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The Effects of Group Cohesiveness on Social Loafing and Social Compensation

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ABSTRACT. Individuals often engage in social loafing, exerting less effort on collective rather than individual tasks. Two experiments tested the hypothesis that social loafing can be reduced or eliminated when individuals work in cohesive rather than noncohesive groups. In Experiment 1, secretarial students typed both individually and collectively in simulated word-processing pools composed of either friends or strangers. In Experiment 2, dyads composed of either friends or strangers worked either coactively or collectively on an idea-generation task. Both studies supported the group cohesiveness hypothesis. Experiment 2 also suggested that individuals tend to engage in social compensation when working with coworkers who are low in ability. These findings are discussed in relation to S. J. Karau and K. D. Williams's (1993) Collective Effort Model.

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Much of the world's work is accomplished by groups of individuals who work together on collective tasks in which member inputs are combined into a final product. For example, business committees combine the contributions of individual members into a final report, symphony orchestras combine the sounds of individual musicians into a collective performance, and relay racing teams add the times of individual runners to get a team score. Intuition might suggest that individuals would be energized to work especially hard in groups. However, research has shown that individuals frequently reduce their efforts when working collectively—a phenomenon known as social loafing.

Formally, *social loafing* refers to the tendency for individuals to exert less effort when working collectively (such that individual inputs are combined into a single group product) rather than individually or coactively (such that individuals work in the actual or implied presence of others, but inputs are not combined). The results of more than 80 studies indicate that social loafing is a robust phenomenon that generalizes across a wide variety of tasks as well as most populations (for a review, see Karau & Williams, 1993). Although social loafing has been repeatedly demonstrated, several factors have been found to moderate the effect. For example, social loafing can be reduced or eliminated by increasing the degree to which individual or group inputs can be evaluated (Harkins & Szymanski, 1989; Szymanski & Harkins, 1987; Williams, Harkins, & Latané, 1981), elevating the uniqueness of individual contributions (Harkins & Petty, 1982), or enhancing personal involvement with the task (Brickner, Harkins, & Ostrom, 1986).

However, one key factor that may have an especially profound impact—namely, group cohesiveness—has been disregarded. Almost all of the research on social loafing has examined noncohesive aggregates of strangers. This tendency to focus on such a narrow sample limits the ability to generalize results to naturally occurring groups. Our research was designed to fill this gap by examining individual motivation within both cohesive and noncohesive groups. Although cohesiveness is a complex, possibly multidimensional construct (e.g., Tziner, 1982; Zaccaro & McCoy, 1988) that has been defined and operationalized in a variety of ways (Evans & Jarvis, 1980), the majority of treatments of group cohesiveness have emphasized members' attraction to the group (Hogg, 1992; Lott & Lott, 1965). Thus, we defined *cohesiveness* as the degree to which membership in the group was valuable or important to its members and *operationalized cohesiveness* in terms of membership in a group composed of either close friends or strangers. We hypothesized that social loafing would be reduced or eliminated in highly cohesive groups.

Background

Collective Effort Model

We framed our hypotheses in terms of the Collective Effort Model (CEM; Karau & Williams, 1993). The CEM expands the basic assumptions of expectancy-value models of work motivation (e.g., Vroom, 1964) to the more complex realm of collective tasks and uses elements of social identity and self-evaluation theories to identify outcomes that people are likely to value in collective settings. The CEM suggests that individuals are only willing to work hard on a collective task to the degree that they expect their individual efforts to be instrumental in obtaining outcomes that they will personally value. When the outcomes tied to

collective situation or the group's performance are perceived as important, relevant, or meaningful, individuals are unlikely to work hard. Moreover, even when the relevant outcomes are highly valued, individuals are not likely to work hard unless they expect their efforts to lead to performance that will be useful in obtaining those outcomes. Thus, working collectively introduces a number of unique barriers to individual motivation because individual outcomes are affected by factors—such as the performance of other group members and the possible diffusion of group outcomes and consequences across members—in addition to one's own performance.

The CEM suggests that valued outcomes can consist of either objective outcomes, such as pay, or subjective outcomes, such as enjoyment, satisfaction, and feelings of belonging or of self-worth. Outcomes relevant to self-evaluation may be particularly important for individual motivation on collective tasks because group performance settings produce the potential for self-evaluation from a variety of relevant sources (Breckler & Greenwald, 1986; Crocker & Luhtanen, 1990). Collective settings that provide information relevant to self-evaluation, whether from oneself, one's coworkers, one's boss, important reference groups, or other people, are likely to have strong implications for motivation. Cohesive groups or groups that individuals strongly identify with and highly value are likely to enhance concern with self-evaluation, especially when related to group activities and outcomes. Consistent with this notion, theory and research on social identity and on social comparison and self-evaluation processes in groups has repeatedly demonstrated that individuals maintain and enhance their self-evaluation by identifying with the positive attributes and accomplishments of groups and social categories to which they belong (Abrams & Hogg, 1990; Banaji & Prentice, 1994; Goethals & Darley, 1987). Several recent analyses also suggest that some motivations—such as needs for social interaction, belonging, or connectedness—can only be fulfilled within the context of groups with at least a moderate level of cohesiveness (e.g., Caporael, Dawes, Orbell, & van de Kragt, 1989). Indeed, Baumeister and Leary (1995) provided intriguing evidence that the need to belong and to establish and maintain strong interpersonal ties to groups may be one of the most fundamental, pervasive, and motivational aspects of the human social condition. Taken as a whole, these perspectives provide converging support for the notion that individuals are more likely to value collective outcomes when working in cohesive groups or in groups with which they personally identify rather than in noncohesive groups. Thus, we predicted that, following the CEM, social loafing would be reduced or eliminated when individuals worked in cohesive groups under conditions in which their efforts would contribute to a favorable outcome for the group and its members.

The CEM also suggests that group cohesiveness might have the potential to produce motivation gains under certain conditions. Specifically, if individuals value the collective outcomes associated with group performance and interaction more than the isolated outcomes of their individual efforts, they may actually work harder collectively than coactively. Similarly, if a valued outcome is actually more reliant on individual efforts collectively than coactively, motivation gains might emerge. An example of the latter possibility is the phenomenon of *social compensation,* in which individuals increase their efforts on collective tasks to compensate for the anticipated poor performance of other group members. Social compensation was documented in three experiments by Williams and Karau (1991), who found that individuals actually worked harder collectively than coactively when they expected their coworker to perform poorly, based on either low interpersonal trust levels or confederate statements regarding effort or ability at the task. In contrast, participants did not socially compensate for poorly performing coworkers when the task was low in meaningfulness, which is consistent with the CEM. Williams and Karau speculated that members of cohesive groups, who may attach special value to group outcomes, may be especially willing to compensate for coworkers who perform poorly, although such increased effort might not persist over time if it is not reciprocated in some form. In Experiment 2, we included a manipulation of coworker ability to test this hypothesis.

Relevant Empirical Evidence

Almost no research has directly examined group cohesiveness and social loafing. In fact, only three studies have either manipulated level of acquaintance with one's coworkers or examined individuals who were clearly closely acquainted with one another. First, Shirakashi (1985) had Japanese students shout and clap in groups composed of either strangers or members of the students' sports club. Participants in both the high- and low-cohesiveness conditions worked equally hard collectively and coactively (consistent, perhaps, with a cultural emphasis on collectivism), thereby leaving the cohesiveness question unanswered. Second, Hardy and Latané (1988) had high school cheerleaders perform a shouting task with another cheerleader from the same or a different squad. Although all participants tended to reduce their collective efforts and there was no significant interaction between group cohesiveness and individual versus group work condition, the social loafing effect only reached significance in the low-cohesiveness condition—providing initial, tentative support for the notion that group cohesiveness might at least reduce the absolute magnitude of social loafing. In a third study (Williams, Nida, Baca, & Latané, 1989), cohesiveness was not manipulated, but individual and group productivity was tested with existing teammates. Varsity intercollegiate swimmers competed

in individual and relay races in which individual times were either shouted out or not identified. Although all teams were relatively cohesive and composed of fairly close friends, individuals still tended to reduce their effort collectively when their times could not be identified. In contrast, when their times were identifiable, swimmers tended to increase their effort and work harder collectively than individually. However, neither of these simple trial-type effects (i.e., individual vs. collective) was significant, despite a significant interaction between identifiability and trial type. In summary, these studies have produced mixed results. The effects of cohesiveness, when present, have been fairly weak. Nevertheless, the lack of a significant loafing effect in several of the cohesive conditions within these studies may suggest that the tendency to loaf is at least partially reduced within cohesive groups.

Although direct evidence regarding group cohesiveness and social loafing is lacking, there is support for the related notion that concern for the group's evaluation can motivate individual members. Harkins and Szymanski (1989) found that participants were less likely to loaf when they believed the performance of their group was being compared with that of other groups and a clear standard was provided with which to make this comparison. Social loafing was eliminated, even in groups of strangers, when individuals were provided with an opportunity for self-validation through a group comparison. Working in cohesive groups may contribute even further to an individual's motive to obtain self-validation from one's important reference groups. Moreover, it is possible that such an increase in collective motivation would occur even in the presence of only a minimal or implied comparison or even when feedback about the group's performance is provided in the absence of an explicit comparison standard. Indeed, James and Greenberg (1989) found that students worked harder on an anagrams task when in-group salience (in terms of the students' university affiliation) was high and there was an implied comparison (with students at a rival university), even though an explicit comparison standard was not provided. James and Greenberg examined only coactive performance, however, preventing an analysis of the implications of in-group salience for collective motivation.

Indirect evidence that the value one attaches to a group may moderate social loafing is found in the results of several cross-cultural studies (e.g., Early, 1989; Gabrenya, Latané, & Wang, 1983; Gabrenya, Wang, & Latané, 1985; Shirakashi, 1985). Eastern or Asian culture is frequently characterized as group or socially oriented, whereas Western or North American culture is frequently characterized as individualistically oriented (e.g., Triandis, 1989). Thus, individuals in Eastern cultures may be more likely to attach importance to collective outcomes and, therefore, less likely to engage in social loafing. Although the results of individual studies are somewhat inconsistent, most studies have found that participants in countries such as Japan, Taiwan, and China either tend to loaf less than participants in the United States and Canada or do not loaf at all. Indeed, a recent meta-analysis of social loafing (Karau & Williams, 1993) confirmed that there is a significant tendency across studies for individuals from Eastern cultures to loaf less than those from Western cultures. Group cohesiveness could operate in a fashion similar to culture, contributing to member motivation by enhancing concern with group outcomes.

Of course, there is a large literature on group cohesiveness and group productivity that has implications for social loafing. This work has used a variety of conceptualizations of cohesiveness, examined a number of moderating conditions, and produced results that have varied across studies. A recent meta-analysis (Mullen & Copper, 1994) found support for a cohesiveness-productivity relationship, with a larger overall effect size for cohesion based on task commitment than on interpersonal attraction. These findings add support to the notion that individuals may work harder within cohesive groups, especially when they are committed to the group task. However, none of the studies in the larger cohesiveness literature has provided the necessary comparisons and controls for separating individual motivation from other input and process factors that may contribute to group performance.

Overview of the Present Research

Our theoretical analysis led to the hypothesis that group cohesiveness should serve to reduce or eliminate social loafing when individual inputs contribute to favorable group outcomes and when a comparison with other groups is available. We designed two studies to test this hypothesis. In Experiment 1, participants worked with either friends or strangers on a typing task, both individually and collectively. In Experiment 2, participants worked with either friends or strangers on an idea-generation task, either coactively or collectively. Coworker ability was also manipulated to provide an initial examination of the effect of expectations of coworker performance on individual effort in cohesive groups.

Experiment 1

Secretarial students at a vocational business college worked individually on a simulated typing pool task. On some trials, they were told that their inputs would be evaluated individually (individual condition); whereas on other trials, they were told that their inputs would be combined with those of three other typists (collective condition). Furthermore, on the group trials, half of the participants were told that their outputs were being combined with those of three friends (cohesive condition) and half were told that their outputs were being combined with those of three unnamed typists (noncohesive condition). We hypothesized that the tendency to engage in social loafing would be significantly reduced in cohesive groups.

Method

Participants and design. Participants were 30 students at the American Institute of Business (Des Moines, Iowa) in their last quarter of typing instruction, who volunteered at the request of their typing instructor. They were given no extra credit, although their instructor expressed interest in the results. All participants were women between the ages of 19 and 24, with an average typing speed of 66.5 words per minute (range 42 to 90). Because the students all anticipated secretarial careers upon graduation, typing was a meaningful task with important job-related consequences for this sample. A 2 (cohesiveness: cohesive or noncohesive) × 2 (work condition: individual or collective) mixed design was used, with cohesiveness as a between-subjects factor and work condition as a within-subjects factor. Students were randomly assigned to one of two cohesiveness conditions (cohesive or noncohesive) and one of four orders of trial presentation (counterbalanced across cohesiveness conditions).

Procedure. After the students volunteered to participate, they were asked to write their name on an index card, along with the names of three classmates with whom they would most like to work. Each participant was assigned a time to report individually for the experiment, which was conducted in a large conference room. On arrival, students were told that the researchers were interested in testing the capabilities of an inexpensive microcomputer to be used for word processing in small businesses. At the time, none of the students had microcomputer or word-processing experience.[1]

The experimenter explained that he had hoped everyone would be able to work with the group of his or her choice and that he had tried to arrange it so that this was possible. Half of the participants were told that they had, in fact, been assigned to the groups of their choice (cohesive condition), and the other half were told that, because of various problems due to different requests, they would not be working with the group of their choice and would instead be randomly assigned to a group of people that was yet to be determined (noncohesive condition). Thus, group cohesiveness in this study was based on attraction to the group and probable importance of the group to the member. By manipulating cohesiveness on the basis of membership in a group composed of friends versus strangers, we accomplished two important goals. First, the manipulation was powerful. Despite disagreements among researchers as to how cohesiveness should be conceptualized (Hogg, 1992), all of the views suggest that groups of close friends are likely to have higher levels of cohesiveness than are groups of strangers. This manipulation is also likely to have more impact than a brief laboratory manipulation conducted on groups of strangers. Second, the manipulation reflected multiple aspects of the construct of cohesiveness, thus increasing the chances that our results would be attributable to the general construct rather than an idiosyncratic component.

Each student was seated in front of a Radio Shack Model I TRS-80 microcomputer. Instructions, presented on the screen, informed the student that they would be testing a new, inexpensive microcomputer and would be asked to type as quickly as they could for several time trials. On some trials the computer would record individual output, and on other trials it would combine individual outputs into a single group product to create a simulated word-processing pool. Participants were told that speed, not accuracy, was most important. Finally, they were told that, after they completed the trials, we would ask them for comments and suggestions regarding the keyboard and other aspects of the word processor.

Participants then typed one paragraph repeatedly in four separate 10-min trials. At the beginning of each individual condition trial, the screen read, "You are working alone. Now that you know that your scores are not being combined but are being individually evaluated, type 'alone' and ENTER to continue." At the beginning of each group condition trial, the screen read, "You are working with 3 others. Now that you know your work is being combined with 3 others, type 'group' and ENTER to continue." After completing the fourth trial, participants filled out a questionnaire that contained manipulation checks and items to assess their impressions of the computer and task. They were then asked not to discuss the experiment with others and were excused. A debriefing session was held in the classroom after all sessions had been completed.

Results and Discussion

The students seemed extremely interested in the project and performed very conscientiously. After completing the task, participants uniformly commented on the ease or difficulty of the keyboard (most liked it), providing evidence that they believed the cover story. The students typed an average of 57 words per minute (range = 37 to 83).

Manipulation checks. All questionnaire items were assessed using 100-point scales. Members of cohesive groups reported that they enjoyed pooling their efforts more (M = 66.87) than did members of noncohesive groups (M = 50.94), $F(1, 22) = 4.53$, $p < .05$. In addition, participants reported that their outputs were more easily monitored when typing individually (M = 71.17) than collectively (M = 57.87), $F(1, 22) = 5.48$, $p < .05$,

[1] Experiment 1 is a previously unpublished study that was conducted in 1980 (Williams, 1981). It is included both to make the findings more accessible and because it was the direct conceptual and empirical precursor to our later work. Because Experiment 1 was conducted when microcomputers were first introduced, the students were very interested in testing and working with a microcomputer.

and that they had more control over the outcome when working individually (M = 66.53) than collectively (M = 57.86), $F(1, 22) = 4.88$, $p < .001$.

Performance data. Means and standard deviations for the performance data are presented in Table 1. As predicted, there was a significant Cohesiveness × Work Condition interaction, $F(1, 22) = 5.36$, $p < .04$. Participants in the noncohesive condition tended to type more words per minute individually than collectively, whereas participants in the cohesive condition tended to type more words per minute collectively than individually. However, neither work condition's simple effect was significant. Thus, our main hypothesis received modest support. There were no significant main effects of cohesiveness or of work condition on number of words typed per minute.

Table 1
Mean Number of Words Typed per Minute as a Function of Group Cohesiveness and Work Condition

	Work condition	
Group cohesiveness	Individual	Collective
Noncohesive		
M	55.23	54.24
SD	12.67	13.88
Cohesive		
M	56.93	58.57
SD	8.47	9.91

Note. n per cell = 15.

These results provide initial support for the hypothesis that group cohesiveness moderates social loafing. When students thought their outputs were being combined with those of three unknown others, they tended to work harder individually than collectively, which is consistent with research on social loafing. However, when students thought their outputs were being combined with those of three friends, they tended to work harder collectively than individually, producing results similar to those found in research on social compensation. The resulting significant interaction supports the reasoning that people may work just as hard or even harder collectively as individually when they work with other members of a cohesive group. Of course, Experiment 1 does not demonstrate that cohesiveness eliminates social loafing because members of noncohesive groups did not significantly reduce their collective effort. It is possible that a significant loafing effect did not emerge because the task was high in personal involvement for this sample. Indeed, Brickner et al. (1986) found that individuals did not loaf on a task that was high in personal involvement. In Experiment 2, we used a task that was only moderate, rather than high, in personal involvement to counter this possibility.

Our choice of a word-processing task might have also limited the interpretability of the findings somewhat. Although the word-processing task reflects an everyday application of collective effort on a task that participants considered meaningful, typing speed and effort may not correspond directly. Increased effort by poor typists may produce errors that distract them from typing quickly. Fortunately, the typists in our sample were fairly skilled, suggesting that effort and productivity should be closely related. Finally, unexpectedly assigning half of the participants to nonpreferred groups created the potential for a reactance that could conceivably have influenced performance. We controlled for these limitations in Experiment 2. Yet, despite these limitations, Experiment 1 represents an important, initial exploration of the effects of cohesiveness on individual effort in groups in a setting where performing well is important to the participants, and it also provides initial support for the notion that group cohesiveness may moderate social loafing.

Experiment 2

We conducted a second experiment to provide a replication of our first experiment, to create a stronger test of the group cohesiveness hypothesis, and to allow for an initial examination of the effects of expectations of coworker performance on motivation within cohesive groups. Members of mixed-sex dyads composed of either friends or strangers worked on an idea generation task either coactively or collectively. We also manipulated two levels of coworker ability (high or low) using a note-passing technique. Note that the high-ability condition provided a conceptual replication of Experiment 1, whereas the low-ability condition allowed for an examination of social compensation and its relationship to group cohesiveness. We expected that, consistent with our theoretical analysis and the results of Experiment 1, group cohesiveness would eliminate social loafing in the high-ability condition. In addition, we expected that, consistent with research on social compensation, members of noncohesive groups would engage in social compensation and actually work harder collectively than coactively when working with coworkers who were low in ability. Finally, following Williams and Karau's (1991) suggestion that members of cohesive groups may be especially willing to compensate for coworkers who perform poorly, we predicted that members of cohesive groups would also engage in social compensation when working with coworkers who were low in ability.

Method

Participants and design. Participants were 174 introductory psychology students at Purdue University who fulfilled partial course credit by their participation. Data from 10 participants were eliminated from the final analyses (4 expressed suspicion about the note-passing technique during debriefing, 3 expressed prior familiarity with research on collective performance, and 3 did not properly follow the instructions for the task), resulting in a final sample of 164 participants (84 women and 80 men).

The experiment used a 2 (cohesiveness: cohesiveness or noncohesive) × 2 (coworker ability: high or

low) × 2 (work condition: coactive or collective) between-subjects factorial design. Individuals were randomly assigned to a work condition and to a coworker-ability condition. Gender did not significantly alter the pattern of results and was excluded as a factor in the final analyses.

Procedure. Participants were recruited by means of two sets of sign-up sheets with different experiment titles. One set requested only opposite gender friends or couples, whereas the other (which contained separate sheets for male and female students) listed only times for individuals. By using this method, we were able to obtain mixed gender dyads of either friends (cohesive) or strangers (noncohesive), without confounding cohesiveness with potential reactance created by assignment to an unfavorable group.

After their arrival at the laboratory, participants were greeted by the experimenter and seated at either of two adjacent desks. Between the desks were large cloth partitions that prevented participants from seeing one another. On each desk was a pair of headphones, a pen, and a box of blank slips of paper. The experimenter told participants that the purpose of the study was to examine "the effects of standardized communication on task perception." Participants were told that advances in technology had led to the creation of large electronic mail networks, many of which now offered banks of prewritten messages that users could select from to include in messages to save time and energy. They were told that, although use of such standardized messages was increasing, few researchers have examined the impact of such messages on how people perceive and approach various tasks. To simulate a standardized communication network, we allowed participants to choose 2 prewritten messages from a set of 10 to send to their coworker. No other communication was allowed. Furthermore, after exchanging messages with their coworker, the participants were asked to work on an idea-generation task to allow us to study the effects of standardized communication on task perception and performance.

The experimenter then explained the idea-generation task. This additive task was chosen for two reasons. First, effort would be directly related to performance. Second, the task could be presented in a meaningful way (i.e., it was plausible that the task could be associated with intelligence). The idea-generation task (e.g., Harkins & Petty, 1982) requires participants to come up with as many uses as possible for a given object in the time provided. In our study, participants were asked to generate as many uses as possible for a knife in a 12-min period. They were instructed to write each use on a separate slip of paper and to separately insert each slip into a box. In the coactive condition, a separate box with a small opening was placed in front of each participant. In the collective condition, a common box was placed between the desks so that each participant was able to place slips of paper into the box through a small opening but was unable to monitor how many slips their coworker was placing inside. In the coactive condition, the experimenter told participants that we were interested in their individual scores and that these scores would be added up at the end of the session and each individual would be told how many uses they came up with. In the collective condition, the experimenter told participants that we were interested in how many uses they could come up with as a group and that the total score would be counted up at the end of the session and revealed to the group.

All participants were told that it was the quantity, not the quality, of ideas that was important. Participants in the collective condition were also told that it was okay if they happened to generate some of the same uses as their coworker because both uses would be added to the group total. To ensure that the task was perceived as meaningful, participants were told that a recent theory suggested that rapid thinking is highly correlated with intelligence, so it was extremely important that they come up with as many uses as they possibly could. The experimenter also told participants that their individual or group scores would be compared with those of other individuals or groups that had been in similar research studies at other universities. Participants in the collective condition were told that, after their uses had been counted, they would be discarded and that this would prevent the experimenter from knowing any person's individual score. Finally, participants were told that they would listen to music when thinking of ideas (to prevent participants from talking and monitoring each others' writing speeds during the task).

Participants were then asked to select which messages they would like to send to their partner. The 10 messages, which were identical for both participants, were typed onto separate notecards and placed in envelopes. Envelopes were used so that participants would not expect the experimenter to know which messages were selected. After reading all 10 messages, the participants chose 2 and placed them in an empty envelope, which they handed to the experimenter for "delivery." When transferring the messages, the experimenter unobtrusively switched the participants' envelopes with new envelopes containing two bogus messages. All participants received the message, "This sounds like an interesting experiment," which was meant to increase the chances that the task was perceived as meaningful. The second message varied, depending on coworker ability. Participants in the low-ability condition received, "I'm really bad at this kind of thing. It's hard for me to think of ideas quickly." Participants in the high-ability condition received either, "I'm really good at this kind of thing. It's easy for me to think of ideas quickly," or "I wonder what kind

of music they will play."[2]

After participants finished reading the messages, the experimenter asked them to put their headphones on, started the tape, and left the room. Instructions on the tape told participants what object to think of uses for (a knife) and when to start. The tape then played 12 min of new age music at a moderate volume and then asked participants to stop working. After the idea-generation task, participants filled out a questionnaire that probed for suspicion and contained manipulation checks. Participants were then told their individual or group scores and were debriefed and dismissed.

Results and Discussion

Manipulation checks. All questionnaire items used 100-point scales. Participants were asked how well they knew their coworker, how often they expected to interact with their coworker in the future, how much they liked their coworker, and how willing they would be to work with their coworker again in the future. These four items were averaged to produce a cohesiveness index (α = .90). Members of cohesive groups scored significantly higher on the cohesiveness index (M = 84.51) than did members of noncohesive groups (M = 31.30), $F(1, 156) = 721.38$, $p < .0001$.

Participants were also asked how much ability they thought their coworker had at the type of task they had just completed. A main effect of coworker ability was found: Participants in the high-ability condition (M = 76.28) reported that their coworker had more ability at the task than did participants in the low-ability condition (M = 55.25), $F(1, 156) = 57.25$, $p < .0001$. No other significant effects were found for this question (Fs < 1). Thus, differential levels of coworker ability were successfully manipulated within both cohesiveness conditions. In addition, when participants were asked how hard they thought their coworker had tried on the task, there was no main effect of coworker ability ($F < 1$), suggesting that participants did not attribute differential levels of effort to their coworkers on the basis of ability.

Participants were also asked whether the experimenter was interested in their individual or their group's performance and to what extent they thought that the experimenter would be able to tell how well they had performed individually. Participants were more likely to report that the experimenter was interested in their individual performance in the coactive condition (69%) than in the collective condition (4%), $\chi^2(1, N = 164) = 72.95$, $p < .0001$. Similarly, participants in the coactive condition rated the likelihood that the experimenter would be able to monitor their individual scores as higher (M = 77.32), than did participants in the collective condition (M = 41.10), $F(1, 152) = 87.06$, $p < .0001$.

Performance data. A 2 × 2 × 2 between subjects analysis of variance was performed on the performance data. There was a significant Work Condition × Coworker Ability interaction, $F(1, 156) = 6.05$, $p < .02$. Participants in the high-ability condition tended to work harder coactively (M = 31.53) than collectively (M = 28.73), whereas participants in the low-ability condition worked harder collectively (M = 30.96) than coactively (M = 24.79).

More important, the predicted three-way interaction was significant, $F(1, 156) = 4.35$, $p < .04$ (cell means and standard deviations are provided in Table 2). Within the high-ability condition, there was a significant interaction between work condition and cohesiveness, $F(1, 105) = 6.02$, $p < .02$. Members of noncohesive groups socially loafed, working harder coactively than collectively, $F(1, 49) = 7.13$, $p < .02$, whereas members of cohesive groups worked equally hard collectively and coactively ($F < 1$). These results both replicate the pattern of findings from Experiment 1 and demonstrate that a significant social loafing effect was eliminated in cohesive groups. These results also suggest that, whereas members of noncohesive groups may tend to take advantage of their coworkers' high levels of expected performance and loaf, members of cohesive groups may feel compelled to work hard, even when the group might succeed without their maximum efforts.

Within the low-ability condition, a significant social compensation effect was found, such that participants worked harder collectively (M = 30.96) than coactively (M = 24.79), $F(1, 51) = 5.70$, $p < .03$. This finding replicates prior research on social compensation and shows that, under some conditions, individuals actually work harder on a group task than on an individual task when they expect their coworkers to perform poorly. Interestingly, simple contrasts reveal that the social compensation effect only reached significance in the noncohesive condition, $F(1, 24) = 4.83$, $p < .04$. Thus, contrary to Williams and Karau's (1991) suggestion that members of cohesive groups may be especially willing to increase their collective efforts to compensate for coworkers who perform poorly, members of cohesive groups in our study did not work significantly harder collectively than coactively, $F(1, 27) = 1.30$, $p > .20$.

[2] Originally, we attempted to manipulate three levels of coworker ability with the "music" message intended to create a neutral, control condition. Initial analyses of a manipulation check, which was used to assess perceptions of coworker ability, revealed that both the high-ability and control conditions differed significantly from the low-ability condition but did not differ from each other. Thus, it appears that, in the absence of information to the contrary, participants assumed that their coworker had relatively high ability at the task. Analyses of the performance data revealed no significant differences and identical patterns of means for the high-ability and control conditions. Therefore, to clarify and simplify our presentation, we combined these two conditions into a single, high-ability condition.

Table 2
'ean Number of Uses Generated for a Knife as a Function of Coworker Ability, Group Cohesiveness, and Work Condition

Group cohesiveness	Work condition	
	Coactive	Collective
Low coworker ability		
Noncohesive		
M	26.14	34.75
SD	7.86	11.96
n	14	12
Cohesive		
M	23.53	27.71
SD	9.49	10.23
n	15	14
High coworker ability		
Noncohesive		
M	34.00	25.00
SD	13.37	10.46
n	26	25
Cohesive		
M	29.45	32.19
SD	11.19	14.41
n	31	27

Finally, although we were primarily interested in the coactive-collective comparisons (described above) most central to our hypotheses, we also conducted several analyses that shed additional light on the performance data. These analyses suggest that, consistent with the CEM, members of noncohesive groups may have been more attentive to the strategic implications of their efforts than were members of cohesive groups. It also appears that participants tended to match the expected performance levels of their coworkers under certain conditions. Specifically, within noncohesive groups, there was a significant interaction between coworker ability and work condition, $F(1, 73) = 10.24$, $p < .01$, such that participants socially loafed when working with high-ability coworkers but socially compensated when working with low-ability coworkers (as described earlier). In addition, an examination of the low- and high-ability comparisons within this interaction reveals that participants tended to match their coworkers' expected performance when working coactively but tended to mirror their coworkers' expected performance when working collectively. Thus, coactive participants worked harder in the presence of coworkers who were high, rather than low, in ability, $F(1, 38) = 4.05$, $p < .051$, whereas collective participants worked harder with coworkers who were low, rather than high, in ability, $F(1, 35) = 6.42$, $p < .01$. These results suggest that members of noncohesive groups behaved in a strategic fashion that maximized their individual outcomes. Specifically, when working coactively, participants reduced their efforts when their coworker posed little competitive threat but worked very hard when their coworker could make them look bad by comparison. However, when working collectively, participants worked especially hard when they were in danger of being negatively evaluated because of their coworker's poor performance but slacked off when their group was likely to succeed, even without his or her best efforts.

In contrast, members of cohesive groups appeared less strategic in their actions and tended to match their coworkers' expected performance levels, regardless of work condition. Thus, there were no significant differences between coactive and collective conditions (Fs < 1.50), but there was a marginally significant main effect of coworker ability, $F(1, 83) = 3.67$, $p < .06$, showing that participants tended to work harder with a high-ability coworker ($M = 30.72$) than with a low-ability coworker ($M = 25.55$). It is possible that members of cohesive groups worked hard, regardless of work condition, and tended to match their coworkers' performance levels due to a reduced emphasis on individualistic concerns and increased attention to group-level factors, including statements made by their coworkers.

General Discussion

Both studies suggest that group cohesiveness may moderate social loafing. Whereas members of noncohesive groups tended to reduce their collective efforts and socially loaf, members of cohesive groups worked just as hard collectively as coactively. Given the paucity of studies on social loafing among naturally occurring groups, these results are especially consequential and raise important, yet neglected, questions as to the generality of social loafing. Consistent with both the CEM and theories of self-evaluation processes in groups, the results of our research suggest that, when working with respected colleagues or friends, individuals may work just as hard collectively as they would individually to maintain a favorable self-evaluation. Even though this evaluation is somewhat indirect because it is derived from a collective rather than individual-level comparison, it still appears to have a significant impact on motivation.

The data from the low-ability conditions in Experiment 2 also provide additional documentation of the phenomenon of social compensation. In contrast to the vast majority of studies demonstrating social loafing, the recent social compensation research demonstrates that certain collective performance settings can actually lead to greater individual effort. These data also suggest that the impact that expectations of coworker performance have on motivation may vary as a function of group cohesiveness. These expectations had a dramatic impact on the effort expended by members of noncohesive groups but had less impact on members of cohesive groups. Therefore, despite our earlier (Williams & Karau, 1991) suggestion that members of cohesive groups might be especially willing to compensate for coworkers who perform poorly, the social compensation effect was not significant in the cohesive

condition of our study. Why?

First, whereas members of noncohesive groups may seek to maximize their individual outcomes in a strategic fashion, members of cohesive groups may be relatively inattentive to the strategic implications of their actions and may focus instead on collective processes and outcomes. The CEM suggests that individuals are unlikely to systematically process all available information about the task or situation and are instead likely to focus on salient features. Therefore, "some situations may lead individuals to respond automatically to a preexisting effort script, whereas other situations may lead individuals to strategically increase or decrease their collective effort" (Karau & Williams, 1993, p. 685). When working with strangers, people may be attentive primarily to individualistic concerns, and such attention may be enhanced when coworkers are expected to perform especially well or poorly. When working in cohesive groups, however, people may be far less attentive to individualistic concerns and may simply work hard across work settings because the group and its members are valued. Stated differently, group cohesiveness may create a "high-effort" heuristic that produces consistently high levels of motivation across settings. Consistent with this reasoning, members of noncohesive groups tended to behave in ways that maximized their individual outcomes—working hard only when such effort was vital to a favorable individual outcome and slacking off otherwise. In contrast, members of cohesive groups tended to work hard across coactive and collective settings, even when such effort was not directly conducive to individualistic outcomes. Future research could test these ideas more directly by manipulating attention to task features within a social compensation paradigm.

Second, coworker statements may serve as a cue for how much effort should be exerted on the task, possibly leading individuals to match their coworkers' expected performance levels under some conditions. Matching could result either from a desire to maintain equity in effort (cf. Jackson & Harkins, 1985) or through social influence processes. Prior research has shown that coworkers' attitudes and work-related statements frequently influence one's own attitudes (for a review, see Zalesny & Ford, 1990) and that social influences on attitudes are typically magnified in cohesive groups (e.g., Festinger, Schachter, & Back, 1950; Lott & Lott, 1965). Therefore, coworker statements might produce a matching tendency that may be enhanced in cohesive groups. Consistent with this reasoning, members of cohesive groups tended to match their coworkers' expected performance levels across work conditions, whereas members of noncohesive groups matched their coworkers' performance only in the coactive condition, where such matching also served a strategic, individualistic purpose. In noncohesive groups, the individuals' strategic concerns may have enhanced the coworkers' social influence when working coactively but overwhelmed it when working collectively. Future research could examine these processes more directly by manipulating coworker statements specific to productivity norms or task meaningfulness.

Finally, attribution research provides another possible reason why a significant social compensation effect was not found within cohesive groups. This research has typically found that self-serving attributions decrease, whereas group-serving attributions increase, within cohesive groups (e.g., Dion, Miller, & Magnan, 1971; Leary & Forsyth, 1987). Members of cohesive groups may also be more willing to accept individual responsibility for a group failure than would members of noncohesive groups (e.g., Schlenker & Miller, 1977). Thus, friends might be expected to cushion the blow of failure on the task and to refrain from attaching blame or stigma to individual members, thereby reducing motivation to compensate for others by making the avoidance of negative social outcomes less contingent on individual action. Future research could test this hypothesis by assessing the impact of expectations of coworker performance on attributional processes within cohesive groups.

With regard to self-evaluation processes, it is intriguing to compare the results of our research with those of Harkins and Szymanski (1989). Findings from both sets of studies suggest that enhancing individuals' concern for self-evaluation vis á vis the performance and evaluation of their group can eliminate social loafing. However, this concern for group-relevant outcomes may be much harder to activate in members of noncohesive groups, who may view such outcomes primarily in terms of individualistic consequences. Harkins and Szymanski eliminated social loafing in noncohesive groups both by creating an expectation that groups' scores would be compared with those of rival groups and by providing a tangible, objective, performance standard. In contrast, in our research, we found that social loafing was eliminated in cohesive groups merely by implying that group-level comparisons would be made, without actually providing a comparison standard. Therefore, consistent with the CEM, group-level outcomes may have special relevance to members of cohesive groups because of their immediate implications for self-evaluation.

In conclusion, any job setting in which peoples' unidentifiable efforts are combined into a single output might be susceptible to social loafing. For this reason, business practices of merely placing people into teams in hopes of increasing group spirit, job satisfaction, and productivity may not necessarily be effective. Work in groups per se may not lead to any of these positive outcomes. Our research raises the intriguing possibility that factors that serve to increase intragroup attraction or commitment, or that serve to activate individuals' concern with collective self-validation, may be helpful in reducing the tendency to engage in social loafing. If

these results are found to replicate across settings and tasks, it is possible that the use of team-building exercises, democratic decision-making processes, and even careful selection processes that identify compatible group members, when combined with real or implied group-level comparisons, may reduce the chances of motivation losses.

It will be important for future research to isolate what specific aspects of group cohesiveness motivate high levels of collective effort. Although groups of friends and strangers almost certainly differ in group cohesiveness, the precise nature of these differences is currently unclear. In addition, such groups probably differ in a variety of attributes other than cohesiveness (Lott & Lott, 1965; Zander, 1971). Our research takes the vital first step of documenting differences in the collective effort of members of groups that differ in their levels of cohesiveness and stands in sharp contrast to the bulk of social loafing studies that have examined artificial groups composed of aggregates of strangers. However, before our findings can be applied with confidence to everyday groups, it will be necessary for future research to take the additional step of manipulating discrete aspects of group cohesiveness (e.g., amount of prior acquaintance, commitment to a common goal, liking, attitude similarity, and social identification with important groups and social categories). Some of this work is already underway in our own laboratories and those of other researchers. Future research might also examine the generalizability of group cohesiveness effects or the impact that additional potential moderating variables, such as salient group norms or group goals, perceived responsibility, and identifiability, may have on the relationship between group cohesiveness and individual motivation on collective tasks. Finally, future research might also seek to identify the conditions under which group cohesiveness enhances or reduces one's motivation to engage in social compensation.

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