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Social Reactions to Overconfidence:
Do the Costs of Overconfidence Outweigh the Benefits?

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Abstract

Scholars have recently proposed that overconfidence pervades self-judgment because of the social benefits it provides individuals, such as higher status in groups (Anderson, Brion, & Moore, 2010). A counter-argument to this *social-functional* account of overconfidence is that the possible social costs of overconfidence could outweigh its benefits. Specifically, individuals could be severely punished by groups if their overconfidence were to become apparent to others. This paper examines social reactions to overconfidence by exploring whether groups in fact punish individuals revealed to be overconfident. In three laboratory studies, we found that groups did not react negatively to individuals revealed to be overconfident and in fact tended to view overconfident individuals as more socially skilled. This research lends further empirical support to the social-functional account of overconfidence by suggesting that the status-related benefits of overconfidence outweigh the possible social costs.

Keywords: status, overconfidence, self-enhancement, hierarchy, accountability

Social Reactions to Overconfidence: Do the Potential Costs of Overconfidence Outweigh the Benefits?

In many domains, people routinely believe that they are better than others even when they are not (for reviews, see Alicke & Govorun, 2005 and Dunning, Heath, & Suls, 2004). For example, research suggests that many people overestimate the superiority of their work performance, (Cross, 1977; Haun, Zeringue, Leach, & Foley, 2000; Zenger, 1992), social skills (College Board, 1976-1977; Lewinsohn, Mischel, Chaplin, & Barton, 1980; Swann & Gill, 1997), and physical talents (Dunning, Meyerowitz, & Holzberg, 1989; Svenson, 1981; for exceptions, see Kruger, 1999; Moore, 2007). Such overconfidence persists even when the stakes are high and individuals have strong incentive to estimate their abilities accurately (Hoelzl & Rustichini, 2005; Williams & Gilovich, 2008).

One possible explanation for the pervasiveness of overconfidence is that it provides the individual with social benefits (Alexander, 1987; Krebs & Denton, 1997; Leary, 2007; Trivers, 1985; Waldman, 1994). Evidence for this *social-functional* account of overconfidence comes from the finding that confidence produces status-related benefits such as leadership, influence, persuasiveness, and credibility (Anderson, Brion, & Moore, 2010; Bass, 2008). For instance, Zarnoth and Snizek (1997) found that factions within groups exerted more influence when their members were more confident. Confidence is compelling because, in the absence of information to the contrary, people assume it reflects greater ability (Tenney & Spellman, in press; Tenney, Spellman, & MacCoun, 2008).

Research that distinguished justifiably high confidence from overconfidence has found that overconfidence (in the form of mistakenly believing one is better than others, which Moore & Healy [2008] call overplacement) led to higher social status (Anderson et al., 2010). Status is the prominence, respect and influence accorded to individuals by their groups (Berger, Cohen, &

Zelditch, 1972). Anderson et al. (2010) found that group members accorded overconfident individuals higher social status because groups perceived those individuals to possess higher levels of task ability. Similarly, past work has found that individuals higher in the personality trait dominance, who behave in assertive and self-assured ways, tend to attain influence in groups (for a review, see Judge, Bono, Illies, & Gerhardt, 2002). Anderson and Kilduff (2009) found that this occurs because individuals higher in trait dominance enact more competence-signaling behaviors and therefore appear more competent than others, even when they actually lack competence. Anderson et al. (2010) proposed that these social benefits could help explain the pervasiveness of overconfidence in self-judgments.

The Possible Social Costs of Overconfidence: Do Groups Hold Members Accountable?

A counterargument to the aforementioned social-functional account of overconfidence is that being overconfident might also pose substantial social risks for the individual, and thus, on the whole, overconfidence might not prove beneficial. Specifically, overconfident individuals might suffer social punishments if groups were to discover that their confidence is unjustified. Groups often gain knowledge about members' characteristics and abilities as they work together. For example, group members can more accurately discern each other's competence, personalities, and attitudes over time (Harrison, Price, Gavin, & Florey, 2002; Kenny, 1991; Paulhus & Bruce, 1992; Peltokorpi, 2008).

If overconfidence, once revealed to the group, were to lead to social sanctions, this would argue against a social-functional account of overconfidence because the social costs of overconfidence could outweigh its benefits. Accordingly, it would be difficult to argue that overconfidence colors self-judgment because of its positive social consequences for the

individual. This is especially true if the costs of overconfidence take the same form as its benefits – if individuals who are revealed to be overconfident suffer lower status.

Given the potential for overconfident individuals to be exposed when group members interact over time, this research examines whether groups in fact punish their overconfident counterparts after learning the truth regarding members' actual task ability. The research question focuses on social reactions to individuals who believe they have greater competence than they actually possess. To examine this question, we studied groups working on a task with an unambiguous, objective measure of performance, which allowed us to distinguish justifiably high self-perceptions of task ability from overconfidence. We examined how revealing overconfidence affected perceptions of individuals along status-relevant dimensions and the status hierarchies that emerged in these small, task-focused laboratory groups.

The Sources of Status

Although the determinants of status can vary across groups, groups typically give higher status to individuals who exhibit qualities that will help the group succeed (Berger et al., 1972; Goldhamer & Shils, 1939; Eibl-Eibesfeldt, 1989; Emerson, 1962). In general, three kinds of personal characteristics contribute to the group, and thus enable individuals to attain higher status: task-related skills (Bass, 2008; Blau, 1964; Driskell & Mullen, 1990; Hollander & Julian, 1969; Lord, Phillips, & Rush, 1980; Mann, 1959), social skills (Bass, 2008; Lord, de Vader, & Alliger, 1986; Stogdill, 1948), and commitment to the group's success (Ridgeway, 1978, 1981; Willer, 2009).

Each of these three kinds of characteristics contributes to group success. Social skills help individuals communicate, coordinate other members' activities, solve conflicts, and motivate others while maintaining cohesion within the group (Bass, 2008; Mann, 1959; Van

Vugt, 2006). Task-related skills enable individuals to solve important technical problems faced by the group (Stogdill, 1974; Van Vugt, 2006), and commitment to the group's success leads individuals to make more costly contributions and sacrifices to help the group reach its goals (Willer, 2009).

The Case for Punitiveness

Overconfidence, once revealed to the group, might be punished because overconfidence can harm task performance (Barber & Odean, 2001; Metcalfe, 1998; Paese & Kinnaly, 1993; Vancouver, Thompson, Tischner, & Putka, 2002). Groups that realize the risks overconfident individuals pose to performance might accord those individuals less status. Previous research has shown that groups punish individuals harmful to the groups' success with lower status (e.g., Blau, 1964; Ridgeway & Diekema, 1989).

Moreover, groups might view individuals revealed to be overconfident as illegitimately claiming status and therefore, more selfish and less committed to the group's success. In past laboratory experiments, where hierarchies were transient and status meant relatively little, groups ostracized individuals who claimed higher status than the group believed those individuals deserved and paid them less for their work (Anderson, Srivastava, Beer, Spataro, & Chatman, 2006; Anderson, Ames, & Gosling, 2008). Both of these arguments imply that groups might punish members revealed to be overconfident with status penalties and social ostracism. That is, once an individual is revealed to be overconfident, groups might give that individual lower status (relative to what their competence would normally afford them) and lower acceptance.

The Case Against Punitiveness

The above arguments notwithstanding, there are reasons to believe that groups would not punish individuals revealed to be overconfident. Specifically, overconfidence might create

positive peer-perceptions that remain even when overconfidence is revealed to others. First, overconfident individuals might appear more socially skilled to others. Individuals who are more confident in their task skills act more engaged, speaking more often and participating actively (Anderson & Kilduff, 2009; Kalma, Visser, & Peeters, 1993; Moskowitz, 1990).

Communication represents a key aspect of social skill (Hall, 1979; Riggio, 1986) and individuals who communicate more are often seen as more skilled (Breland & Jones, 1984). Consequently, they receive attributions of greater leadership ability (Mullen, Salas, & Driskell, 1989; Sorrentino & Boutillier, 1975; Sorrentino & Field, 1986). In addition to increasing quantity of communication, confidence may also reduce anxiety about participating in the task, creating more fluid, clear, concise speech and smoother social interactions. Past studies have found that lower anxiety relates to higher performance on a variety of tasks, from academic tests to interpersonal interactions (Glass, Merluzzi, Biever, & Larsen, 1982; Osborne, 2001; Plaks & Stecher, 2007; Steele, 1997). With less anxiety, overconfident individuals may speak in a more articulate way and attend more to others, coordinating with them better. The combination of more frequent participation and more fluid social interaction may lead to impressions that overconfident individuals possess superior social skill.

Second, overconfidence may create positive perceptions of task ability that resist revision, even in the face of objective evidence regarding an individual's actual task performance. Existing research suggests that individuals may not fully revise their beliefs about overconfident individuals' task ability because first impressions exert lasting influence on judgments (Benassi, 1982; Jones, Rock, Shaver, Goethals, & Ward, 1968; McAndrew, 1981; Steiner & Rain, 1989; Zenker, Leslie, Port, & Kosloff, 1982). This research suggests that impressions of task ability will not completely adjust to account for the objective feedback

provided. Therefore, even when objective information on task ability contradicts initial impressions, group members may perceive overconfident individuals to possess higher task ability.

If overconfidence creates persistent impressions of social skill or task ability, groups may not punish individuals revealed to be overconfident with lower status. Instead, upon discovering that individuals were overconfident in their task abilities, groups might merely accord them the status they appear to deserve based on their true task ability or even continue to reward them with elevated status.

The Net Value of Overconfidence

Central to our research question is the issue of whether the social benefits of overconfidence (e.g., increased social status) outweigh the potential costs if one's overconfidence is revealed to others (e.g., decreased social status). One way to test whether the status benefits outweigh the costs is to examine whether overconfidence yields a "net" positive outcome for the individual on average, across conditions when individuals' overconfidence is unknown to others and revealed to others.

To illustrate in a perhaps overly simplistic way, if being overconfident led an individual to gain 2 status points when her overconfidence was unknown to others, but then lose 3 status points when her overconfidence was revealed to others, overconfidence could be considered to have a net status value of -1 (i.e., a negative net value). In this case, the potential social costs of overconfidence would outweigh the benefits. However, if being overconfident led an individual to gain 2 status points when it went undetected, but to then only lose 1 status point when his overconfidence was revealed to others, overconfidence could be said to have a net status value of

+1 (i.e., a positive net value). In this case, the social benefits of overconfidence would outweigh the possible costs.

We examine the issue of net status value by calculating individuals' average status outcomes, aggregating their status scores from before and after their overconfidence is revealed to fellow group members. In other words, we examine the impact of overconfidence both before and after groups become aware of individuals' actual task ability, and also examine whether overconfidence has an *overall* average positive or negative effect on status.

Preliminary Data

Our key research question concerns whether overconfident individuals, once revealed as such, will be punished socially. To assess lay beliefs regarding this question, we measured people's intuitions about how they would react to individuals overconfident in their abilities. We conducted a short experiment on 52 adults via the Amazon Mechanical Turk web site (52% men; mean age = 33.5 years).

Participants were asked to imagine they were working in a group (which could be a project team, a committee, or a workgroup at their job). Half the participants were randomly assigned to the Accuracy condition, in which they were asked to imagine that there was one person in the group, Dave, who assessed his ability at the work task rather accurately (i.e., he thought that he performed in the 70th percentile and he actually performed in the 70th percentile). The other half were randomly assigned to the Overconfidence condition, in which they were asked to imagine that there was one person in the group, Dave, who assessed his ability at the work task rather confidently (i.e., he thought that he performed in the 90th percentile, but he actually performed in the 70th percentile). Participants then completed a number of ratings indicating how they would react to this person.

Several separate regression analyses indicated that participants expected to have quite negative reactions to the overconfident individual. Participants in the overconfident condition expected to find Dave less skilled at the task ($\beta = -.74, t = -7.83, p < .001$), accord Dave significantly less status ($\beta = -.51, t = -4.14, p < .001$), and find Dave unlikeable ($\beta = -.58, t = -5.03, p < .001$). These results suggest that individuals expect to react to overconfident individuals more negatively than they would to individuals who perceive themselves accurately. Next, we examined how these intuitions squared with how people actually reacted to individuals who were revealed to be overconfident.

Overview of Studies

In the foregoing discussion of the social consequences of overconfidence, we have implied a process that unfolds as follows: In the initial stages of group collaboration, group members aim to accord higher status to individuals who have more ability to help the group succeed, yet they lack information about each other's actual competence levels. Lacking such information, they rely on individuals' confidence as a signal of actual task ability – and thus accord overconfident individuals higher status. We will refer to this early phase of group collaboration as *Phase 1*. However, over time, as group members grow more familiar with each other, they sometimes perceive each other's competence more accurately, gaining a better idea of where each member actually ranks in terms of task ability. We refer to the phase in which groups have come to realize individuals' actual levels of task ability as *Phase 2*.

Our primary research question concerns how groups will react in Phase 2 to individuals who are overconfident in Phase 1. Specifically, we aim to explore how being revealed as overconfident affects the level of status and acceptance accorded to individuals by their groups.

Although real world groups that discern members' true task competence probably do so slowly, over time, we aimed to mimic the process of discovery in the laboratory in a condensed time period to achieve high levels of control and precision in measures. We conducted three laboratory studies. In Studies 1 and 2, groups worked together on a task. Midway through the task, group members rated each other along several dimensions and we assessed each member's actual performance on the task. The ratings at this midpoint gauged how groups respond to unrevealed overconfidence (i.e., in Phase 1). The experimenter then informed the group of each member's relative task performance up to that point, beginning Phase 2. The group then continued to work together and rated each other once more.

Because Studies 1 and 2 allowed overconfidence to emerge naturally, Study 3 manipulated overconfidence to help establish causality. Specifically, participants observed a video recording of an individual who had ostensibly participated in a previous study and then rated that individual on several dimensions. The actors in the video recording exhibited either a high or moderate level of confidence. After participants provided the first set of ratings, the experimenter informed them of the individual's task performance and participants provided a second set of ratings.

Throughout the three studies, we focused on overconfidence, the possession of inaccurate, overly positive perceptions of one's task abilities or knowledge (for a review, see Moore & Healy, 2008). Overconfidence differs from self-presentation and impression management, which involve attempts to present oneself in a positive light (Baumeister, 1982; Goffman, 1959; Leary & Kowalski, 1990). Self-presentation and impression management involve modifying one's overt social behaviors, often consciously and deliberately. In contrast, overconfidence is construed as genuine, unintentionally flawed perceptions about one's own

abilities. For example, individuals are overconfident when they genuinely believe they rank in the 90th percentile in task ability but actually rank in the 30th.

Study 1

Method

Participants. Participants were 128 students and staff (57% women) at a West Coast university. The participants had a mean age of 20 years ($SD = 2.6$). The sample was approximately 60% Asian, 28% Caucasian, 6% Hispanic, 2% African American, and 5% other racial backgrounds.

Procedure. Participants signed up for a study of how people work together in teams. As they arrived, we assigned them to groups of four previously unacquainted individuals. The laboratory session had two phases. In the first phase, group members saw ten full-body photographs of individuals and wrote their estimate of each individual's weight. Participants were instructed not to speak to each other until everyone had finished writing their ten estimates. The presence of an experimenter ensured compliance with this instruction.

The group then worked together to establish a consensus on a weight estimate for each photo. Each group member's seat was labeled with a letter, "W," "X," "Y," or "Z." The participant randomly assigned to seat "X" received the group decision materials and wrote the group's estimates. After completing all group estimates, participants completed a short mid-experiment survey. The experimenter assured participants that their responses to the survey were completely confidential and asked participants to cover their answers with a spare sheet of paper to ensure that each participant could answer the survey without fear of others seeing his or her answers. Each group member's letter (e.g., "Y") was prominently displayed on the table so that participants could refer to them while answering the survey.

As the participants completed their surveys, the experimenter entered the individual weight estimates into a spreadsheet. The experimenter calculated the accuracy of the estimates provided by each group member before the group began working together. This allowed the experimenter to rank participants by the accuracy of their individual answers.

Once participants turned in their surveys, the experimenter distributed a sheet of paper listing the actual weights of the individuals in the first ten pictures and read aloud participants' task performance rankings, identifying them by seat letter. Specifically, she said, "In terms of your performance, Person [W, X, Y, or Z] was the most accurate, Person [] was second most accurate, Person [] was third, and Person [] was fourth."

Then, Phase 2 of the experiment began. The second phase was nearly identical to the first phase. Group members received ten new photographs of different individuals and estimated each of their weights, first individually, and then again as a group. The only procedural difference in Phase 2 was that the experimenter did not provide individual task performance rankings after participants finished their surveys.

Measures. Our key dependent measure was the individual's status within the group; our key independent variable was overconfidence, indexed by comparing an individual's self-reported task performance rank within the group in Phase 1 and the person's actual task performance rank in Phase 1. We included extraversion, race, and gender as controls. Past research has shown that extraversion, race, and gender affect the status groups accord individuals (Anderson, John, Keltner, & Krings, 2001; Berger et al., 1972; Berger, Webster, Ridgeway, & Rosenholtz, 1986; Ridgeway, 1978, 1981), and predict individuals' confidence in their own abilities (Correll, 2001; Schaefer, Williams, Goodie, & Campbell, 2004). We also conducted an exploratory analysis examining peer-rated liking as a dependent variable because prior research

has shown acceptance and status to be separate and important components of individuals' standing in groups (e.g., Blau, 1964).

Status in the group. On the basis of previous theory and research on status in groups (e.g., Bales, Strodtbeck, Mills, & Roseborough, 1951; Berger et al., 1972), we measured status with peer-ratings of status, influence, and leadership behavior. After each of the two phases, each participant privately ranked all members' status (i.e., respect and standing) and how influential they were in the group's discussions and rated all members in terms of how much leadership they displayed, on a scale of 1 (*Follower*) to 5 (*Leader*). We used the software program SOREMO (Kenny, 1995) to compute a social relations model analysis of these round-robin peer-perceptions. For each of the two phases, SOREMO calculated a *target score*, which is an index of how that individual was typically perceived by the others in the group. SOREMO calculates target scores that are statistically independent of group membership and thus appropriate for conventional least squares procedures that assume independence (see Kenny & La Voie, 1984). Target scores showed statistically significant amounts of variance in both phases for status (relative variances were .46 and .51, respectively), influence (relative variances were .57 and .46, respectively), and leadership (relative variances were .44 and .38, respectively). These relative variance indices demonstrate that group members agreed about one another's status in both phases. It is important to note that target effects should not be interpreted as alpha reliability coefficients (Kenny, Albright, Malloy, & Kashy, 1994). The magnitude of relative target variance reflects the proportion of variance in ratings explained by targets. To illustrate, group members tend to exhibit high consensus in perceiving each other's extraversion and thus produce alpha reliabilities above the .70 level; yet the relative target variance in group ratings of extraversion tends to be in the .30s (Kenny et al., 1994).

On the basis of prior research (e.g., Gray-Little & Burks, 1983), we also measured each participant's "objective" influence on the group's decisions in each phase. We calculated how far each person moved in his/her individual weight estimate on average when agreeing to the group weight estimate for the individual photograph (Phase 1: $M = 10.88$, $SD = 5.98$; Phase 2: $M = 8.19$, $SD = 3.43$). Larger numbers indicated more movement from an individual's estimates to the group estimates, suggesting that the individual moved more from his/her decision, and thus had less influence on the group's decision (for a review of studies using similar measures, see Gray-Little & Burks, 1983).

All above measures of status were highly correlated (coefficient alpha reliabilities = .86 in Phase 1 and .78 in Phase 2). Therefore we reverse-scored the peer-ranked status, peer-ranked influence, and objective influence measures so that higher scores indicated higher status, standardized all four measures, and averaged them into one index of status in the group.

Finally, to measure the status individuals received on average, or their "net" status across the two phases, we calculated their average status across Phase 1 and Phase 2. This measure helped us gauge whether overconfidence had net status benefits or costs when individuals' overconfidence was revealed to the group.

Peer-ranked task ability. After each phase, participants privately ranked each group member's ability to correctly estimate weights. SRM analyses showed significant amounts of target variance in both phases (.42 and .55, respectively), indicating that group members agreed about one another's task ability in both phases. Because lower rankings (e.g., 1st) indicated higher perceived task ability, we reverse-scored the measure.

Actual task ability. Following Moore and Klein (2008), for each phase, we measured participants' actual accuracy by calculating how close they were in their weight estimates to the

correct weight for each photograph. The participant with the highest accuracy in estimates received the rank of “1,” the next smallest, “2,” and so on. (Of the thirty-two groups we studied, only two had a tie between members; in both cases, two individuals tied for third place in the ranking.) We then reverse-scored the measure so that higher scores indicated better relative task performance.

Overconfidence. Prior research has distinguished different types of overconfidence from one another (Larrick, Burson, & Soll, 2007; Moore & Healy, 2008). Overplacement refers to people’s tendency to overestimate their task performance relative to others’. We focused on overplacement as a measure of overconfidence because groups form status hierarchies based on perceptions of relative levels of ability (Berger et al., 1972).

To measure overconfidence, participants privately reported their perceptions of their own and others’ abilities at the task by answering the item: “Please rank the four members of your group with respect to their ability to correctly estimate weights.” The self-ranking was reverse-scored so that higher numbers indicated perception of the self as more capable than other group members. The main effect of overconfidence in a sample is typically indexed by the simple difference between the self-perception and objective task performance (Gigerenzer & Hoffrage, 1995; Harvey, 1997; Hoffrage, 2004; Larrick et al., 2007). To understand whether individuals are overconfident on average, one can compare average self-perceptions to average objective performance (e.g., John & Robins, 1994).

However, to measure individual differences, the use of difference scores has been widely criticized because difference scores are unreliable and tend to be confounded with the variables that comprise the index (e.g., Cohen, Cohen, West, & Aiken, 2003; Cronbach & Furby, 1970; Edwards, 1994; John & Robins, 1994; Paulhus, 1998). They are unreliable because they add

error variance from both componential variables (in this case, actual performance and beliefs about performance). In the present study, the simple difference score (with higher scores indicating more overconfidence) would necessarily be negatively correlated with performance on the task, so that individuals performing worse would appear more overconfident than individuals performing better. To provide an unconfounded measure of overconfidence for analyses of individual differences, scholars have suggested regressing participants' self-evaluations on their actual performance and retaining the residuals (Cohen et al., 2003; Cronbach & Furby, 1970; DuBois 1957; John & Robins, 1994). The residual score captures the variability in self-perceived rank after the variance predicted by actual rank has been removed. We thus used such an index in Study 1. It is worth noting that self-rankings of task ability correlated with actual task ability, $r(126) = .28, p < .01$. Therefore, individuals exhibited awareness of their actual relative task ability.

Peer-rated liking. In an exploratory vein, we also examined how revealed overconfidence affected an individual's perceived likeability because members' standing in a group involves their acceptance as well as status (e.g., Blau, 1964). After each phase, group members privately rated how likeable each member was on a scale of 1 (*Not at all likeable*) to 5 (*Extremely likeable*). Consistent with prior work (Kenny & La Voie, 1984), which has shown weak target effects for interpersonal liking, we did not identify statistically significant target variance in either phase (relative variance was .07 in each phase). This suggests group members did not agree on who was more likeable and the liking ratings may not be reliable. Thus, analyses using peer-rated liking should be interpreted with caution.

Extraversion. Extraversion is a personality dimension that involves sociability, assertiveness, and positive emotionality (John & Srivastava, 1999). Because past work has

found that individuals high in extraversion often emerge as leaders (Judge et al., 2002) and as overconfident (Schaefer et al., 2004), we wanted to ensure that extraversion did not act as a third variable. Before reporting to the laboratory, participants completed the 8-item extraversion scale from the Big Five Inventory (BFI; John & Srivastava, 1999). We standardized the eight items and averaged them into one composite of extraversion ($\alpha = .87$).

Results and Discussion

Phase 1: Pre-performance feedback. Consistent with prior research (Anderson et al., 2010), overconfidence in Phase 1 predicted higher status, $r(126) = .41, p < .01$. Therefore, individuals with more positive perceptions of their task abilities, regardless of their actual task abilities, attained higher status than individuals with more accurate self-perceptions of ability. There was not a significant effect of gender on status, $\beta = -.16, t(120) = -1.80, p = .08, n.s.$, and gender did not interact with overconfidence, $\beta = .14, t(119) = 1.04, p = .30, n.s.$, so we did not further examine the effects of gender.

We next explored why overconfidence afforded such status benefits in Phase 1. A mediation analysis showed that the relation between overconfidence and status occurred due to increases in peer-perceived task ability. Figure 1 illustrates this mediation effect. Overconfidence significantly predicted status, $\beta = .35, t(126) = 4.25, p < .001$, as well as peer-perceived task ability, $\beta = .37, t(126) = 4.92, p < .001$. When entered into the regression simultaneously, peer-perceived task ability remained a significant predictor of status, but overconfidence became non-significant, Phase 1 overconfidence: $\beta = .11, t(125) = 1.64, p = .10$; Phase 1 perceived task ability: $\beta = .66, t(125) = 9.85, p < .001$. A Sobel (1982) test was significant (Sobel test statistic = 3.87, $p < .001$). This suggests overconfident individuals were

accorded higher status because group members perceived them as more skilled at the task, even though they were not more skilled at the task.

Phase 2: Post-performance feedback. We next examined the question, more germane to our current concerns, of how groups reacted to overconfident members after hearing the true task ability rankings. If groups punish individuals revealed to be overconfident, one would expect overconfidence in Phase 1 to predict lower status in Phase 2. That is, controlling for individuals' actual task ability, those with higher unwarranted confidence would attain lower status in Phase 2. However, Phase 1 overconfidence did not correlate negatively with Phase 2 status, $r(126) = .03, p = .78$. This suggests that overconfident individuals were not punished with status demotions.

Moreover, examining the status that individuals received on average, across Phase 1 and Phase 2, we found that Phase 1 overconfidence significantly predicted higher net status, or higher levels of status on average across the two phases, $r(126) = .22, p < .05$. Therefore, overconfident individuals enjoyed status benefits in Phase 1 and encountered no appreciable status penalty when their overconfidence was laid bare in Phase 2. As a result, overconfidence led to higher social gains than costs on balance, compared to accurate self-perceptions of task ability.

Ruling out third variable explanations. To address third variable concerns, we examined the relationship between Phase 1 overconfidence and net status across the two phases while controlling for three additional variables: extraversion, race, and gender. Even after controlling for extraversion, race, and gender, overconfidence remained a significant independent predictor of net status across the two phases, $\beta = .25, t(111) = 2.86, p < .01$. There were no significant interactions between any of these variables and overconfidence.

Exploratory analyses on acceptance. The data did not support the hypothesis that revealed overconfidence leads to lower acceptance either. We did not find a correlation between Phase 1 overconfidence and Phase 2 liking, $r(126) = .04, p = .67$ (note that this should be interpreted with caution because the liking variable did not reach statistically significant relative variance). Together, the data suggest that groups did not punish revealed overconfidence with either lower status or lower acceptance.

Summary. The results from this study suggest that overconfidence led to higher social status when group members were unsure of each other's actual task ability, and it did not lead to lower status when group members discovered each other's actual task ability. Therefore, on net, the status-related benefits of overconfidence outweighed its costs. This implies that even when overconfidence is clearly revealed to others (which does not always occur in the real world), it still has a net beneficial effect for individuals' status.

Study 2

We had two primary aims in Study 2. First, we wanted to better understand why groups did not punish overconfidence once it was revealed to them. One possibility is that overconfidence is not punished simply because it does not lead to lower perceptions of task ability. Rather than viewing overconfidence as type of incompetence that harms group performance, group members may see overconfidence as merely an honest mistake. As a result, they might update their views of individuals' task ability and afford them a level of status commensurate with this ability. The results of Study 1 provided some support for this possibility. Overconfidence in Phase 1 had no relationship with peer perceptions of task ability in Phase 2 ($\beta = .002, t[126] = .02, p = .99, n.s.$), suggesting revealed overconfidence did not lead to lower perceptions of task ability.

A second possibility is that revealed overconfidence has opposing effects on different peer perceptions and these opposing effects suppressed one another. Specifically, group members might still perceive overconfident individuals to possess strong social skills. As explained in the introduction, confidence may increase participation and reduce anxiety, resulting in more positive impressions of social skill, and perceptions of social skill predict higher status (Bass, 2008; Lord et al., 1986; Stogdill, 1948; Van Vugt, 2006). However, overconfident individuals, once revealed, might also be perceived as less committed to the group and more selfish (Anderson et al., 2008), which would harm their status (Ridgeway, 1981). Therefore, revealed overconfidence might have a null effect on status because the positive effect on social skill and negative effect on group commitment suppress each other. With this goal in mind, we included measures of not only peer-perceived task competence, but also peer-perceived social skill and commitment to the group.

Our second aim in Study 2 was to test our hypotheses with a different task. It is possible that groups in Study 1 did not punish revealed overconfidence because they forgave individuals who lacked self-knowledge of a rarely employed skill (guessing people's weights from photographs). Because the task might have been seen as unusual, groups could have more easily excused individuals for failing to know their actual task ability. Therefore, in Study 2, we chose a task in which groups would expect individuals to have reasonably high self-knowledge of their level of task ability. Specifically, groups worked on a task that required general knowledge about the world (e.g., geography, history, art, business, and social science).

Method

Participants. Participants were 140 students and staff at a West Coast university (64% women). The participants had a mean age of 20 years ($SD = 2.3$). They were approximately

74% Asian, 17% Caucasian, 4% African American, 4% Hispanic, and 1% other racial backgrounds.

Procedure. The study procedure closely resembled that of Study 1, with some exceptions. First, the task involved answering questions about geography, history, art, business, and social science. We selected questions a well-informed person might know. For instance, questions included, “On what date was the U.S. Constitution signed?” and “What is the median household income in the U.S.?” Each of the two phases of the experiment included eight questions. Second, we determined accuracy based on a pre-test of the task with 46 respondents. We counted answers that fell within half a standard deviation of the correct answer as accurate. We chose this standard because we expected answers to form an approximately normal distribution, resulting in 34% of answers counted as accurate. This seemed to provide a reasonable standard for groups to meet and ensured that most respondents would earn a reasonable pay rate for their participation.

Measures.

Status in the group. After each of the two experimental phases, participants rated and ranked each other’s status in the group using the same three items as in Study 1. SOREMO analysis revealed significant and high relative variance (in Phases 1 and 2, respectively, influence: .67, .48; status: .55, .53; leadership: .53, .42), indicating that group members agreed on who had more status in the group than others. We also measured each participant’s objective influence on the group’s decisions in each phase in the same way as in Study 1. Peer-ranked status, peer-ranked influence, peer-rated leadership, and the objective influence measure were again highly correlated (coefficient alpha reliabilities = .77 in Phase 1 and .73 in Phase 2). Therefore, we reverse-scored the peer-ranked status, peer-ranked influence, and objective

influence measures so that higher scores indicated higher status. We then standardized all four measures and averaged them into one overall index of status in the group. We also averaged Phase 1 and Phase 2 status to create a measure of net status, as in Study 1.

Social skill. In the laboratory context, the primary social coordination problem facing groups is usually how to secure active participation and come to an agreement on how to approach the task. Therefore, although a number of social skills predict leadership in different groups (Van Vugt, 2006), in the laboratory context, we expected verbal skills to be a critical social skill. Verbal skills would enable individuals to participate actively and convince groups to accept their recommendations about the task. Therefore, we focused on whether overconfident individuals, once revealed, would still be perceived as more verbally skilled. To assess this, participants ranked the group members with respect to how verbally skilled they were. Relative target variance, and thus consensus, on the measure for Phase 1 and Phase 2 were .41 and .40, respectively, suggesting high consensus on this attribute. We reverse-scored this measure so that higher numbers indicated greater perceived social skill.

Peer-ranked task ability. After each phase, participants privately ranked the ability of each group member using the same item as in Study 1. SOREMO showed statistically significant amounts of variance in both phases (relative variances were .54 and .52, respectively), indicating that group members agreed about one another's task ability in both phases. Because lower rankings (e.g., 1st) indicated higher perceived task ability, we reverse-scored the measure.

Group commitment. To assess whether overconfident individuals, once revealed, would be perceived as less committed to the group's success, participants privately ranked the group members with respect to how much they cared about the group's performance. SOREMO showed statistically significant relative variance in Phase 1 and Phase 2 (.20 and .38,

respectively). We reverse-scored this measure so that higher numbers indicated greater perceived commitment to the group.

Actual task ability. We measured actual performance by summing how many of each individual's answers fell within a half a standard deviation (determined from the pre-testing distribution) of the correct answer. We resolved tied scores by calculating how far individuals' answers were from the correct answer.

Overconfidence. After each of the two phases, participants privately reported their perceptions of their own and others' abilities at the task, as in Study 1. We calculated overconfidence the same way as in Study 1, by regressing perceived relative task ability on actual relative task ability and retaining the standardized residual. Thus, higher numbers indicated confidence unaccounted for by actual relative task ability. In this task, self-rankings of relative task ability correlated with actual relative task ability, $r(138) = .35, p < .001$.

Results and Discussion

Phase 1: Pre-performance feedback. The Phase 1 results from Study 2 replicated those from Study 1. Again, overconfidence significantly predicted status, $\beta = .39, t(138) = 4.91, p < .001$. The effect of overconfidence did not depend on gender, $\beta = -.02, t(134) = -.15, p = .89, n.s.$

Phase 2: Post-performance feedback. We next examined our key research question: how groups reacted to members revealed as overconfident by the task performance feedback. As in Study 1, we found little evidence that groups punished overconfident members. In fact, overconfidence in Phase 1 correlated *positively* with status in Phase 2, $r(138) = .24, p < .01$. This result suggests that the status benefits of initial overconfidence persisted into Phase 2, even

after the overconfident were revealed to be no more talented at the task than other group members.

Also, as in Study 1, overconfidence had a positive correlation with net status, the average status individuals achieved across Phases 1 and 2, $r(138) = .34, p < .001$. It is important to note that this result emerged in a task context very different from that in Study 1. Here, groups worked on general knowledge problems; in this domain, individuals would seemingly be expected to have more self-awareness of their competence.

What accounts for groups' failure to punish individuals revealed to be overconfident? Why were individuals revealed to be overconfident not punished with lower status, and indeed, continually rewarded with higher status? To explore this question, we examined peer-perceptions of social skill, task ability, and group commitment in Phase 2.

In separate regression analyses, overconfidence in Phase 1 predicted peer-ranked social skill, $\beta = .18, t(138) = 2.19, p < .05$, peer-ranked task ability, $\beta = .19, t(138) = 2.29, p < .05$, and peer-ranked group commitment, $\beta = .23, t(138) = 2.73, p < .01$, in Phase 2. These results suggest that revealed overconfidence was not punished with lower status, and in fact was continually rewarded with higher status, for many reasons. First, overconfident individuals, as expected, were perceived as more socially skilled. Second, overconfidence was associated with positive impressions of task ability that persisted even when the overconfidence was revealed. Overconfident individuals were still seen as more task skilled, even in the face of objective evidence to the contrary. Third, we not only failed to find that individuals revealed to be overconfident were seen as less committed to the group's success, but also found they were perceived as more committed to the group's success. Therefore, there was no sign of a

suppression effect here; overconfidence positively predicted perceptions of commitment to the group.

We next examined whether peer perceptions of social skill and task ability mediated the relation between Phase 1 overconfidence and Phase 2 status. To establish mediation of the Phase 1 overconfidence effect on Phase 2 status, two additional conditions must be met (Kenny, Kashy, & Bolger, 1998). First, the mediator must predict the outcome variable, independent of the predictor variable. In separate regression analyses, Phase 2 peer-ranked social skill, $\beta = .74$, $t(137) = 13.36$, $p < .001$, and peer-ranked task ability, $\beta = .78$, $t(137) = 14.83$, $p < .001$, each predicted status in the group after controlling for Phase 1 overconfidence, satisfying the condition for each of the three mediators. In each regression, Phase 1 overconfidence no longer significantly predicted Phase 2 status when the mediator was entered. Second, the effect of Phase 1 overconfidence on Phase 2 status in the group must be significantly reduced after controlling for the mediator. A Sobel (1982) test of the indirect effects found each significant (social skill: Sobel test statistic = 2.15, $p < .05$; task ability: Sobel test statistic = 2.27, $p < .05$). Therefore, both perceptions of social skill and task ability mediated the relationship between Phase 1 overconfidence and Phase 2 status in the group. Figure 2 illustrates this mediation effect.

Summary. The results from Study 2 corroborate those from Study 1. We found again that overconfidence predicted higher status in the absence of objective information regarding task ability and when groups discovered overconfidence, they did not punish it. As a result, overconfidence had a net positive effect on individuals' social status. In fact, somewhat unexpectedly, Study 2 found that groups not only did not punish individuals revealed to be overconfident, but even continued to accord them elevated status. This latter finding occurred

due to two mechanisms. Overconfident individuals, even after revealed as no better at the task than other group members, were seen as more socially and task skilled.

Study 3

Study 3 extended the findings from Studies 1 and 2 in two primary ways. First, Studies 1 and 2 examined overconfidence that naturally emerged. Although we controlled for third variables such as extraversion and gender, the correlational designs did not allow us to eliminate all third variable explanations. We thus designed Study 3 to address the issue of causality directly. Participants in Study 3 watched a video recording of a person ostensibly part of a small group from a previous experiment. We varied the degree to which the individuals in the video recording were ostensibly overconfident versus accurate in their self-perceived task ability.

We aimed to mimic the two-phase design of Studies 1 and 2 but used an experimental manipulation of overconfidence in Phase 1. Specifically, in Phase 1, participants observed individuals who were overconfident or accurate in their self-perceived task ability and rated those individuals on various dimensions. Participants were then informed of the individuals' ostensive actual task ability, and were asked to rate those individuals again (mimicking Phase 2 of the previous studies). Experimentally manipulating the targets' overconfidence enabled us to make stronger conclusions regarding causality.

Second, in Studies 1 and 2, after we revealed each group member's actual task ability, we asked groups to work together again on the same task. This allowed the status hierarchy to shift and gave groups the opportunity to reallocate status, based on the performance information. However, by allowing groups to work together after the performance feedback was given, it also allowed individuals revealed to be overconfident to modify their own behavior. For example, individuals revealed to be overconfident might have behaved more humbly in response to the

performance information to appease fellow group members and maintain positive standing in the group. If so, their lack of punishment in Studies 1 and 2 might have been partially due to their appeasement efforts.

Our design in Study 3 addressed this alternative explanation by eliminating the possibility of appeasement behavior. After informing participants of individuals' actual task abilities, we immediately asked them to rate that person again. In this way, their second set of ratings could not be affected by the individual's behavior.

Method

Participants. Participants were 99 undergraduate students (57% women) at a West Coast university. They received half a course credit in exchange for participating. One participant was suspicious of the video's authenticity and was dropped from the analyses, leaving 98 participants. The participants had a mean age of 21 years ($SD = 3.4$). They were 58% Asian, 24% Caucasian, 6% Hispanic, 3% African American, and 9% who reported other racial backgrounds.

Design and procedure. The study had a 2 (Confidence: High, Average) x 2 (Task Ability: High, Average) x 2 (Actor Gender: Male, Female) design. We chose to compare high levels of confidence and task ability to average levels (rather than low) because more individuals fall closer to the average than to the lower end in a normal curve. We also used two different targets, one of each gender, to again establish that our effects but across both genders.

Upon arrival, participations were told they would see a video from a prior research study, in which groups of participants worked together on a person-perception task. Each group had ostensibly received pictures of individuals and estimated those individuals' personality traits. The experimenter told participants they had been randomly assigned to watch one participant

from that prior study, the person who was in seat letter “H.” Participants then watched a short video of a male or female actor displaying high or average levels of confidence. The camera focused on the actor, such that no other person was visible, even though participants were led to believe that the person was working in a small group.

After watching the video, participants completed a survey in which they rated “Person H.” These first ratings mimicked those in Phase 1 of the previous studies, made before the performance feedback was given. Next, the experimenter provided information about the actual task ability of Person H. Participants then again completed a questionnaire that measured perceptions of the target person; these second ratings mimicked those in Phase 2 of the previous studies. Finally, participants were thanked for participating, debriefed, and dismissed.

To manipulate the actors’ level of self-perceived task ability, we hired two actors and trained them to exhibit high or average levels of confidence in ways outlined by prior research. Specifically, we asked them to show nonverbal behavior that previous research has shown to be linked to high or average levels of confidence (Berger et al., 1986, p. 160; Brinol & Petty, 2003; DePaulo et al., 2003; Ridgeway, 1987, p. 688; Scherer, London, & Wolf, 1973; Shreve, Harrigan, Kues, & Kagas, 1988; Tracy & Robins, 2004). Table 1 summarizes the confidence cues displayed by the actors.

To test whether the actors in these videos exhibited high and average levels of confidence, we randomly assigned 80 judges to watch one of the four videos. After watching the video, the judges reported how much ability at the task the person in the video believed he/she had, on a scale of 1 (*Believes he/she is among the very worst – in the bottom percentile*) to 100 (*Believes he/she is among the very best – in the top percentile*), and how competent at the task relative to his/her group members the person believed he/she was, on a scale of 1 (*Much less*

competent than other group members – in the lowest percentile) to 100 (*Much more competent than other group members – in the highest percentile*). The videos in the average confidence condition received a mean rating of 46.7 and those in the high confidence condition received a mean rating of 91.0.

To manipulate the actors' level of actual task ability, we told participants that Person H had actually performed at high or average levels. On the basis of the ratings given to the videos during pre-testing, we told participants that "Person H performed in the (91st / 47th) percentile of the population on the task. That is, (he / she) performed better than (91% / 47%) of other people who have done this personality assessment task."

Measures. All measures were designed to closely resemble those used in Studies 1 and 2, and were adapted only slightly to fit the current context when necessary. We included additional measures to establish reliability because the current study did not employ peer-ratings. We again refer to the phase of the experiment before the delivery of performance information as Phase 1, and the phase after this information was delivered as Phase 2.

Status in the group. We measured status with five items: "How influential do you find Person H?" (*1 – Not at All Influential to 7 – Very Influential*), "How much do you respect Person H?" (*1 – Not at All to 7 – Very Much*), "To what extent would you listen to Person H if you were working together?" (*1 – Not at All to 7 – Very Much*), "If you were working with Person H in a group setting, what level of status (i.e., respect, admiration, and standing accorded by the group) would you expect him/her to have?" (*1 – Very Low Status to 7 – Very High Status*), and "Please rate how much leadership Person H displayed" (*1 – Follower to 7 – Leader*). The five items correlated highly (Phase 1: $\alpha = .86$, Phase 2: $\alpha = .90$), so we combined them into one measure of status (Phase 1: $M = 3.80$, $SD = 1.11$; Phase 2: $M = 3.96$, $SD = 1.19$).

Perceived task ability. Three items measured task ability: “Please rate how skilled at the task Person H was,” (*1 – Not at All Skilled to 7 – Very Skilled*), “Please rate how competent Person H was,” (*1 – Not at All Competent to 7 – Very Competent*), and “Please rate Person H’s ability at the task” (*1 – Very Low Ability to 7 – Very High Ability*). These items correlated highly (Phase 1: $\alpha = .88$, Phase 2: $\alpha = .95$), so were averaged to form a composite measure of perceived task ability (Phase 1: $M = 4.43$, $SD = 1.04$; Phase 2: $M = 4.65$, $SD = 1.41$).

Perceived social skill. We expected that social skill would manifest in the research setting primarily as verbal skill, as in Study 2. Therefore, two items measured social skill: “Please rate Person H’s level of verbal skill,” (*1 – Very Poor Verbal skills to 7 – Very Good Verbal skills*) and “Please rate how articulate Person H was” (*1 – Not at All Articulate to 7 – Very Articulate*). The items correlated highly (Phase 1: $\alpha = .91$, Phase 2: $\alpha = .90$), so were averaged to form a composite measure of social skill (Phase 1: $M = 4.52$, $SD = 1.49$; $M = 4.54$, $SD = 1.44$).

Results and Discussion

Phase 1: Pre-performance feedback. Participants rated the actors’ status higher when they displayed high levels of confidence, $M = 4.26$, $SD = .15$, rather than lower levels of confidence, $M = 3.34$, $SD = .14$, $F(1, 93) = 20.18$, $p < .001$. This suggests that high levels of confidence led individuals to be afforded higher status. The main effect of gender did not attain statistical significance, Female Actor: $M = 4.00$, $SD = .15$; Male Actor: $M = 3.60$, $SD = .14$; $F(1, 93) = 3.76$, $p = .06$, nor did the interaction between actor gender and confidence, $F(1, 93) = 3.32$, $p = .07$.

Phase 2: Post-performance feedback. We next examined how participants reacted to individuals revealed to be overconfident. An omnibus ANOVA on Phase 2 ratings indicated

significant effects of each manipulated variable, $F(7, 87) = 4.58, p < .001$: confidence, $F(7, 87) = 9.45, p < .01$; actual task ability, $F(7, 87) = 14.65, p < .001$; gender of the actor, $F(7, 87) = 5.10, p < .05$. Average status ratings in each condition appear in Table 2. None of the interaction terms reached significance. Therefore, we proceeded to conduct a planned comparison that examined our primary research question – namely, whether groups punished overconfident individuals with status penalties.

Were individuals who were overconfident (exhibited high confidence, but had average task ability) afforded lower status in Phase 2 than individuals who accurately perceived their average level of task ability (exhibited average confidence, and had average task ability)? The analysis indicated that the actors received no status penalty in Phase 2 from the display of overconfidence in Phase 1, $M(\text{Overconfidence}) = 3.76, SE = .21$, as compared to individuals of average task ability whom perceived their task abilities accurately, $M(\text{Average Confidence}) = 3.38, SE = .22, p = .22, n.s.$

We next examined whether overconfidence had a net positive effect on status, by summing the status afforded to individuals in the overconfident condition, before and after the ostensive performance feedback was given, and comparing this figure to the status afforded to individuals in the accurate (average) self-perceived task ability condition, before and after the ostensive performance feedback was given. This analysis showed that overconfident individuals ($M = 3.99, SE = .19$) were afforded higher net status than individuals with accurate self-perceptions of task ability ($M = 3.34, SE = .19, p < .05$). Consistent with Studies 1 and 2, the status benefits of overconfidence outweighed the potential costs.

We again explored how overconfidence affected perceptions of social skill and task ability in Phase 2. The analyses found that overconfidence predicted positive impressions of

social skill, $\beta = .55$, $t(49) = 4.61$, $p < .001$. Its effects on task ability, $\beta = .21$, $t(51) = 1.52$, $p = .13$, did not attain statistical significance.

Finally, in an exploratory vein, we compared the status afforded to overconfident individuals to the status afforded to justifiably confident (high confidence, high task ability) individuals. The analysis suggested that the actors attained less status when overconfident than when justifiably confident, $F(1, 42) = 13.92$, $p < .01$; $M(\text{High Task Ability}) = 4.88$, $M(\text{Average Task Ability}) = 3.76$. Therefore, although overconfidence provided status benefits relative to being accurate about one's average task abilities, those benefits did not match the status benefits from having high levels of actual ability at the task. Acting capable was beneficial, but actually being capable was better.

Summary. The results from Study 3 confirm and extend those from Studies 1 and 2. Study 3 found that individuals displaying high confidence were afforded higher status. After participants learned that the highly confident individuals performed at average levels on the task, they exhibited no evidence of negative reactions in the form of status penalties. Instead, they continued to view the overconfident individuals as socially skilled. Displaying confidence had a net positive effect on the status accorded to individuals with average levels of task ability. Beyond these replications, Study 3 extended our understanding of this phenomenon in at least two ways. First, it involved a causal design, eliminating third variable concerns. Second, it contributed knowledge of how the status consequences of justifiably high confidence compare to those of overconfidence.

The findings of Study 3 are particularly interesting because the methods used were so similar to those used in the preliminary data described in the Introduction; however, Study 3 found completely different results. Recall that the preliminary data used a vignette method and

found individuals expected to react negatively to a hypothetical person who was overconfident. However, in Study 3, when individuals were exposed to someone – even simply through a videotape recording – who was revealed to be overconfident, they did not react negatively. It seems that seeing people who are overconfident, hearing them speak, and observing their nonverbal behavior leads to very different reactions than individuals expect to have.

General Discussion

Summary of Findings

In the Introduction we described how individuals expect to react negatively toward overconfident individuals. However, in contrast to these lay expectations, we consistently found across three studies that overconfidence has a net positive value in terms of social status. In three studies, individuals higher in overconfidence were afforded higher status when others were unaware that the individuals' confidence was unjustified. Even when groups gained clear, objective information about overconfident individuals' actual task ability, they did not punish those individuals with lower status – that is, overconfidence, once revealed to others, did not lead to lower status. Therefore, on balance, the status-related benefits of overconfidence outweighed its potential costs; overconfidence predicted higher status on average, aggregating across conditions in which groups were unaware that overconfident individuals' lofty self-perceptions were unwarranted and conditions in which groups were made aware that those self-perceptions were unjustified.

We also explored why overconfidence led to higher net status on balance. First, we found that peers perceived overconfident individuals to possess better social skill in both Studies 2 and 3. We also found in all three studies that revealed overconfidence did not predict lower peer perceptions of task ability (in fact, in Study 2, it predicted higher peer perceptions of task

ability). Additionally, contrary to the “punitiveness” argument laid out in the Introduction, individuals revealed to be overconfident were not perceived as less committed to the group (again, in Study 2, revealed overconfidence predicted higher peer perceptions of commitment). On the whole, therefore, the findings were clear in showing that revealed overconfidence did not lead individuals to be perceived negatively by peers. To the contrary, it led individuals to be perceived as more socially skilled and, at times, more task skilled and committed to the group.

Implications for Theories of Overconfidence

These findings lend further support to a social-functional account of overconfidence (Anderson et al., 2010). Previous work has suggested that overconfidence might pervade human self-judgment because it provides the individual with social benefits in the form of higher social status. A potent counterargument to this social-functional account is that overconfidence may have serious social costs when detected, rendering it highly risky for the individual. However, the data presented here do not support this counterargument. Overconfidence led to social benefits when undetected and had no associated social costs when discovered. Therefore the social benefits outweighed the potential social costs. Accordingly, the current findings bolster the notion that overconfidence is socially rewarding for the individual and help explain the frequency of overconfidence.

Implications for Theories of Status

These findings also have implications for theories of social status. First, they contribute to knowledge of how groups allocate social status. This research suggests that overconfidence may create illusory perceptions of task competence and these illusions may form the basis for many status hierarchies. Past research has questioned functionalist views of status (Lee & Ofshe, 1981; Mazur, 1985) and noted systematic biases in the way individuals infer and judge the

contributions of others (Berger et al., 1972; Carli, LaFleur, & Loeber, 1995; Merton, 1968; Ridgeway, 1978, 1981). For instance, researchers have found individuals to exhibit suspicion regarding females' motivations for contributing to tasks because competent, agentic behavior violates female gender norms (Carli et al., 1995; Ridgeway, 1978, 1981; Rudman & Fairchild, 2004; Rudman & Glick, 1999). This research contributes knowledge of an additional factor, overconfidence, which biases the allocation of status. It also suggests groups may not adjust status hierarchies to reflect actual task ability rankings even when they receive clear, objective feedback about task abilities because groups consider overconfidence to convey status-relevant information.

Second, these findings demonstrate that status-seeking may have unintended consequences – for instance, overconfidence. Because individuals who seek status may be more likely to attain their goal when they display confidence, over time, the positive reinforcement of this behavior may lead status-seeking individuals to develop habits of thinking and acting confidently, even when their skills cannot justify such confidence. This could provide one explanation for why experts update their judgments less often and more slowly than one might expect (Tetlock, 1998, 2005). Like other individuals seeking status through their careers, experts may find it quite expedient to exhibit overconfidence in their task abilities. In sum, this research suggests that status-seeking could have unintended consequences ripe for exploration.

Limitations and Future Directions

Although this research has many strengths, it of course had a number of limitations as well. One limitation arises from the experimental nature of the data. Because we studied overconfidence in a laboratory setting, the stakes were relatively low. Future research should examine how groups react to revealed overconfidence when the decision stakes are higher and

when status carries greater meaning and benefits. Nevertheless, in two ways, these studies provided a conservative test of our hypothesis. First, in this setting, individuals should have had relatively little hesitation to react negatively to each other. In organizations, individuals must often maintain working relationships long-term and act with cognizance of the social network. Therefore, individuals who interact in temporary laboratory groups with peers who are strangers may be more likely to react negatively to overconfident group members than individuals in real organizations because they have less reason to fear disrupting ongoing relationships.

Second, in this setting, the clear, objective nature of the task and performance feedback should have increased the likelihood that individuals would pinpoint and hold accountable individuals who misled the group regarding their task abilities. Individuals had the ability and reason to be motivated to determine who deserved influence over task decisions and adjust status hierarchies accordingly. In contrast, in most organizations, task performance and feedback are rarely so objective. In the world outside the laboratory, detecting overconfidence and seeing its costs may be more difficult and overconfidence may therefore have an even higher net status value (Pfeffer, 1992).

A third limitation of our research arises from the limited duration of our studies. In our studies, individuals were exposed as overconfident only once. Future work should explore the boundary conditions of the no punishment effect. Whether groups grow less tolerant of overconfidence when they discover it repeatedly or, conversely, more likely to rationalize a high status individual's position is an empirical question worth exploring.

Future research could also explore in greater depth a few of the processes mentioned here. First, it could explore the nature of the positive impressions created by overconfidence. For instance, it could examine whether overconfidence creates only the positive perceptions

documented here or a more general halo effect. In addition, research could examine which behaviors manifested by overconfident individuals lead to status attributions. Our studies did not measure these behaviors precisely. By measuring these behaviors, researchers could determine more conclusively whether overconfident individuals are actually more socially skilled in terms useful for groups.

Finally, future research could examine other constraints on overconfidence that might balance out the social benefits. Although this research suggests overconfident individuals suffer few social penalties, overconfidence may involve other costs that constrain individuals' tendencies to exhibit it (Camerer & Lovallo, 1999; Dunning et al., 2004; Hayward & Hambrick, 1997; Odean, 1998). For example, overestimating one's task abilities might create a tendency to generate unrealistic goals, creating physical or psychological dangers (McGraw, Mellers, & Ritov, 2004). Upon discovering their overconfidence, individuals may also feel an ethical obligation to revise their beliefs. Future research should explore the subjective experience of overconfidence and the constraints that limit its expression.

Conclusion

The results we present suggest that overconfidence may serve individuals quite well socially, by providing them with higher social status. When overconfident individuals' actual task ability is unknown to others, overconfident individuals are accorded higher social status. Moreover, even when groups receive clear, objective data on overconfident individuals' true task ability, those individuals do not suffer lower status. Therefore, on net, overconfidence predicts higher levels of status. These findings thus lend support to a social-functional account of overconfidence. They suggest that overconfidence might pervade self-perceptions in part because overconfidence provides the individual with higher social status.

References

- Alexander, R. D. (1987). *The biology of moral systems*. Hawthorne, NY: Aldine de Gruyter.
- Alicke, M. D., & Govorun, O. (2005). The better-than-average effect. In M. D. Alicke, D. Dunning & J. Krueger (Eds.), *The self in social judgment* (pp. 85-106). New York, NY: Psychology Press.
- Anderson, C., Ames, D.R., & Gosling, S.D. (2008). Punishing hubris: The perils of overestimating one's status in a group. *Personality and Social Psychology Bulletin*, *34*, 90-101.
- Anderson, C., Brion, S., Moore, D.A. (2010). *A social-functional account of overconfidence*. Unpublished manuscript, University of California, Berkeley.
- Anderson, C.A., John, O.P., Keltner, D., & Kring, A.M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology*, *81*, 116-132.
- Anderson, C., & Kilduff, G. J. (2009). Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance. *Journal of Personality and Social Psychology*, *96*, 491-503.
- 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*, 1094-1110.
- Bales, R. F., Strodtbeck, F. L., Mills, T. M., & Roseborough, M. E. (1951). Channels of communication in small groups. *American Sociological Review*, *16*, 461-468.
- Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *Journal of Finance*, *55*, 773-806.

- Bass, B.M. (with Bass, R.) (2008). *The Bass handbook of leadership* (4th ed.). New York, NY: Free Press.
- Baumeister, R.F. (1982). A self-presentational view of social phenomena. *Psychological Bulletin, 91*, 3-26.
- Benassi, M.A. (1982). Effects of order of presentation, primacy, and physical attractiveness on attributions of ability. *Journal of Personality and Social Psychology, 43*, 48-58.
- Berger, J., Cohen, B. P., & Zelditch, M. (1972). Status characteristics and social interaction. *American Sociological Review, 37*, 241-255.
- Berger, J., Webster, M., Ridgeway, C., & Rosenholtz, S.J. (1986). Status cues, expectations, and behaviors. In E.J. Lawler (Ed.), *Advances in group processes* (Vol. 3, pp. 1–22). Greenwich, CT: JAI.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: John Wiley & Sons.
- Breland, H.M., & Jones, R.J. (1984). Perceptions of writing skills. *Written Communication, 1*, 101-119.
- Brinol, P., & Petty, R.E. (2003). Overt head movements and persuasion: A self-validation analysis. *Journal of Personality and Social Psychology, 84*, 1123-1139.
- Camerer, C. F., & Lovallo, D. (1999). Overconfidence and excess entry: An experimental approach. *American Economic Review, 89*, 306-318.
- Carli, L. L., LaFleur, S. J., & Loeber, C. C. (1995). Nonverbal behavior, gender, and influence. *Journal of Personality and Social Psychology, 68*, 1030-1041.
- Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression / correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.

- College Board. (1976-1977). *Student descriptive questionnaire*. Princeton, NJ: Educational Testing Service.
- Correll, S.J. (2001). Constraints into preferences: Gender, status, and emerging career aspirations. *American Sociological Review*, *69*, 93-113.
- Cronbach, L.J., & Furby, L. (1970). How should we measure “change”: Or should we? *Psychological Bulletin*, *74*, 68-80.
- Cross, P. (1977). Not can but will college teaching be improved? *New Directions for Higher Education*, *17*, 1-15.
- DePaulo, B.M., Lindsay, J.J., Malone, B.E., Muhlenbruch, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, *129*, 74-118.
- Driskell, J.E., & Mullen, B. (1990). Status, expectations, and behavior: A meta-analytic review and test of the theory. *Personality and Social Psychology Bulletin*, *16*, 541-553.
- DuBois, P.H. (1957). *Multivariate correlational analysis*. New York, NY: Harper.
- Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest*, *5*, 69-106.
- Dunning, D., Meyerowitz, J. A., & Holzberg, A. D. (1989). Ambiguity and self-evaluation: The role of idiosyncratic trait definitions in self-serving assessments of ability. *Journal of Personality and Social Psychology*, *57*, 1082-1090.
- Edwards, J.R. (1994). Regression analysis as an alternative to difference scores. *Journal of Management*, *20*, 683-689.
- Eibl-Eibesfeldt, I. (1989). *Human ethology*. New York, NY: Aldine de Gruyter Press.
- Emerson, R. M. (1962). Power dependence relations. *American Sociological Review*, *27*, 30-41.

- Gigerenzer, G., & Hoffrage, U. (1995). How to improve Bayesian reasoning without instruction: Frequency formats. *Psychological Review*, *102*, 684-704.
- Glass, C.R., Merluzzi, T.V., Biever, J.L., & Larsen, K.H. (1982). Cognitive assessment of social anxiety: Development and validation of a self-statement questionnaire. *Cognitive Therapy and Research*, *6*, 37-55.
- Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, NY: Doubleday.
- Goldhamer, H., & Shils, E. A. (1939). Types of power and status. *American Journal of Sociology*, *45*, 171-182.
- Gray-Little, B., & Burks, N. (1983). Power and satisfaction in marriage: A review and critique. *Psychological Bulletin*, *93*, 513-538.
- Hall, J. A. (1979). Gender, gender roles, and nonverbal communication skills. In R. Rosenthal (Ed.), *Skill in nonverbal communication* (pp. 32-67). Cambridge, MA: Oelgeschlager, Gunn, & Hain.
- Harrison, D.A., Price, K.H., Gavin, J.H., & Florey, A.T. (2002). Time, teams, and task performance: Changing effects of surface- and deep-level diversity on group functioning. *Academy of Management Review*, *45*, 1029-1045.
- Harvey, N. (1997). Confidence in judgment. *Trends in Cognitive Sciences*, *1*, 78-82.
- Hayward, M. L. A., & Hambrick, D. C. (1997). Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative Science Quarterly*, *42*, 103-127.
- Haun, D. E., Zeringue, A., Leach, A., & Foley, A. (2000). Assessing the competence of specimen-processing personnel. *Laboratory Medicine*, *31*, 633-637.
- Hoelzl, E., & Rustichini, A. (2005). Overconfident: Do you put your money on it? *Economic Journal*, *115*, 305-318.

- Hoffrage, U. (2004). Overconfidence. In R. F. Pohl (Ed.), *Cognitive illusions: Fallacies and biases in thinking, judgment, and memory* (pp. 235–254). Hove, England: Psychology Press.
- Hollander, E.P., & Julian, J.W. (1969). Contemporary trends in the analysis of leadership processes. *Psychological Bulletin*, *71*, 387-397.
- John, O. P., & Robins, R. W. (1994). Accuracy and bias in self-perception: Individual differences in self-enhancement and the role of narcissism. *Journal of Personality and Social Psychology*, *66*, 206-219.
- John, O. P., & Srivastava, S. (1999). The Big Five Trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & Oliver P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–139). New York: Guilford Press.
- Jones, E.E., Rock, L., Shaver, K.G., Goethals, G.R., & Ward, L.M. (1968). Pattern of performance and ability attribution: An unexpected primacy effect. *Journal of Personality and Social Psychology*, *10*, 317-340.
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, *87*, 765-779.
- Kalma, A.P., Visser, L., & Peeters, A. (1993). Sociable and aggressive dominance: Personality differences in leadership style? *Leadership Quarterly*, *4*, 45-64.
- Kenny, D.A. (1991). A general model of consensus and accuracy in interpersonal perception. *Psychological Review*, *98*, 155-163.
- Kenny, D. A. (1995). *SOREMO Version V.2: A FORTRAN program for the analysis of round-robin data structures*. Unpublished manuscript, University of Connecticut.

- Kenny, D. A., Albright, L., Malloy, T. E., & Kashy, D. A. (1994). Consensus in interpersonal perception - Acquaintance and the Big-5. *Psychological Bulletin*, *116*, 245-258.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert & S. T. Fiske (Eds.), *The handbook of social psychology*, *1* (pp. 233-265). New York, NY: McGraw-Hill.
- Kenny, D. A., & La Voie, L. (1984). The social relations model. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 18, pp. 142-182). Orlando: Academic.
- Krebs, D. L., & Denton, K. (1997). Social illusions and self-deception: The evolution of biases in person perception. In J. A. Simpson & D. T. Kenrick (Eds.), *Evolutionary social psychology*. Mahwah, N.J.: Lawrence Erlbaum.
- Kruger, J. (1999). Lake Wobegon be gone! The "below-average effect" and the egocentric nature of comparative ability judgments. *Journal of Personality and Social Psychology*, *77*, 221-232.
- Larrick, R. P., Burson, K. A., & Soll, J. B. (2007). Social comparison and confidence: When thinking you're better than average predicts overconfidence (and when it does not). *Organizational Behavior and Human Decision Processes*, *102*, 76-94.
- Leary, M. R. (2007). Motivational and emotional aspects of the self. *Annual Review of Psychology*, *58*, 317-344.
- Leary, M.R., & Kowalski, R.M. (1990). Impression management: A literature review and two-component model. *Psychological Bulletin*, *107*, 34-47.
- Lee, M.T., & Ofshe, R. (1981). The impact of behavioral style and status characteristics on social influence: A test of two competing theories. *Social Psychology Quarterly*, *44*, 73-82.

- Lewinsohn, P.M., Mischel, W., Chaplin, W., & Barton, R. (1980). Social competence and depression: The role of illusory self-perceptions. *Journal of Abnormal Psychology, 89*, 203-212.
- Lord, R. G., de Vader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. *Journal of Applied Psychology, 71*, 402–410.
- Lord, R.G., Phillips, J.S., & Rush, M.C. (1980). Effects of sex and personality on perceptions of emergent leadership, influence, and social power. *Journal of Applied Psychology, 65*, 176-182.
- Mann, R.D. (1959). A review of the relationships between personality and performance in small groups. *Psychological Bulletin, 56*, 241-270.
- Mazur, A. (1985). A biosocial model of status in face-to-face primate groups. *Social Forces, 64*, 377-402.
- McAndrew, F.T. (1981). Pattern of performance and attributions of ability and gender. *Personality and Social Psychology Bulletin, 7*, 583-587.
- McGraw, A. P., Mellers, B. A., & Ritov, I. (2004). The affective costs of overconfidence. *Journal of Behavioral Decision Making, 17*, 281-295.
- Merton, R.K. (1968). The Matthew effect in science. *Science, 159*, 56-63.
- Metcalfe, J. (1998). Cognitive optimism: Self-deception or memory-based processing heuristics? *Personality and Social Psychology Review, 2*, 100-110.
- Moore, D. A. (2007). Not so above average after all: When people believe they are worse than average and its implications for theories of bias in social comparison. *Organizational Behavior and Human Decision Processes, 102*, 42-58.

- Moore, D. A., & Healy, P. J. (2008). The trouble with overconfidence. *Psychological Review*, *115*, 502-517.
- Moore, D. A., & Klein, W. M. P. (2008). The use of absolute and comparative performance feedback in absolute and comparative judgments and decisions. *Organizational Behavior and Human Decision Processes*, *107*, 60-74.
- Moskowitz, D.S. (1990). Convergence of self-reports and independent observers: Dominance and friendliness. *Personality Processes and Individual Differences*, *58*, 1096-1106.
- Mullen, B., Salas, E., & Driskell, J.E. (1989). Salience, motivation, and artifact as contributions to the relation between participation rate and leadership. *Journal of Experimental Social Psychology*, *25*, 545-559.
- Odean, T. (1998). Volume, volatility, price, and profit when all traders are above average. *Journal of Finance*, *53*, 1887-1934.
- Osborne, J.W. (2001). Testing stereotype threat: Does anxiety explain race and sex differences in achievement? *Contemporary Educational Psychology*, *26*, 291-310.
- Paese, P.W., & Kinnaly, M. (1993). Peer input and revised judgment: Exploring the effects of unbiased confidence. *Journal of Applied Social Psychology*, *23*, 1989-2011.
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology*, *74*, 1197-1208.
- Paulhus, D.L., & Bruce, M.N. (1992). The effect of acquaintanceship on the validity of personality impressions: A longitudinal study. *Personality Processes and Individual Differences*, *63*, 816-824.
- Peltokorpi, V. (2008). Transactive memory systems. *Review of General Psychology*, *12*, 378-394.

- Pfeffer, J. (1992). *Managing with power: Politics and influence in organizations*. Boston, MA: Harvard Business School Press.
- Plaks, J.E., & Stecher, K. (2007). Unexpected improvement, decline, and stasis: A prediction confidence perspective on achievement success and failure. *Journal of Personality and Social Psychology, 93*, 667-684.
- Ridgeway, C.L. (1978). Conformity, group-oriented motivation, and status attainment in small groups. *Social Psychology, 41*, 175-188.
- Ridgeway, C. L. (1981). Nonconformity, competence, and influence in groups: A test of two theories. *American Sociological Review, 46*, 333-347.
- Ridgeway, C. L. (1987). Nonverbal behavior, dominance, and the basis of status in task groups. *American Sociological Review, 52*, 683-694.
- Ridgeway, C.L., & Diekema, D. (1989). Dominance and collective hierarchy formation in male and female task groups. *American Sociological Review, 54*, 79-93.
- Riggio, R.E. (1986). Assessment of basic social skills. *Journal of Personality and Social Psychology, 51*, 649-660.
- Rudman, L.A., & Fairchild, K. (2004). Reactions to counterstereotypic behavior: The role of backlash in cultural stereotype maintenance. *Journal of Personality and Social Psychology, 87*, 157-176.
- Rudman, L.A., & Glick, P. (1999). Feminized management and backlash toward agentic women: The hidden costs to women of a kinder, gentler image of middle managers. *Journal of Personality and Social Psychology, 77*, 1004-1010.
- Schaefer, P.S., Williams, C.C., Goodie, A.S., & Campbell, W.K. (2004). Overconfidence and the Big Five. *Journal of Research in Personality, 38*, 473-480.

- Scherer, K.R., London, H., & Wolf, J.J. (1973). The voice of confidence: Paralinguistic cues and audience evaluation. *Journal of Research in Personality, 7*, 31-44.
- Shreve, E.G., Harrigan, J.A., Kues, J.R., & Kagas, D.K. (1988). Nonverbal expressions of anxiety in physician-patient interactions. *Psychiatry, 51*, 378-384.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology* (pp.290-312). San Francisco, CA: Jossey-Bass.
- Sorrentino, R.M., & Boutillier, R.G. (1975). The effect of quantity and quality of verbal interaction on ratings of leadership ability. *Journal of Experimental Social Psychology, 11*, 405-411.
- Sorrentino, R.M., & Field, N. (1986). Emergent leadership over time: The functional value of positive motivation. *Journal of Personality and Social Psychology, 50*, 1091-1099.
- Steele, C.M. (1997). A threat in the air. How stereotypes shape intellectual identity and performance. *American Psychologist, 52*, 613-629.
- Steiner, D.D., & Rain, J.S. (1989). Immediate and delayed primacy and recency effects in performance evaluation. *Journal of Applied Psychology, 74*, 136-142.
- Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology, 25*, 35-71.
- Svenson, O. (1981). Are we all less risky and more skillful than our fellow drivers? *Acta Psychologica, 47*, 143-148.
- Swann, W. B., & Gill, M. J. (1997). Confidence and accuracy in person perception: Do we know what we think we know about our relationship partners? *Journal of Personality and Social Psychology, 73*, 747-757.

Tenney, E.R., & Spellman, B.A. (in press). Complex social consequences of self-knowledge.

Social Psychological and Personality Science. Advance online publication. doi:

10.1177/1948550610390965

Tenney, E.R., Spellman, B.A., & MacCoun, R.J. (2008). The benefits of knowing what you know (and what you don't): How calibration affects credibility. *Journal of Experimental Social Psychology, 44*, 1368-1375.

Tetlock, P.E. (1998). Close-call counterfactuals and belief-system defenses: I was not almost wrong but I was almost right. *Journal of Personality and Social Psychology, 75*, 639-652.

Tetlock, P.E. (2005). *Expert political judgment: How good is it? How can we know?* Princeton, NJ: Princeton University Press.

Tracy, J.L., & Robins, R.W. (2004). Show your pride: Evidence for a discrete emotion expression. *Psychological Science, 15*, 194-197.

Trivers, R. (1985). *Social evolution*. Menlo Park, CA: Benjamin/Cummins.

Vancouver, J.B., Thompson, C.M., Tischner, E.C., & Putka, D.J. (2002). Two studies examining the negative effect of self-efficacy on performance. *Journal of Applied Psychology, 87*, 506-516.

Van Vugt, M. (2006). Evolutionary origins of leadership and followership. *Personality and Social Psychology Review, 10*, 354-371.

Waldman, M. (1994). Systematic errors and the theory of natural selection. *The American Economic Review, 84*, 482-497.

Willer, R. (2009). Groups reward individual sacrifice: The status solution to the collective action problem. *American Sociological Review, 74*, 23-43.

- Williams, E.F., & Gilovich, T. (2008). Do people really believe they are above average? *Journal of Experimental Social Psychology, 44*, 1121-1128.
- Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of Research in Personality, 31*, 21-33.
- Zarnoth, P., & Sniezek, J.A. (1997). The social influence of confidence in group decision making. *Journal of Experimental Social Psychology, 33*, 345-366.
- Zenger, T.R. (1992). Why do employers only reward extreme performance? Examining the relationships among performance, pay, and turnover. *Administrative Science Quarterly, 37*, 198-219.
- Zenker, S., Leslie, R.C., Port, E., & Kosloff, J. (1982). The sequence of outcomes and ESP: More evidence for a primacy effect. *Personality and Social Psychology Bulletin, 8*, 233-238.

Table 1

Confidence Cues Exhibited by the Actors in Study 3

	Condition		Source
	High Confidence	Average Confidence	
Cue:			
Voice tone	Factual, confident	Factual, with occasional uncertainty	DePaulo et al. (2003); Ridgeway (1987)
Voice Volume	Medium	Soft	Ridgeway (1987); Scherer, London, & Wolf (1973)
Speech tone	Rapid	Slow	Ridgeway (1987)
Hesitations	Few, short	Some, longer	Ridgeway (1987); Scherer et al. (1973)
Eye contact	High w/normal break-offs (looking mainly at the other person)	Moderate (looking often at the picture)	Ridgeway (1987)
Posture	Straight, relaxed, open, with head tilted up on occasion	Straight, with an occasional slump or head tilt down	Ridgeway (1987); Tracy & Robins (2004)
Gestures	Few, confident Head nods “yes” while speaking	Few – some confident, some uncertain; some self- or object-touching	Brinol & Petty (2003); Ridgeway (1987); Shreve, Harrigan, Kues, & Kagas (1988)

Table 2

Mean Status Ratings by Condition in Phase 2 of Study 3

	Average Confidence		High Confidence	
	Female	Male	Female	Male
Average Task Ability	3.71	3.03	3.75	3.77
High Task Ability	4.43	3.42	5.04	4.72

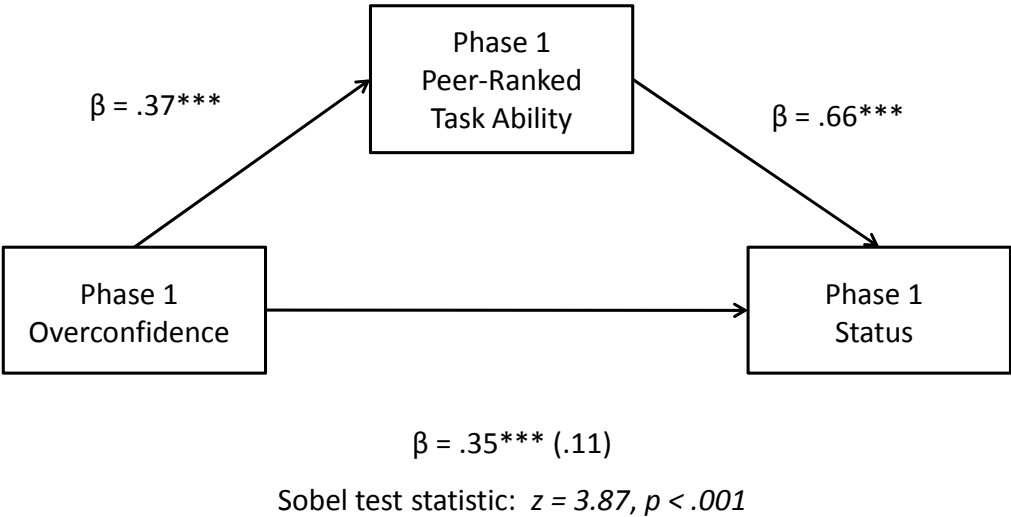


Figure 1. Mediation by peer-ranked task ability in phase 1 of study 1
*** $p < .001$.

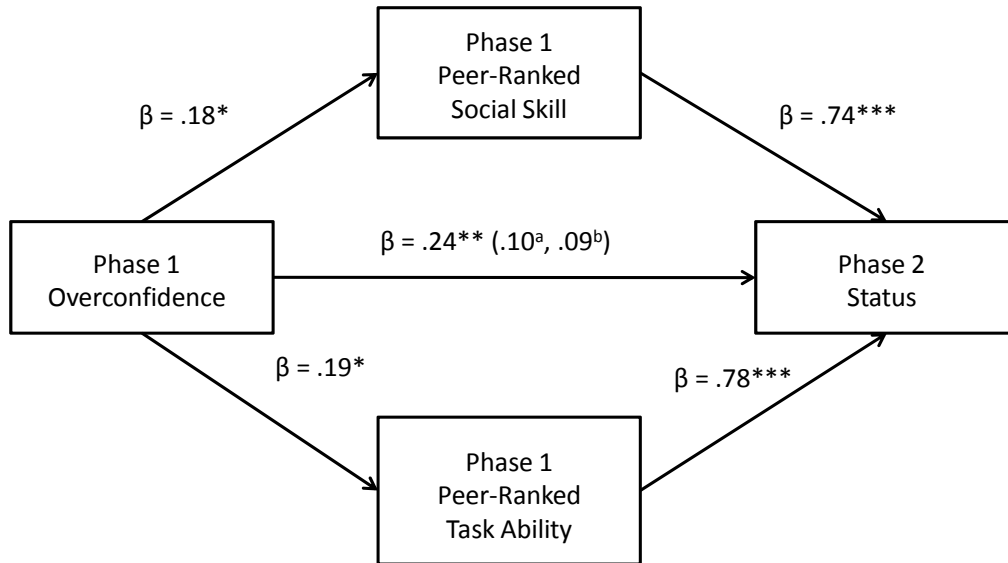


Figure 2. Separate mediations by peer-ranked social skill and task ability in Phase 2 of Study 2.

^a Social skill. ^b Task ability.

* $p < .05$. ** $p < .01$. *** $p < .001$.