, B., Greer, L., & Jehn, K. A. (2016). A review of perceived diversity in teams: Does how members perceive their team's composition affect team processes and outcomes? *Journal of Organizational Behavior*, *37*(1), 89-106. https://doi.org/10.1002/job.1957

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2012). A 21 word solution. *Dialogue: The Official Newsletter of the Society for Personality and Social Psychology*, *26*(2), 4-7.

Sniezek, J. A., & Van Swol, L. M. (2001). Trust, confidence, and expertise in a judge-advisor system. *Organizational Behavior and Human Decision Processes*, *84*(2), 288-307.

Steinmetz, J., Sezer, O., & Sedikides, C. (2017). Impression mismanagement: People as inept self-presenters. *Social and Personality Psychology Compass*, *11*(6), e12321.

Thompson, S. C., & Kelley, H. H. (1981). Judgments of responsibility for activities in close relationships. *Journal of Personality and Social Psychology*, *41*(3), 469-477.

Todorov, A. (2011). Evaluating faces on social dimensions. In A. Todorov, S. T. Fiske, & D. Prentice (Eds.), *Social neuroscience: Toward understanding the underpinnings of the social mind* (pp.54-76). New York, NY: Oxford University Press.

Trivers, R. L. (1971). The evolution of reciprocal altruism. *The Quarterly Review of Biology*, *46*(1), 35-57.

Van Lange, P. A. M. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. *Journal of Personality and Social Psychology*, *77*, 337-349. https://doi.org/10.1037/0022-3514.77.2.337

Walster, E., Walster, G. W., & Berscheid, E. (1978). *Equity: Theory and research*. Boston, MA: Allyn & Bacon.

Weidman, A. C., Cheng, J. T., & Tracy, J. L. (2016). The psychological structure of humility. *Journal of Personality and Social Psychology*, *114*(1), 153-178. https://doi.org/10.1037/pspp0000112

Windschitl, P. D., Kruger, J., & Nus Simms, E. (2003). The influence of egocentrism and focalism on people's optimism in competitions: When what affects us equally affects me more. *Journal of Personality and Social Psychology*, *85*(3), 389-408. https://doi.org/10.1037/0022-3514.85.3.389

Wojciszke, B. (1998). Parallels between competence- versus morality-related traits and individualistic versus collectivistic values. *European Journal of Social Psychology*, *27*(3), 245-256. https://doi.org/10.1002/(SICI)1099-0992(199705)27:3<245::AID-EJSP819>3.0.CO;2-H

Wojciszke, B. (2005). Morality and competence in person- and self-perception. *European Review of Social Psychology*, *16*(1), 155-188. https://doi.org/10.1080/10463280500229619

Wojciszke, B., Bazinska, R., & Jaworski, M. (1998). On the dominance of moral categories in impression formation. *Personality and Social Psychology Bulletin*, *24*, 1251-1263. https://doi.org/10.1177/01461672982412001

Wosinska, W., Dabul, A. J., Whetstone-Dion, R., & Cialdini, R. B. (1996). Self-presentational responses to success in the organization: The costs and benefits of modesty. *Basic and Applied Social Psychology*, *18*(2), 229-242.

Ybarra, O., Chan, E., & Park, D. (2001). Young and old adults' concerns about morality and competence. *Motivation and Emotion*, *25*(2), 85-100. https://doi.org/10.1023/A:1010633908298

Supplemental Materials

Pilot Study Description

To gain insight into how often people engage in over-, under-, and accurate-claiming in groups, we ran a pilot survey online ($N = 200$; $M_{age} = 33.16$, $SD_{age} = 10.75$; 126 males, 74 females) where participants reported the percentage of times they engaged in each of the three behaviors.

> "Out of the total number of times you engaged in a group project in which you shared your contributions with your team, about what percent of the time would you estimate that you claimed more, less, or exactly as much credit than you thought you really deserved for the work? Please type a percent in the form of a decimal between 0 and 1 in each box below. The three boxes must add to 1 (100%)."

Participants reported that they underclaimed more ($M = 27.16\%$; "Percent of the time I claimed LESS credit than I actually deserved") than they overclaimed ($M = 15.47\%$; "Percent of the time I claimed MORE credit than I actually deserved"), but accurate-claiming was the dominant selection ($M = 57.37\%$; "Percent of the time I claimed EXACTLY AS MUCH credit than I actually deserved"). These pilot data suggest that people do indeed report engaging in overclaiming and underclaiming behavior during a substantial portion of their group interactions.

Study 2 Additional Results

Supplemental Table S1

Results Controlling for Perceived Contribution in Study 2

	Dependent variable:		
	Warmth (1)	Competence (2)	Work Again (3)
Accurate-Claim	0.314*** (0.030)	0.413*** (0.031)	0.420*** (0.033)
Overclaim	-0.106** (0.044)	0.062 (0.045)	-0.034 (0.049)
Perceived Contribution	0.021*** (0.001)	0.024*** (0.001)	0.024*** (0.001)
Accurate-Claim*Overclaim	0.019*** (0.002)	0.018*** (0.002)	0.022*** (0.002)
Accurate-Claim*Underclaim	0.031*** (0.002)	0.029*** (0.002)	0.033*** (0.002)
Constant	4.741*** (0.042)	4.638*** (0.044)	4.688*** (0.045)
Observations	15,660	15,660	15,660
Log Likelihood	-23,972.990	-24,035.530	-24,776.480
Akaike Inf. Crit.	47,973.980	48,099.070	49,580.960
Bayesian Inf. Crit.	48,081.210	48,206.290	49,688.190

Notes. Underclaiming is the reference condition. Standard errors are in parentheses. Perceived contribution is person-centered. Models employ random intercepts for perceiver and target (i.e., actor from Study 1). *p<0.1; **p<0.05; ***p<0.01

As a robustness test, we examined whether the Claim Estimate Set condition moderated the effect of claiming on perceptions (preregistered as an exploratory analysis). Critically, our primary results remain statistically significant after controlling for the Claim Estimate Set (*Fs*(2,

867) = 164.78, 204.06, and 201.62, *ps* < .001). Further, we found that the Claim Estimate Set moderates the effect of claim condition for each of the three impression goal conditions (*Fs*(4, 867) = 6.22, 8.44, and 7.37, *ps* < .001). The magnitude between accurate-claiming and overclaiming on warmth, competence, and attract teammates was reduced in Set A (which were derived from the warmth-goal in Study 1; 54%, 46%, & 50% for overclaiming, underclaiming, and accurate-claiming, respectively) compared to Set B (which were derived from the competence-goal in Study 1; 60%, 40%, & 50% for overclaiming, underclaiming, and accurate-claiming, respectively; *ts*(867) = -2.57, -2.20, and -2.24, *ps* = .010, .027, and .024) and Set C (which were derived from the attract-teammates-goal in Study 1; 59%, 41%, & 50% for overclaiming, underclaiming, and accurate-claiming, respectively; *ts*(867) = -2.87, -3.60, and -3.00, *ps* = .004, <.001, and .002). Presumably, this result occurred because the Set A overclaiming and underclaiming estimates more closely resembled the accurate-claiming estimate (compared to the Set B and Set C estimates, which were more discrepant from accurate-claims). Consistent with the finding in our first robustness analysis (see Supplemental Table S1), this finding again indicates that as an actor's claims were more aligned with observers' beliefs about that actor's contributions, observers' impressions of that actor became more favorable.

Study 3 Additional Measures and Results

Additionally, we examined three other impression-management goals: "get your teammates to think you are very confident and sure of yourself" (confident-goal condition), "get your teammates to think you are very fair" (fair-goal condition), and "get your teammates to think you are very humble" (humble-goal condition). Likewise, observers completed the following comparable measures: (1) Evaluation of confidence: "How confident do you think that teammate is?" (1 = *not at all confident*, 7 = *very confident*); (2) Evaluation of fairness: "If you

had to work with that teammate again how fairly do you think that teammate would treat you?" (1 = *very unfairly*, 7 = *very fairly*); and, (3) Evaluation of humbleness: "How humble do you think that teammate is?" (1 = *very not humble*, 7 = *very humble*).

On these three additional impression-management goals (to appear confident, humble, and fair), unsurprisingly, actors preferred to overclaim to seem confident, $t(99) = 6.89$, $p < .001$, $d = 0.69$, preferred to underclaim to appear humble, $t(99) = 6.84$, $p < .001$, $d = .68$, and had no preference between overclaiming or underclaiming to appear fair, $t(99) = 1.01$, $p = .316$, $d = .10$. Additionally, observers' impressions aligned with actor's preferences on the three additional impression-management goals: They also rated overclaimers as less humble and fair than underclaimers, $ts(101) = -8.42$ and -6.52, $ps < .001$, $ds = -0.84$ and -0.65, respectively, but rated overclaimers as more confident than underclaimers, $t(101) = 8.74$, $p < .001$, $d = 0.86$. See Table S2.

Additionally, at the end of the experiment, participants completed the Ten Item Personality Inventory (TIPI).

Supplemental Table S2

Descriptive Results in Study 3

	Actor Condition: Likelihood of Engaging in Overclaiming, Underclaiming, or Accurate Claiming to Satisfy Impression-Management Goal *(0=Not at all likely to report; 100=Extremely likely to report)*			**Observer Condition:** How Highly Observers Rate a Group Member Who Engages in Overclaiming or Underclaiming on Each Impression Item *(1=Not at all; 7=Very much)*		
	Would Overclaim	**Would Underclaim**	**Would Accurately Claim**	**Difference Score (Overclaim - Underclaim)**	**Group Member Who Overclaims**	**Group Member Who Under-claims**	**Difference Score (Overclaim - Underclaim)**
Humility	15.17 (25.22)	46.36 (35.03)	62.96 (30.91)	-31.19 (45.63)	2.55 (1.74)	5.03 (1.75)	-2.48 (2.97)
Fairness	17.22 (26.62)	20.48 (27.47)	81.61 (24.39)	-3.26 (32.35)	3.37 (1.75)	5.13 (1.45)	-1.75 (2.72)
Confident	40.99 (36.06)	13.54 (22.25)	72.86 (29.10)	27.45 (39.96)	5.22 (1.60)	3.22 (1.45)	2.00 (2.31)

Notes. Standard deviations are in parentheses. A positive difference score in the Actor condition reflects greater likelihood for actors to overclaim than to underclaim, while a positive difference score in the Observer condition reflects observers rated overclaimers more positively than underclaimers.

Study 4 Additional Results

There was no effect of experimental condition on participants' self-reported contribution ($F(2, 158) = 2.08$, $p = .127$) and perceived partner contribution ($F(2, 154) = 1.18$, $p = .307$), suggesting our experimental manipulation did not influence perceptions or actual work accomplished during the interaction.

Participants rated the underclaimer as more humble ($M = 5.36$, $SD = 1.30$) and higher on the composite index ($M = 5.71$, $SD = 0.81$; e.g.,"If you had to work with your partner again, how fairly do you think they would treat you?") than the overclaimer ($M = 3.92$ and 5.30, $SD = 1.23$

and 0.86), *ts*(159) = 5.86 and 2.46, *ps* <.001, *ds* =1.14 and 0.49, while the accurate-claiming partner received directionally, although not statistically significant, higher evaluations than the underclaimer (*M* = 5.50 and 6.03, *SD* = 1.31 and 0.89, *ts*(159) = 1.12 and 1.91, *ps* = .600 and .058, *ds* = 0.09 and 0.37; one-way ANOVAs on humility and the perceptions index: *Fs*(2, 159) = 26.55 and 10.34, η_p^2 = 0.25 and 0.11).

Additionally, participants perceived the overclaimer to be more arrogant (*M* = 3.52, *SD* = 1.22) than the underclaimer (*M* = 2.40, *SD* = 0.97) and accurate-claimer (*M* = 2.16, *SD* = 1.02), *ts*(159) = 5.31 and 6.63, *ps* < .001, *ds* = 1.01 and 1.21 (one-way ANOVA: *F*(2, 159) = 25.17, η_p^2 = 0.24). Additionally, the accurate-claimer (*M* = 6.05, *SD* = 0.83) was perceived as more confident than the overclaimer (*M* = 5.41, *SD* = 0.98) and underclaimer (*M* = 5.35, *SD* = 1.16), *ts*(159) = 3.45 and 3.60, *ps* < .001, *ds* = 0.71 and 0.70 (one-way ANOVA: *F*(2, 159) = 8.31, *p* < .001, η_p^2 = 0.09).

Study 5 Additional Survey Items

Participants also rated their group members on perceived mood ("Positive Mood: Extent to which the person was happy, enthusiastic, and cheerful -- enjoyed working on the project, and was fun to work with"). Given there is not a clear relation between positive mood and leadership evaluation, we decided to exclude this measure from our leadership composite before we initiated data analysis.

Participants completed the following individual-level measures in Study 5:

- Portrait Values Questionnaire (PVQ)
- Leadership Style Questionnaire (LSQ)
- Trait Narcissism
- Trait Dominance
- Influence Style Questionnaire (ISQ)
- Organizational Culture Profile (OCP)
- Predicted team project grade*: Scale is 0-100.
- Satisfaction with team*: Scale is 1-9.

- Satisfaction with the team project*: Scale is 1-9.
- Work again*: Whether participants would work with their team again. Scale is 1-9.
- Relative contribution*: Participant's self-rated contribution to the group project relative to their team members. Scale is 1-9.

* These items were only collected in three out of six semesters.

Study 5 Additional Results

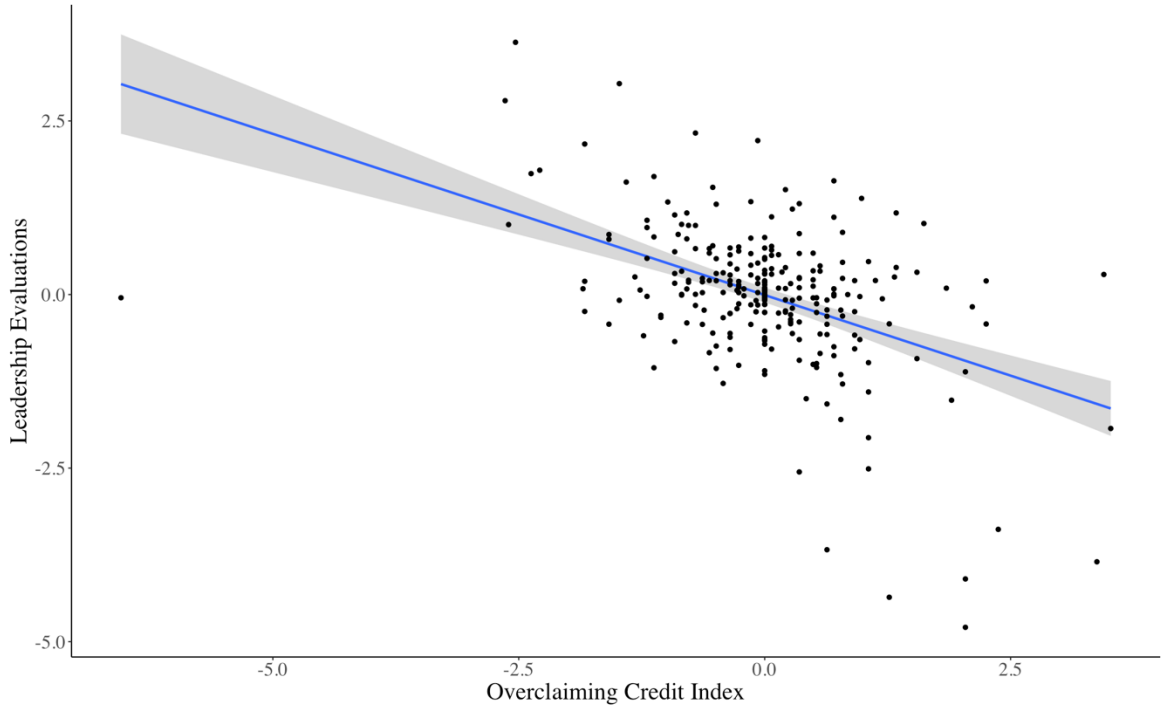

Figure S1. The association between overclaiming and impressions in Study 5, including an outlier participants who dramatically underclaimed credit compared to other participants.

Supplemental Experiment S1

Method

This experiment was pre-registered on OSF (https://osf.io/2jxkp).

Participants. We predetermined 100 participants in each of four conditions, aiming for 400 participants total. 399 adults (M_{age} = 35.32, SD = 11.12; 233 male, 166 female) recruited from Amazon Mechanical Turk completed the study in exchange for $0.50.

Design. The experiment was a 2 (contribution: high vs. low) × 2 (claim: underclaimer vs. overclaimer) between-subjects design.

Procedure. Upon starting the survey, participants were asked to imagine they are business students enrolled in a leadership course working on a class project in a four-member team. Additionally, participants were provided with the following information about a low [high] contributing group member:

> "At the beginning of the project, you and your teammates split the work for the project equally into four separate parts. Therefore, if you each completed the share that you had originally set for yourselves, you would each do about 25% of the work. In the course of working on the project, you learned about the contributions of one team member named "John." John finished less [more] than his fair share of the work. You think he finished about half of his share [not only his own share but also about half of another team member's share], meaning he probably contributed 15% /[35%] of the total work for the four-person team. Furthermore, you saw John's individual paper grades throughout the class and you know that he scored below-average [above-average] in the class on his papers."

The last paragraph of the prompt contained the claim information. For participants assigned to the low contribution condition (15% of the total work), they read the following claim information for underclaim and overclaim conditions, respectively: "However, you also happened to see John's self-reported contribution claim. According to his self-report, John said that he contributed 10% [20%] of the total work of your four-person team." For participants in the high contribution condition (35% of the total work), they read the following: "However, you also happened to see John's self-reported contribution claim. According to his self-report, John said that he contributed 30% [40%] of the total work of your four-person team."

Materials (Survey).

Manipulation check. Participants evaluated John on the following four items reflecting modesty: "How confident (reverse-scored), humble, modest, arrogant (reverse-scored) do you think John is?" on a 7-point scale (a = .66).

Leadership evaluation. Participants evaluated the target on four leadership dimensions using a modified version of the four-item scale from Studies 5 and 6: (1) Cooperation: "…to what extent do you think that John probably displayed cooperation (i.e., was cooperative, interested in teamwork and valued the group's objective"; (2) Leadership: "…to what extent do you think that John probably displayed leadership (i.e., guided team members toward goal accomplishment?)"; (3) Achievement: "…to what extent do you think that John probably displayed achievement (i.e., completed tasks assigned to him in a timely and effective manner); and, (4) Equity: "…to what extent do you think that John probably displayed equity (i.e., demonstrated a concern for establishing and maintaining fairness and equity among group members?"). These items formed a single index of team-attributes and are analogous to the leadership evaluation index used in Studies 5 and 6 (1 = *not at all*, 9 = *extremely*; a = .93).

Actual contribution. Participants reported how much work they *actually* believed the target did: "How much work did John actually do?" on a 0% to 100% scale.[12]

Results

Manipulation check. As expected, underclaiming was rated as more modest (M = 4.93, SD = 0.89) than overclaiming (M = 3.18, SD = 0.96), $t(397) = 18.80$, $p < .001$, $d = 1.88$. Further, there was no interaction between contribution level and claim condition, $F(1, 396) = 1.61$, $p = .204$, $\eta_p^2 = 0.004$.

[12] We did not require participants to enter a numeric value for this question. Seven responses contained irrelevant words (e.g., MTurk ID) and were dropped from this analysis only.

Leadership evaluation. When John was a high contributor, underclaiming received higher leadership evaluations (M = 7.29, SD = 1.23) than overclaiming (M = 6.14, SD = 1.48), $t(395) = 4.71$, $p < .001$, $d = 0.84$; however, when John was a low contributor, there was no difference between underclaiming (M = 3.77, SD = 1.88) and overclaiming (M = 4.12, SD = 2.12), $t(395) = -1.42$, $p = .155$, $d = -0.17$ (two-way interaction: $F(1, 396) = 18.87$, $p < .001$, $\eta_p^2 = 0.046$; see Figure S2).

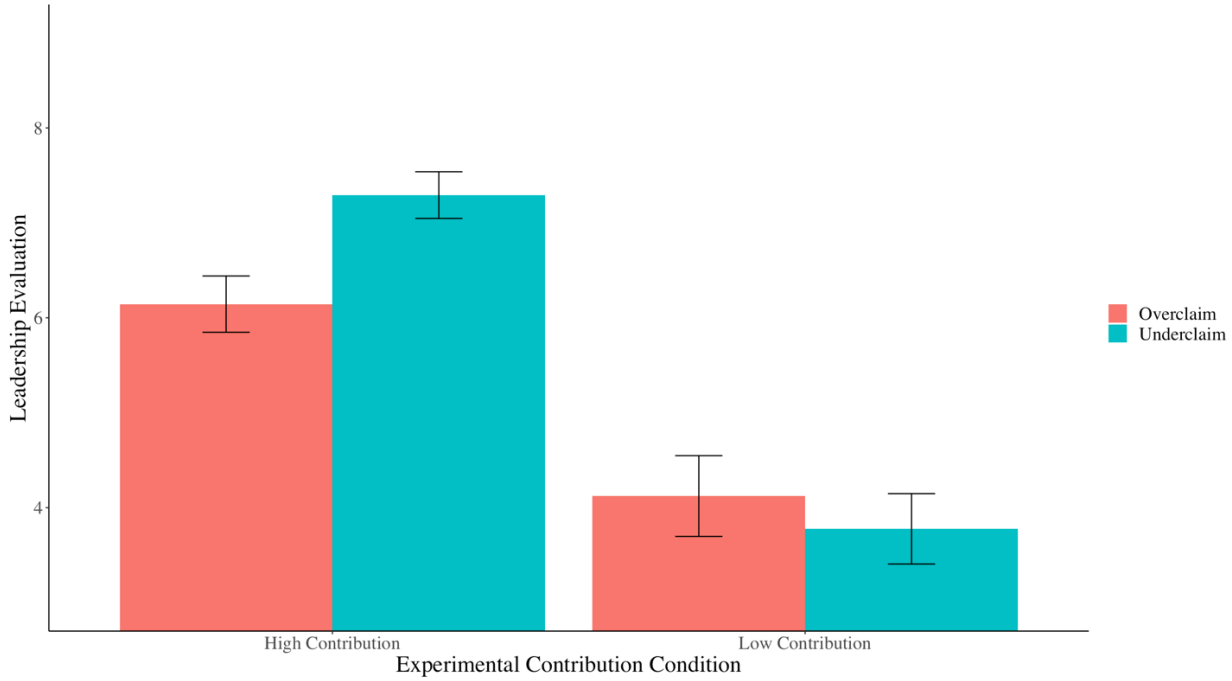

Figure S2. The effect of experimental contribution condition (two conditions: high contributor, low contributor) and claim condition (two conditions: overclaim, underclaim) on leadership evaluations in Supplemental Experiment S1. The y-axis represents participants' survey responses on 9-point scales. Error bars represent 95% confidence intervals around the mean.

Actual contribution. Contribution and claim did not interact to predict judgments about actual work contributed, $F(1, 388) = 3.17$, $p = .075$, $\eta_p^2 = 0.002$, suggesting that our manipulations of claim behavior and contribution are independent of each other (e.g., overclaiming-high-contributor and underclaiming-high-contributor do not differ in perceived work contributed).

Discussion

Supplemental Experiment S1 replicated the same pattern of results as in Study 6, finding that the negative effect of overclaiming (vs. underclaiming) on leadership evaluations was larger when the focal individual was a high contributor, and in fact was eliminated when the individual was a low contributor.

Supplemental Experiment S2

Across Supplemental Experiments S2-S3, we test how group members' contribution claims affect impressions of them, beliefs about how much work they really did, and willingness to work with them again. The purpose of these studies was to test remaining questions that were unanswered in our main text. In addition to measuring group member impressions, we further measure beliefs about amount contributed in each study. Broadly, these experiments strove to examine: (1) how impressions of overclaimers and underclaimers compare to a baseline condition in which a group member's credit claims are unknown; (2) whether claims affect impressions differently when the focal individual's contribution is unknown; and (3) whether the observer's group membership or status in the group (i.e., a peer worker or supervisor) affects impressions of claimers.

Method

Participants. We predetermined 70 participants in each of eight conditions, aiming for 560 participants total. In total, 564 adults ($Median_{\,age\ range}$ = 26-34, 63.7% male) recruited from Amazon Mechanical Turk completed the study in exchange for $1.00.

Procedure. We randomly assigned participants into one of eight possible conditions: 2 (role: supervisor vs. worker) × 4 (teammate-claim: underclaimer, equal-claimer, overclaimer, or unknown-claimer). Upon starting the survey, participants assigned to the worker role first learned about the context of their group project:

> "Please imagine that you are working on a group project (for work/class) with 3 other people that you don't know very well. After completing the task over the course of several days, each team member privately completes a self-evaluation reporting how much of the total work they themselves contributed out of 100%. Therefore, if everyone claimed exactly an equal amount of work contributed, they would claim 25%."

We told participants, "Everyone seemed to do a lot of work," thereby making the actual amount of work completed ambiguous. We believe this information reflects what people often know about teammates' contributions in the real world, because teammates may work independently at times. Next, participants learned that "your teammates reported that they each completed [15%] / [25%] / [35%] of the work" for underclaimer, equal-claimer, and overclaimer conditions, respectively. We selected these numbers by simply adding or subtracting 10% from a perfectly equal distribution of labor (25% each among 4 team members). One-quarter of the participants did not see any information regarding contribution claims, and instead read, "You do not find out how much your teammates reported" (unknown-claimer condition).

Participants assigned to the supervisor role saw the same conditions but the information was altered to reflect the supervisor's perspective: "Please imagine that you are a boss overseeing four people that you don't know very well working on a group project (for work/class)…You find out that three of the teammates reported that they each completed [15%] / [25%] / [35%] of the work" or "You do not find out how much the teammates reported" in the underclaimer, equal-claimer, overclaimer, and unknown-claimer conditions, respectively. For the full text of the scenarios used across studies, please see Table S3. Participants then completed a survey evaluating their teammates or subordinates.

Table S3

Experimental Design and Scenarios from Supplemental Experiments S2 and S3

Supplemental Experiment S2:

- **Design:** 2 (role: supervisor vs. worker) × 4 (teammate-claim: under-claimer, equal-claimer, over-claimer, or unknown-claimer) between-subjects
- **Purpose:** To examine the effect of overclaiming and underclaiming compared to a baseline condition where the target does not make a claim (unknown-claim) and to examine whether in-group status (supervisor or subordinate) moderates the effect of claim on impressions.
- **Supervisor Scenario:** "Please imagine that you are a boss overseeing four people that you don't know very well working on a group project (for work/class). After completing the task over the course of several days, each team member privately completes a self-evaluation reporting how much of the total work they themselves contributed out of 100%. Therefore, if everyone claimed exactly an equal amount of work contributed, they would claim 25%. Everyone seemed to do a lot of work."
- **Worker Scenario:** "Please imagine that you are working on a group project (for work/class) with 3 other people that you don't know very well. After completing the task over the course of several days, each team member privately completes a self-evaluation reporting how much of the total work they themselves contributed out of 100%. Therefore, if everyone claimed exactly an equal amount of work contributed, they would claim 25%. Everyone seemed to do a lot of work."
- **Underclaimer Condition:** "You find out that [your teammates]/[three of the teammates] reported that they each completed [15%] of the work."
- **Equal-claimer Condition:** "You find out that [your teammates] / [all of the teammates] reported that they each completed [25%] of the work."
- **Overclaimer Condition:** "You find out that [your teammates] / [three of the teammates] reported that they each completed [35%] of the work."
- **Unknown-claimer Condition:** "You do not find out how much your teammates reported."

Supplemental Experiment S3:

- **Design:** 2 (role: supervisor vs. worker) × 4 (teammate-claim: underclaimer, equal-claimer, overclaimer, or unknown-claimer) between-subjects
- **Change to supervisor and worker scenarios:** Replaced the final sentence, "Everyone seemed to do a lot of work." with: "You have reason to believe that everyone completed the same amount of work (25% each)."
- **No change to under-claimer, equal-claimer, over-claimer, and unknown-claimer descriptions**

Materials (Survey).

Warmth and competence. We measured perceived warmth with the following item: "How do you feel toward [your teammates] / [those team members]?" (1 = *strongly dislike*, 7 = *strongly like*). We measured competence with the following item: "How smart do you think [your teammates] / [those team members] are?" (1 = *very not smart*, 7 = *very smart*).

Interest in working again. To measure interest in working or supervising again, we asked, "How much do you look forward to [working with your teammates] / [supervising those team members] again in the future?" (1 = *not at all*, 7 = *very much*).

Belief about amount of work contributed. Participants reported how much work they *actually* believed their teammates or subordinates did: "Although they claimed [15%] / [25%] / [35%], what % of the work do you think [your teammates] / [those team members] actually contributed on average?" with a free response box. If they were in the Unknown-claimer condition, participants simply reported, "What % of the work do you think [your teammates] / [those team members] actually contributed on average?" with a free response box.

Other interpersonal perceptions and predictions. We additionally measured the following interpersonal perceptions: (1) Perceived humility: "How humble do you think [your teammates] / [those team members] are?" (1 = *very not humble*, 7 = *very humble*); (2) Perceived arrogance: "How arrogant do you think [your teammates] / [those team members] are?" (1 = *very not arrogant*, 7 = *very arrogant*); (3) Perceived fairness: "How fairly do you think [your teammates treat you] / [those team members behave]?" (1 = *very unfairly*, 7 = *very fairly*); (4) Own future effort: "How hard will you personally work on the next project?" (1 = *not hard at all*, 7 = *very hard*); (5) Others' future effort: "How hard do you think your teammates will work on the next project?" (1 = *not hard at all*, 7 = *very hard*); and (6) Future quality: "What quality project will be produced in the future?" (1 = *very low quality*, 7 = *very high quality*). These items formed a single *interpersonal-perception index*, in which we reverse-scored arrogance (a = .85).

Finally, participants reported their demographic information (including their Big 5 personality characteristics).

Results

Equal-claimers (*Ms* = 5.20, 5.21, 5.22, and 5.20, *SDs* = 1.26, 1.20, 1.38, and 1.06) and unknown-claimers (*Ms* = 5.33, 5.23, 5.23, and 5.18, *SDs* = 1.07, 1.14, 1.26, and 0.92) were rated similarly on warmth, competence, desirability to work with again, and the interpersonal-perception index, respectively, $t(556) < 0.82$, $ps > .411$, $ds < 0.11$. Furthermore, equal-claimers and unknown-claimers were perceived as higher on warmth, competence, desirability to work with again, and the interpersonal-perception index than underclaimers (*Ms* = 4.40, 4.51, 4.36, and 4.88, *SDs* =1.60, 1.42, 1.72, and 1.25), $ts(556) > 2.54$, $ps < .011$, $ds > 0.28$. Even more, underclaimers, equal-claimers, and unknown-claimers were perceived as higher on warmth, competence, desirability to work with again, and the alternative perceptions index than overclaimers (*Ms* = 3.71, 4.21, 3.70, and 3.99, *SDs* =1.30, 1.31, 1.42, and 0.93), $t(556) > 1.93$, $ps < .053$, $ds > 0.22$. A 4 (claim) × 2 (role) ANOVA revealed main effects of claim on warmth, competence, desirability to work with again, and the interpersonal-perception index, $Fs(3, 556) = 45.65$, 23.48, 36.64, and 42.77, $ps < .001$, $\eta_p^2 = 0.19$, 0.11, 0.16, and 0.19, as well an interaction, $Fs(3, 556) = 6.15$, 6.60, 5.11, and 4.97, $ps < .001$, $\eta_p^2 = 0.03$, 0.03, 0.03, and 0.03 (See Figure S3). Different impressions of underclaimers drove this interaction: underclaimers in the worker condition (*Ms* = 4.90, 4.96, 4.89, and 5.29, *SDs* = 1.68, 1.44, 1.78, and 1.26) were perceived higher on warmth, competence, desirability to work with again, and the interpersonal-perception index than underclaimers in the supervisor condition (*Ms* = 3.87, 4.04, 3.81, and 4.45, *SDs* =1.32, 1.26, 1.47, and 1.09), $ts(556) > 4.27$, $ps < .001$, $ds > 0.68$.

We also examined the role of claim and role on beliefs about work completed. Unknown-claimers were perceived to have contributed (*M* = 31.39%, *SD* = 17.66%) more than equal-claimers, overclaimers, and underclaimers, respectively (*Ms* = 23.73%, 25.57%, and 18.23%, *SDs* = 17.66%, 6.79%, and 9.33%), $ts(556) > 4.55$, $ps < .001$, $ds > 0.44$. Equal-claimers and

overclaimers were evaluated similarly, $t(556) = 1.42$, $p < .154$, $d = -0.13$, and both were perceived to have contributed more than underclaimers, $ts(556) > 4.32$, $ps < .001$, $ds = 0.39$. A 4 (claim) × 2 (role) ANOVA revealed a main effect of claim, $F(3, 556) = 35.39$, $p < .001$, $\eta_p^2 = 0.16$, as well an interaction, $F(3, 556) = 2.71$, $p = .044$, $\eta_p^2 = 0.01$. Different impressions of underclaimers again drove this interaction: underclaimers in the worker condition ($M = 20.7\%$, $SD = 15.6\%$) were perceived to have contributed more than underclaimers in the supervisor condition ($M = 15.60\%$, $SD = 7.10\%$), $t(556) = 2.81$, $p = .005$, $d = 0.42$.

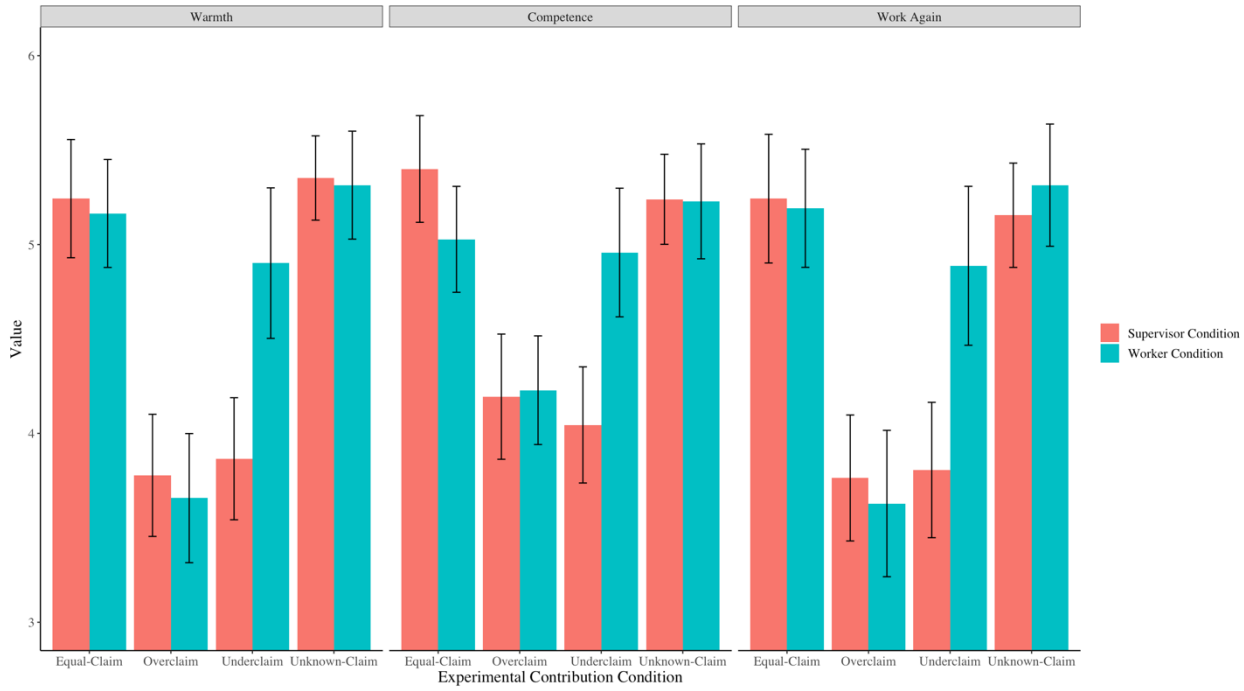

Figure S3. The effect of experimental role condition (two conditions: supervisor, worker) and claim condition (four conditions: equal-claim, overclaim, underclaim, unknown-claim) on warmth, competence, and desirability to work together in Supplemental Experiment S2. The y-axis represents participants' survey responses on 7-point scales. Error bars represent 95% confidence intervals around the mean.

Discussion

Overall, these findings suggest group members who overclaim or underclaim credit are interpersonally disliked compared to group members who claim to have contributed equally and

members whose claims are unknown. Overclaimers appear to incur more negative perceptions compared to underclaimers, suggesting there exists additional penalties beyond the negative interpersonal penalties that underclaimers also experience. As a next step, we explored whether underclaimers may be more interpersonally liked, and group members might be more interested in working with them, if it was clear that they really did contribute the same amount of work. To test this, we explicitly provided the contributions of each group member in Experiment S3.

Supplemental Experiment S3: Clarifying Actual Amount of Work Done

To test whether impressions of underclaimers improve if participants believe they actually contributed an equal amount, we ran a follow-up to Supplemental Experiment S2 with the same design but told participants at the end of the scenario that "you have reason believe everyone completed 25% of the work" to provide a more explicit signal for teammates' actual work accomplished. We predicted that if observers interpreted underclaimers low claims as humility rather than accurate admittances of incompetence, impressions of underclaimers would improve.

Method

This experiment was pre-registered on OSF (https://osf.io/2ng7e/?view_only=494120933c9e4c3d81778f5dcd4ca443).

Participants. Following the same sample size rule used in Experiment S2, we predetermined about 70 participants per each of eight conditions, or 560 total. 569 adults (*Median* $_{age\ range}$ = 26-34; 377 male, 192 female) from Amazon Mechanical Turk completed the study in return for $1.00.

Procedure and materials. The procedure and materials were identical to that of Experiment S2 except for three changes. First, we replaced the last sentence in the scenario,

from: “It seemed like everyone did a lot of work” to: “You have reason to believe that everyone did equal amounts of work (25%)” in order to test whether this more explicit information would improve impressions of under-claimers. Second, we added a measure of confidence, “How confident do you think [your teammates] / [the team members] are?” (1 = *not at all confident*, 7 = *very confident*) to our interpersonal-perception index (a = .79). Third, we modified our measure of interest in working again in order to reflect a more direct measure of affect: “How would you feel about [working with your teammates] / [supervising those team members] again in the future?” (1 = *very negatively*, 7 = *very positively*).

Results

Equal-claimers (*Ms* = 5.52, 5.19, 5.51, and 5.19, *SDs* = 1.10, 1.17, 1.32, and 0.83) and unknown-claimers (*Ms* = 5.27, 5.30, 5.37, and 5.12, *SDs* = 1.20, 1.06, 1.35, and 0.87) were rated similarly on warmth, competence, desirability to work with again, and the interpersonal-perception index, respectively, *ts*(551) < 1.66, *ps* > .096, *ds* < 0.22. Furthermore, equal-claimers and unknown-claimers were perceived as higher on warmth, competence, desirability to work with again, and the interpersonal-perception index than underclaimers (*Ms* = 4.65, 4.44, 4.69, and 4.73, *SDs* = 1.35, 1.27, 1.47, and 0.96), *ts*(556) > 3.55, *ps* < .001, *ds* > 0.43. Even more, underclaimers, equal-claimers, and unknown-claimers were perceived as higher on warmth, desirability to work with again, and the interpersonal-perception index than overclaimers (*Ms* = 3.96, 3.98, and 5.21, *SDs* = 1.48, 1.66, and 0.96), *ts*(551) > 4.11, *ps* < .001, *ds* > 0.46, although no difference on competence (*M* = 4.40, *SD* = 1.29), *t*(561) = 0.24, *p* = .810, *d* = 0.02. A 4 (claim) × 2 (role) ANOVA revealed main effects of claim on warmth, competence, desirability to work with again, and the alternative perceptions index, *Fs*(3, 561) = 41.72, 22.64, 33.84, and

36.32, *ps* < .001, η_p^2 = 0.18, 0.11, 0.15, and 0.16, but no interaction, *Fs*(3, 551) = 1.20, 0.81, 1.96 , and 2.64, *ps* = .309, .485, .118, and .048, η_p^2 = 0.00, 0.00, 0.01, and 0.01 (See Figure S4).

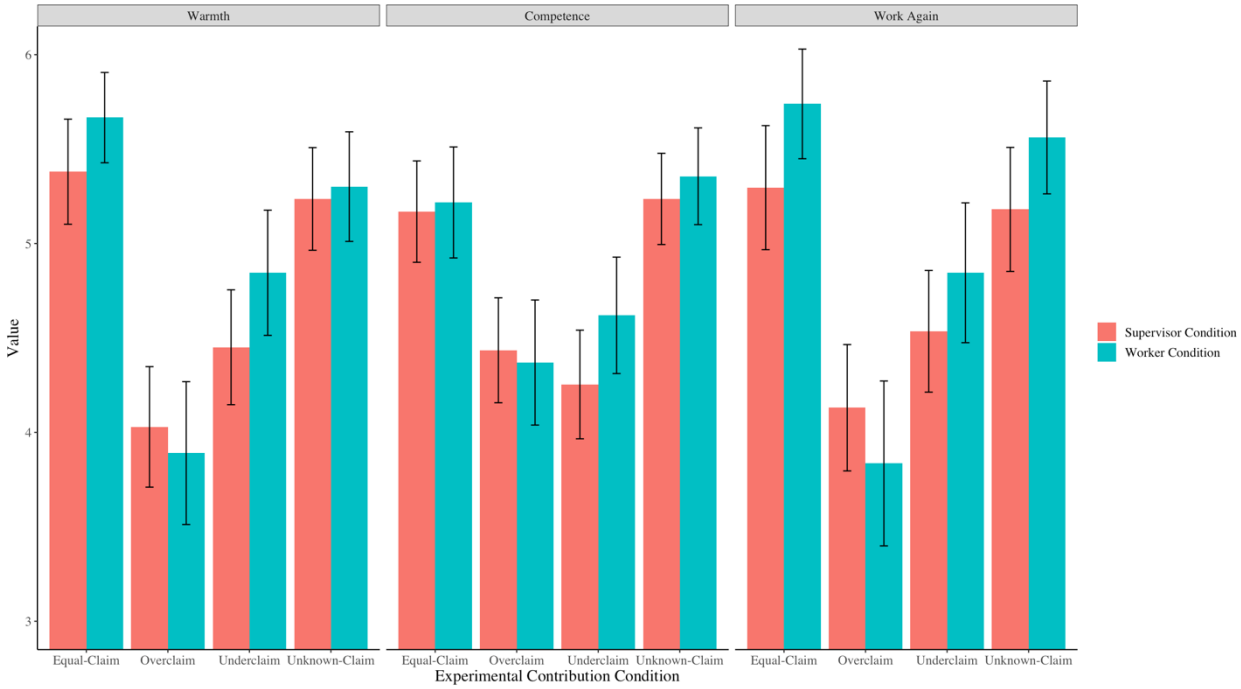

Figure S4. The effect of experimental role condition (two conditions: supervisor, worker) and claim condition (four conditions: equal-claim, overclaim, underclaim, unknown-claim) on warmth, competence, and desirability to work together in Supplemental Experiment S3. The y-axis represents participants' survey responses on 7-point scales. Error bars represent 95% confidence intervals around the mean.

We also examined the role of claim and role on beliefs about work completed. Unknown-claimers, equal-claimers, and overclaimers were evaluated similarly on work completed (*Ms* = 29.3%, 28.1%, and 27.2% *SDs* = 16.8%, 14.1%, and 11.8%), *ts*(551) < 1.25, *ps* > .212, *ds* < 0.15. All three claim conditions were perceived to complete more work than underclaimers (*M* = 21.2%, *SD* = 12.4%), *ts*(551) > 3.65, *ps* < .001, *ds* > 0.50. A 4 (claim) × 2 (role) ANOVA revealed a main effect of claim, *F*(3, 551) = 9.54, *p* < .001, η_p^2 = 0.05, but no interaction, *F*(3, 551) = 0.57, *p* = .630, η_p^2 = 0.00.

Discussion

Consistent with Supplemental Experiment S2, observers viewed accurate-claimers and unknown-claimers more positively than underclaimers, which, in turn, were evaluated more positively than overclaimers. These results suggest that holding actual contribution equal between group members does not eliminate the interpersonal penalty that underclaimers face compared to accurate-claimers and unknown-claimers.