Productivity Loss in Performance Groups: People Who See Themselves as Average Do Not Engage in Social Loafing

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The authors predicted that individuals who see themselves as average (e.g., who have a generalized belief in being no better or worse than others) do not engage in social loafing, unlike those who see themselves as generally superior to others. As expected, study participants who felt uniquely superior expended less effort when working collectively than when working coactively on an easy task, but they actually worked harder collectively than coactively on a more challenging task. Such effects did not occur in participants who perceived themselves as average. Taken together, these findings provide further support for S. J. Karau and K. D. Williams’s (1993) collective effort model. They also suggest that what people come to believe about the relation between the self and others is a crucial factor in collective work contexts.

Social loafing, the tendency for individuals to expend less effort when working collectively than when working individually, is a well-demonstrated phenomenon (see Karau & Williams, 1993, and Shepperd, 1993, for reviews). As early as 1883, Max Ringelmann (a French agricultural engineer) observed that adults working together in groups of two or more exerted less effort than when working alone on tasks involving pulling a rope or a two-wheeled cart (Ringelmann, 1913; see also Kravitz & Martin, 1986). Faced with an inverse relationship between the number of people in a group and the level of individual performance, Ringelmann concluded that workers may have more difficulties combining their efforts in an effective fashion as group size increases (see Steiner, 1972, and Zajonc, 1966, for similar views).

There was another side to the coin, however. In a replication of Ringelmann’s rope pulling study, Ingham, Levinger, Graves, and Peckham (1974) found that participants still expended less effort when they worked collectively than alone, even when coordination problems were eliminated. After controlling for coordination loss, later researchers also found a reduction in effort when individuals worked collectively rather than individually (see Karau & Williams, 1993, for a meta-analytic review of 78 social loafing studies involving physical, perceptual, and cognitive tasks). Today the question is not whether social loafing exists, but rather under which conditions this phenomenon occurs.

Explaining Social Loafing

According to Karau and Williams’s (1993) collective effort model (CEM), social loafing occurs because there is usually a stronger perceived contingency between individual effort and valued outcomes when working individually than when working collectively. Indeed, factors other than the individual’s effort frequently determine performance in collective work situations, in which valued outcomes are often divided among all group members. Therefore, “people will be willing to exert effort on a collective task only to the degree that they expect their efforts to be instrumental in
obtaining valued outcomes” (Karau & Williams, 1993, p. 684). Rooted in expectancy-value models of effort (most notably, Vroom, 1964), the CEM is supported by Karau and Williams’s (1993) meta-analytic review that shows that social loafing decreases when working collectively does not eliminate valued outcomes. For example, people work just as hard collectively as individually when they anticipate external evaluation of their performance or self-evaluation information in the group situation, providing specific support to Harkins’s (1987) hypothesis that evaluation potential mediates social loafing.

As noted by Karau and Williams (1993), however, a number of factors must be perceived as existing before individuals are willing to exert high levels of effort when working collectively. Not only must people’s individual effort relate to their individual performance, but this performance must in turn have some impact on the group’s performance. The group’s performance must lead to a favorable group outcome, which must be related to a favorable individual outcome (see Shepperd, 1993, for similar arguments).

In line with this, there is now ample reason to believe that perceived redundancy of contributions (Harkins & Petty, 1982) and dispensability of effort (Kerr, 1983; Kerr & Bruun, 1983) are key factors in social loafing. Kerr and Bruun, for example, found that high-ability members were motivated on collective tasks that were disjunctive (i.e., in which they could make the group succeed despite the poor performance of others) but were demotivated on collective tasks that were conjunctive (i.e., in which the group would not succeed despite their best efforts). Likewise, Karau and Williams’s (1993) review showed that individuals work just as hard collectively as coactively when their individual inputs to the collective product are perceived to be unique, but they loaf when their inputs are perceived to be potentially or completely redundant. Individuals also engage in social loafing when they expect their co-workers to perform well or when no expectations are provided, but they do not loaf when they expect their co-workers to perform poorly. Williams and Karau (1991) even found that participants may socially compensate for co-workers whom they expect to perform poorly on a meaningful task, working harder collectively than coactively. Taken together, these findings provide strong support for the CEM: They suggest that people work hard on a collective task only when they feel their efforts make a difference and they value the outcome of their efforts.

This article expands on that idea by looking at both situational and dispositional factors relevant to people’s feelings that their efforts make a difference. Specifically, it is assumed that, unlike individuals who see themselves as generally better than others, those who have a generalized belief in being no better or worse than others do not engage in social loafing or social compensation. The rationale for this hypothesis is presented below.

Distinguishing Oneself as Better Than Others, Social Loafing, and Social Compensation

People need to think that their abilities are high, and most believe, in fact, that they are better than average in a variety of interesting and important ways (see Goethals, Messick, & Allison, 1991, and Taylor & Brown, 1988, for reviews). For example, individuals judge positive personality attributes to be more descriptive of themselves than of the average person but see negative personality attributes as less descriptive of themselves than of the average person (Alicke, 1985). This effect has been documented for a wide range of traits (Brown, 1986) and abilities (Campbell, 1986; Larwood & Whitaker, 1977). Given that individuals cannot all be better than average, these highly skewed, positive views of the self can be regarded as unrealistic and illusory (Taylor & Brown, 1988).

What consequence might the belief that one is above average have on individual productivity in performance groups? Harkins and Petty (1982) made the suggestion that this belief affects people’s willingness to make efforts in collective work situations. In their research (Studies 1 and 2), participants were asked to generate as many uses as possible for a particular object. Harkins and Petty predicted that participants faced with an object for which it was easy to imagine uses (a knife) would work less hard if their inputs were combined with those of others than would participants working alone at the task. They also predicted that participants faced with an object for which it was difficult to generate uses (a detached
doorknob) would exert the same effort regardless of whether their inputs were combined with those of others or they worked alone. As expected, social loafing decreased when the task was more difficult or challenging, providing support for the idea that situational factors (e.g., task difficulty) that influence people's feeling of instrumentality moderate social loafing. "When faced with a difficult or challenging task," Harkins and Petty reasoned, "people may feel that their contribution is needed, because they are better able than the average person to perform the task" (p. 1120).

We agree that increasing task difficulty may lead people to make use of their belief that they are above average. This belief, however, may not be shared by all members of a given population. Depending on a number of psychological and social factors, people may differ in what they come to believe about the relation between themselves and others (e.g., how they stand relative to others in various ability domains). This can have a dramatic effect on their perception of instrumentality when working collectively on both difficult and easy tasks. Because most people from individualistic cultures perceive themselves as above average (Goethals et al., 1991), one can reasonably assume that individuals who perceive themselves as average deviate from all other participants in previous social loafing and social compensation experiments. Therefore, whether these individuals also engage in social loafing and social compensation is an important question, especially because the generalizability of these two phenomena in terms of dispositional factors has been neglected in previous research.

At least two hypotheses can be made here, each derived from the CEM.

1. Individuals high in self-uniqueness are the most likely to expect their efforts not to be instrumental in obtaining valued outcomes when working collectively on easy tasks. Outcomes such as evaluation and comparison of one's performance with the performance of others are typically eliminated in the collective work condition, in which individual outputs are combined to form a single group product. Individuals who perceive themselves as generally better than others are the most likely to experience these outcomes as valuable and important. Not only may these individuals be motivated to seek a positive evaluation of themselves, but they also can be especially keen on making others aware of their "particular abilities" (as a means of being socially identified as superior to others). When it is plausible for everyone to excel on the collective task, individuals high in self-uniqueness should also perceive that they cannot have a significant impact on the group's performance. To the extent that this lack of personal impact eliminates the possibility of considering oneself as above average, these individuals should be especially disposed to perceive their collective efforts as not instrumental.

Consistent with these arguments, the loafing effect has been generally observed in studies where an easy task was used (see Karau & Williams, 1993). Likewise, Karau and Williams found larger social loafing effects in studies that used either samples of only male participants (relative to mixed samples or female samples only) or samples of people from individualistic cultures (relative to people from collectivist cultures), suggesting that social loafing is typical of people who are motivated to assert their individuality and uniqueness. Indeed, it has been shown that the motivation to become independent from others and to discover and express one's unique attributes is stronger in male individuals and those from individualistic cultures than in female individuals and those from collectivist cultures (for reviews, see Heine & Lehman, 1995 and Markus & Kitayama, 1991).

Of particular interest here, Charbonnier, Huguet, Brauer, and Monteil (1998) provided direct evidence that social loafing depends on people's feelings of uniqueness. In their investigation, students from advanced mathematics and biology classes were asked to rate how they differentiate themselves from others on personal abilities within various domains of social life. Specifically, participants were asked to write down their best overall skill and ability, as well as their best skill and ability in four different domains (academic, athletic, creative, and social), and to estimate the percentage of students at their university who were very good at each skill. The lower their estimated percentage, the more uniquely superior participants believed themselves to be relative to this comparison group (see Josephs, Markus, & Tafarodi, 1992, for a similar procedure). As noted by Josephs et al., the typical finding with this type of
questionnaire is a marked false uniqueness bias in which respondents claim that they are better than most people on self-relevant abilities, a general belief about oneself that may reflect a concern for self-validation or self-enhancement rather than reality (see also Goethals et al., 1991). The participants also worked either coactively or collectively on a simple idea generation task (generating uses for a knife). As predicted, the degree to which participants loafed increased as they felt more uniquely superior (regardless of the comparison domain), suggesting that perceived self-uniqueness is a significant component of social loafing.

In Charbonnier et al.’s (1998) study, however, the participants were quite homogeneous in their uniqueness ratings. Consistently faced with interpersonal competition and standards of excellence in their mathematics and biology classes, most of them were high in self-uniqueness (e.g., produced low percentages in the five comparison domains of the questionnaire), and the others were only moderately low in self-uniqueness. Therefore, it remains unclear whether the individuals extremely low in self-uniqueness, that is, those characterized by “self-effacement” (Heine & Lehman, 1995) in the form of “seeing oneself as average,” (p. 596) would behave when working collectively on easy tasks.

To the extent that the possibility to feel oneself as above average is not essential for these individuals, their perception of instrumentality should not change depending on whether they work collectively or individually. Consequently, the individuals low in self-uniqueness should work just as hard collectively as individually when faced with an easy task. Of course, this prediction is critical in the present context. If it is accurate, it means that feelings of uniqueness indeed represent a significant component of social loafing, and this would heighten our confidence that this phenomenon depends on people’s perceptions of instrumentality in collective work situations.

2. Individuals who perceive themselves as better than others are the most likely to expect their efforts to be instrumental in obtaining valued outcomes when working collectively on difficult tasks. Faced with such tasks, these individuals are indeed especially likely to believe that their co-workers would be less able than themselves to contribute well to the group’s product and, therefore, should perceive that they can have a significant impact on this product. To the extent that they are motivated by a positive, albeit diffused, evaluation of themselves, they should compensate for their co-workers and should work harder collectively than individually. Consistent with this, Williams and Karau (1991) have shown that individuals demonstrate social compensation if there is a strong reason for them to believe that their group will do poorly and if they care about the evaluation of their group. Because this evaluation may help strengthen or at least maintain the belief that one is above average, it should be perceived as valuable and important by individuals high in self-uniqueness. Thus, although they cannot be personally evaluated in the group context, these individuals should be motivated to bolster the performance of their group by increasing their own efforts when they work on a difficult task.

In contrast, social compensation should not occur in individuals low in self-uniqueness. Because of their generalized belief in being no better or worse than others, these individuals have indeed no reason to believe that their efforts make a difference in the group context. Therefore, when they work on a difficult task, individuals low in self-uniqueness should work just as hard collectively as coactively.

In summary, individuals high in self-uniqueness should engage in social loafing when the task is easy (e.g., Study 1) and in social compensation when the task is more difficult or challenging (e.g., Study 2). Their low-uniqueness counterparts should work just as hard collectively as individually, regardless of task difficulty.

Study 1

Method

Preliminary session. Six weeks before the beginning of the experiment, a random sample of 550 female undergraduates1 was selected from the introductory psychology subject pool of the University Blaise Pascal (France). Students were tested in large groups that ranged from 50 to 75 persons. Each group was

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1 Only women were selected in Study 1 (and Study 2) because of the low number of men among undergraduate students at the time of our investigation.
prescreened on a variety of psychological measures, including the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) and Josephs et al.'s (1992) social comparison questionnaire ("European Ability Survey"). As in Charbonnier et al.'s (1998) study, the participants were asked to write down their best overall skill or ability, as well as their best skill or ability in four different domains (academic, athletic, creative, and social), and to estimate the percentage of students at the University Blaise Pascal who were very good at each skill. The lower the percentage, the more uniquely superior participants believed themselves to be, relative to this comparison group. In this perspective, the key feature of participants defined as low in self-uniqueness was not that they felt inferior to others. Rather, their key feature was that they perceived their best skills or abilities as average, that is, as collectively shared and, therefore, as neither superior nor inferior to those of other people in their social environment.

**Participants.** A random sample of students whose estimates of uniqueness, averaged across the five ability domains, were between the bottom 10th and 20th percentiles or between the top 10th and 20th percentiles of the subject pool were selected for the experiment (overall, the self-uniqueness ratings were normally distributed). Sixty individuals (30 high self-uniqueness, 30 low self-uniqueness) participated in this first study. The participants differed significantly in their self-assessments in each of the five ability domains, which suggests that these assessments did not reflect reality. It seems indeed difficult to imagine that such systematic differences reflected self-awareness rather than illusions or bias about the self. Josephs et al. (1992) showed that self-uniqueness does not depend on self-esteem in female individuals (unlike what happens in male individuals). Likewise, the degree to which participants differentiated themselves from others was indeed unrelated to self-esteem in our research. Not only did self-esteem not differ depending on participants’ level of uniqueness, $t(58) = .57$, ns, but it did not correlate either with participants’ global feeling of uniqueness (i.e., uniqueness ratings averaged across domains), $r = -.05$, ns, or with their uniqueness levels in each of the five comparison domains. The correlation coefficients for the academic, athletic, creative, social, and best overall skill domains were $-.04$, $-.22$, $.20$, $-.03$, and $-.14$, respectively. None of these coefficients were significant (see Huguet, Charbonnier, & Monteil, 1995, for similar findings with a larger sample). Participants were told that they had been chosen at random from the introductory psychology subject pool. Their debriefing sessions showed that they did not realize that the experiment had anything to do with the earlier screening sessions. They received no credit for taking part in the experiment: They participated as a means of helping postgraduates and of learning more about experimental research in psychology (following their teachers’ advice), a typical incentive for psychology study participants at University Blaise Pascal.

**Procedure, task, and materials.** Participants arrived in pairs, were greeted by a female experimenter, and were seated at a table with a partition that prevented them from seeing each other. They were then informed that they would perform an idea generation task (as part of a larger research project on brainstorming), which involved coming up with as many uses as they could for a particular object. The exact name of this object was given later by the experimenter. Participants were then provided with an envelope that contained sheets of paper on which they could write their uses and a pair of cardboard boxes (coactive condition) or a double-entry partitioned cardboard box (collective condition). They were asked to write one use for the object per piece of paper, to fold it twice, and to slip it in their box(es).

Participants in the coactive condition were told the following:

> We are interested in the number of uses each one of you will generate for this object. Therefore at the end of the experiment we will count the number of uses generated by each one of you individually by counting the number of slips in each box.

Participants in the collective condition were told the following:

> We are interested in the number of uses your group will generate for this object. Therefore at the end of the experiment we will count the total number of uses generated by all of you by counting the number of slips in the common box. Thus, we will be able to calculate

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2 When the ratings of overall skill overlapped with one of the four other domains, only one of the redundant ratings was retained for analysis.
the average for your group by adding the total number of uses generated and dividing by the number of participants. As you may notice, we cannot figure the number of uses generated by each one of you individually, because all the papers are slipped into a single common box.

A hole was made in the partition in such a way that each participant could see half of the common box.

Participants had no reason to believe that they could know about their performance and about the performance of others in the coactive condition. They were led to believe that only the experimenter could identify their performance and make comparisons with that of others. Likewise, participants had no reason to believe that they could know about their group’s performance and about the performance of other groups in the collective condition. In this condition, the fact that the common box prevented the evaluation of individual performances was emphasized.

Finally, the experimenter gave the name of the target object—a knife. As in previous studies in which generating uses for a knife was involved (see Harkins, 1987; Harkins & Jackson, 1985; Harkins & Petty, 1982; Harkins & Szymanski, 1989), the participants were told that their uses could be ordinary or unusual. In contrast with these studies, however, the participants were also asked to minimize redundant uses (e.g., cutting apples, cutting pears, cutting peaches). Illustrations of such uses were given by the experimenter. Participants were not concerned with being redundant with the other person’s contributions. They were concerned with not being redundant with their own ideas. Pilot work indeed revealed that redundancy was frequently used by undergraduates as a means of performing the task without much effort: This tactic would have made a clear interpretation of our findings more difficult.

Participants were informed that a bell would sound when they were to stop. At the end of the allotted time (12 min), the experimenter returned and gave participants a questionnaire which included the manipulation checks. Participants were asked to rate the extent to which they felt the experimenter could identify their individual performance and to compare it with the performance of others. The participants were also asked to rate their level of effort on the task. Williams, Karau, and Bourgeois (1993) suggested that the results from most social loafing studies are not the consequence of conscious effort reduction. We tested here whether Williams and colleagues’ suggestion applied to the present study. Finally, participants were asked to rate the extent to which they would like to take part in a similar experiment in the future. Those in the coactive condition indicated their desire to work on a subsequent coactive task. Those in the collective condition indicated their desire to work on a subsequent collective task. Each of the 11-point scales accompanying these questions was anchored by not at all (0) and very much (10). Finally, participants were debriefed, thanked, and dismissed.

**Measure of performance.** Task performance was measured by counting the number of slips in the box(es). Determining the number of uses generated by participants in the collective condition was possible because there were really two detached compartments in the common box.

**Results**

The dependent measures were analyzed in 2 (work condition: coactive vs. collective) × 2 (self-uniqueness: high vs. low) analyses of variance (ANOVA). Planned comparisons were systematically made where a significant difference between the means was either predicted or could be clearly derived from previous research.

**Manipulation checks.** Because participants’ ratings of identifiability and comparability were highly intercorrelated (r = .86, p < .0001), they were combined to form an index (Feelings of Evaluation). Separate analyses of identifiability and comparability ratings yielded the same conclusions as those derived from the analysis of the index score alone.

There was only a significant main effect of work condition, F(1, 56) = 28.64, p < .0001, \( \eta^2 = .34 \). Participants believed that the experimenter would be less able to evaluate their performance when they worked collectively (M = 4.43, SD = 3.32) than when they worked coactively (M = 8.23, SD = 2.00).

**Number of uses generated.** The Work Condition × Self-Uniqueness interaction was significant, F(1, 56) = 4.30, p < .04, \( \eta^2 = .07 \) (see Table 1). Whereas participants high in self-uniqueness generated fewer uses when they worked collectively than when they worked coactively (p < .02), their low self-uniqueness
Table 1
Means for the Four Measures as a Function of Self-Uniqueness and Work Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>No. of uses</th>
<th>Creativity score</th>
<th>Perceived effort</th>
<th>Future participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>High uniqueness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coactive</td>
<td>11.80</td>
<td>4.65</td>
<td>3.42</td>
<td>0.81</td>
</tr>
<tr>
<td>Collective</td>
<td>08.60</td>
<td>4.26</td>
<td>3.01</td>
<td>0.99</td>
</tr>
<tr>
<td>Low uniqueness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coactive</td>
<td>11.70</td>
<td>2.70</td>
<td>3.21</td>
<td>0.91</td>
</tr>
<tr>
<td>Collective</td>
<td>12.47</td>
<td>2.79</td>
<td>3.12</td>
<td>0.73</td>
</tr>
</tbody>
</table>

counters produced the same number of uses in both conditions. Consistent with this, the former participants also generated fewer uses than did the latter in the collective condition ($p < .006$).³

Self-reported effort. As has been shown in the majority of social loafing studies, no reliable effects were found for self-reported effort (see Table 1). Estimates of effort did not correlate with the number of uses generated for participants high or low in self-uniqueness ($r = -.14, ns$, and $r = -.19, ns$, respectively).

Participants' desire for future participation. Consistent with the performance effects, participants high in self-uniqueness tended to be more reluctant to participate when they worked collectively than when they worked coactively ($p < .07$). They were also less willing to participate than their low uniqueness counterparts in the collective condition ($p < .009$; see Table 1). Participants low in self-uniqueness agreed to participate regardless of their work condition. However, the corresponding Work Condition $\times$ Self-Uniqueness interaction was not significant, $F(1, 56) = 2.64, p > .11, \eta^2 = .04$. No other effects were found.

Discussion

We reasoned that participants perception of instrumentality should change depending on whether they work collectively or individually but only in those high in self-uniqueness. As expected, participants low in self-uniqueness worked just as hard collectively as coactively, and their desire for future participation was high and similar in both conditions. Consistent with past research on social loafing, participants high in self-uniqueness put out less effort collectively than coactively and were especially reluctant to work collectively in the future.

The present findings do not offer direct evidence that perceived instrumentality depended on participants' level of self-uniqueness. Likewise, there was no direct evidence that participants high in self-uniqueness believed that they could not make a difference on the collective task, as we also suggested. Our

³ We asked participants to generate as many uses as possible while minimizing redundant ideas, a point that may explain why the number of generated uses ($M = 10$ uses) was less in this study than in previous research using the same task, in which about 22 uses were generated. Given this instruction, the lower number of uses generated by participants high in self-uniqueness in the collective condition does not necessarily mean that they loafed. It may be that they increased their creative efforts, at the expense of productivity, to make a unique contribution to the group's product. To examine this possibility, we assessed the creativity of participants' uses as in previous social loafing research (see Bartis, Szymanski, & Harkins, 1988; Szymanski & Harkins, 1992). Four raters, two men and two women, were simply asked to rate the "creativity represented by each participants' uses on a scale from 1 (not at all creative) to 11 (extremely creative)." The interrater correlations for these ratings ranged from .70 to .89 ($ps < .001$), and the overall reliability of these ratings was extremely high ($\alpha = .94$). Given this high reliability, an overall creativity rating for each item was calculated by averaging the four individual ratings for each item. Each participant was then assigned a creativity score. No significant effects were found with these data (see Table 1). Thus, our data do not support the idea that participants high in self-uniqueness compensated for their reduced effort in the collective condition by generating more creative uses; These participants really did exert less effort collectively than coactively. This lack of effect on creativity also suggests that the task used here can be conceptualized as additive and maximizing (in the sense used by Steiner's, 1972), despite our specific instruction to minimize redundancy.
findings are entirely consistent with the predictions, however. Several points can be made here. First, the perceived effort data and the estimates for future participation help clarify the processes underlying the performance effects. Among participants high in self-uniqueness, those working collectively did not report lower effort than those working coactively, which suggests that the former were not conscious of their suboptimal effort in the group context. These participants may have been unwilling to report a low level of collective effort, because this is a socially undesirable behavior. However, they also expressed their reluctance to work collectively in the future, a sentiment that is not socially desirable.

Second, it could be argued that the opposite of our prediction has been proposed and supported in past research. Most notably, Williams and Karau (1991) found that participants who suspected that they were superior to their co-worker on a simple idea generation task (Experiment 3) worked harder collectively than coactively. This social compensation effect, however, only occurred when the task was designed to be viewed as meaningful (e.g., the participants were informed that the task measured “rapid thinking” and intelligence). When the task was low in meaningfulness (e.g., the task was presented as being silly and trivial by an uninterested and uninvolved experimenter), the participants engaged in social loafing. Thus, it is likely that the present task corresponds more closely to the meaningless task used both in Williams and Karau’s (1991) experiment and in previous social loafing research (Harkins, 1987; Harkins & Jackson, 1985; Harkins & Petty, 1982; Harkins & Szymbanski, 1989), in which generating uses for a knife was not explicitly presented as measuring valuable intellectual capacities. In addition, whereas participants’ superiority was domain specific in Williams and Karau’s experiment, it was not in our investigation. This may also help explain why the two studies produced different results. Because of their generalized above-average belief, the individuals high in self-uniqueness would consistently demonstrate social compensation in collective work situations. Thus, these individuals may have learned to compensate selectively, that is, only when they perceive the collective task as difficult or challenging.

Finally, because the redundancy possibility was reduced from the participants’ generated uses, the present task may have been more difficult or challenging than the task used by Williams and Karau (1991). As showed by Harkins and Petty (1982), however, the loafing effect should be eliminated in this case. This was a key issue in the research reported in this article; in which we predicted that participants high in self-uniqueness should work harder collectively than individually when task difficulty increases. Therefore, a task difficulty manipulation was included in Study 2.

Study 2

Method

Participants. Participants were 80 female undergraduates (40 high in self-uniqueness and 40 low in self-uniqueness) selected from a larger sample ($N = 620$) on the basis of their uniqueness ratings in a preliminary testing session similar to the one described for Study 1 (the self-uniqueness ratings were normally distributed). As in Study 1, participants were told that they had been chosen at random from the introductory psychology subject pool, and their debriefing sessions showed that they did not suspect that the experiment had something to do with the earlier screening sessions. Self-esteem did not differ depending on participants’ level of self-uniqueness, $t(78) = .24$, ns, and correlated neither with participants’ global feeling of uniqueness, $r = −.17$, ns, nor with their uniqueness levels in each of the five comparison dimensions. The correlation coefficients for the academic, athletic, creative, social, and best overall skill domains were $−.18$, $−.13$, $−.20$, $−.04$, and $−.14$, respectively. None of these coefficients was found to be significant. We used the same incentive and same cover story (study on brainstorming) as in Study 1.

Procedure, task, and materials. Crossed with the work condition manipulation (coactive vs. collective), half of the participants were given the object selected in Study 1—a knife—whereas the other half were given an object for which uses are difficult to generate—a detached doorknob (Harkins & Petty, 1982). The task instructions and related materials did not differ from those used in Study 1.
Results

The dependent measures were analyzed in 2 (work condition) × 2 (self-uniqueness) × 2 (task difficulty) ANOVAs, followed either by planned or by post hoc comparisons (as indicated in parentheses).

Manipulation checks. As before, participants' ratings of identifiability and comparability were highly intercorrelated (r = .89, p < .0001) and therefore were combined. There was a significant main effect of work condition, F(1, 72) = 62, p < .0001, η² = .46. Participants believed that the experimenter would be less able to evaluate their performance when they worked collectively (M = 3.71, SD = 3.37) than when they worked coactively (M = 8.39, SD = 2.03). This effect, however, must be interpreted in the context of a significant Work Condition × Task Difficulty interaction, F(1, 72) = 6.52, p < .02, η² = .08. Participants working collectively felt their performance was less evaluable when they performed the difficult task (M = 2.40, SD = 3.00) than when they performed the easy task (M = 5.01, SD = 3.27). Tukey honestly significant difference, p < .05. The corresponding means in the coactive condition were 8.60 and 8.18, respectively.

Number of uses generated. The main effect of task difficulty was significant, F(1, 72) = 9.06, p < .004, η² = .11. More uses were generated for the easy object (M = 11.30, SD = 3.86) than for the difficult one (M = 8.81, SD = 4.42), providing support for the task difficulty manipulation.²

Consistent with Harkins and Petty's (1982) findings, this effect was qualified by a Work Condition × Task Difficulty interaction, F(1, 72) = 12.85, p < .001, η² = .15. Participants generated fewer uses for the easy object when they worked collectively (M = 10.15, SD = 4.00) than when they worked coactively (M = 12.45, SD = 3.45), p < .02. Faced with the difficult object, however, they generated more uses when they worked collectively (M = 10.62, SD = 5.04) than when they worked coactively (M = 7.00, SD = 3.80), p < .001.

More interesting, however, was the appearance of a Work Condition × Self-Uniqueness × Task Difficulty interaction, F(1, 72) = 6.88, p < .01, η² = .09 (see Table 2). Consistent with both our expectations and the results of Study 1, only the participants high in self-uniqueness generated significantly fewer uses for the easy object when they worked coactively (p < .001). As observed previously, these participants also generated fewer uses than did their low uniqueness counterparts in the collective condition (p < .004). Likewise, only the participants high in self-uniqueness generated more uses on the difficult task when they worked coactively (p < .001). In the collective condition, these participants generated more uses than their low uniqueness counterparts (p < .02).⁶

Self-reported effort. Again, no reliable effects were found in these data. The participants' estimates of effort did not correlate with the number of uses generated. In the case of the easy task, the correlation coefficients were -.21 and -.22 for the participants high and low in self-uniqueness, respectively. On the difficult task, these correlation coefficients were .07 and .04.

⁴ The way task difficulty was manipulated did not imply that the individuals' dominant tendency was to give correct responses versus to make errors, as is typically the case in the social facilitation literature. As in Harkins and Petty's studies (1982), this manipulation had more to do with the perception that one's contributions to the task would be unique (difficult task) versus redundant with those of others (easy task).

⁵ This effect showed a fairly small difference in number of uses generated for a knife versus a doorknob. However, during debriefing, most participants in the difficult task condition said that they perceived the task as extremely difficult, especially as doorknobs have only one function in everyday life. Most participants in the easy task condition said that they used knives for several things in the past and, therefore, perceived the task as easy.

⁶ Again, participants high in self-uniqueness did not increase their creative effort when they worked collectively rather than coactively. In Study 2, the interrater correlations for the creativity ratings were quite similar to those found in Study 1 for the easy object. For the difficult object, these correlations ranged from .59 to .73 (p < .001), and the overall reliability of these ratings was again high (α = .89). As before, an overall creativity rating for each item was calculated by averaging the four individual ratings for each item. The main effect of task difficulty was significant, F(1, 72) = 37.47, p < .0001, η² = .34. Not surprisingly, participants generated more creative uses for the difficult object (M = 4.86, SD = 1.56) than for the easy one (M = 3.12, SD = .91). This effect, however, was qualified by a Work Condition × Task Difficulty interaction, F(1, 72) = 4.84, p < .05, η² = .06. Only participants who worked coactively generated more creative uses for the difficult object (M = 5.25, SD = 1.55) than for the easy one (M = 2.89, SD = .86; see Table 2), an effect that is consistent with past research on creativity in collective contexts (Bartis et al., 1988; Szymanski & Harkins, 1992).
Table 2
Means for the Four Measures as a Function of Task Difficulty, Self-Uniqueness, and Work Condition

<table>
<thead>
<tr>
<th>Self-uniqueness and work condition</th>
<th>Measure</th>
<th>No. of uses</th>
<th>Creativity score</th>
<th>Perceived effort</th>
<th>Future participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
</tr>
<tr>
<td>Easy task</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High uniqueness</td>
<td>Coactive</td>
<td>12.65 3.89</td>
<td>3.34 0.87</td>
<td>6.20 1.62</td>
<td>7.30 2.71</td>
</tr>
<tr>
<td>Collective</td>
<td>07.80 3.47</td>
<td>2.80 1.05</td>
<td>7.10 1.45</td>
<td>5.40 2.12</td>
<td></td>
</tr>
<tr>
<td>Low uniqueness</td>
<td>Coactive</td>
<td>12.25 3.14</td>
<td>3.37 1.01</td>
<td>6.40 1.07</td>
<td>7.50 2.76</td>
</tr>
<tr>
<td>Collective</td>
<td>12.50 3.09</td>
<td>2.99 0.68</td>
<td>6.20 1.40</td>
<td>7.50 1.84</td>
<td></td>
</tr>
<tr>
<td>Difficult task</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High uniqueness</td>
<td>Coactive</td>
<td>07.11 2.89</td>
<td>4.82 1.46</td>
<td>6.50 1.18</td>
<td>6.30 3.13</td>
</tr>
<tr>
<td>Collective</td>
<td>12.51 4.19</td>
<td>5.17 1.52</td>
<td>6.00 1.83</td>
<td>6.50 2.17</td>
<td></td>
</tr>
<tr>
<td>Low uniqueness</td>
<td>Coactive</td>
<td>06.90 2.86</td>
<td>4.11 1.52</td>
<td>5.80 2.04</td>
<td>6.20 1.81</td>
</tr>
<tr>
<td>Collective</td>
<td>08.74 5.32</td>
<td>5.33 1.66</td>
<td>6.10 1.10</td>
<td>5.00 2.16</td>
<td></td>
</tr>
</tbody>
</table>

Participants’ desire for future participation. As in Study 1, on the easy task participants high in self-uniqueness were more reluctant to participate when they worked collectively than when they worked coactively (p < .02). In the collective condition, these participants were also less willing to participate than their low uniqueness counterparts (p < .03). Likewise, on the easy task, the participants low in self-uniqueness agreed to participate regardless of their work condition. Also consistent with the performance effects, both groups of participants did not differ in the two work conditions in the case of the difficult task (see Table 2). Again, however, the corresponding Work Condition X Self-Uniqueness X Task Difficulty interaction was not significant, $F(1, 72) = 2.43, p > .12$, $\eta^2 = .03$. No other effects were found.

Discussion

Study 2 replicated and extended the results of Study 1. As expected, (a) participants low in self-uniqueness generated as many uses collectively as coactively regardless of task difficulty; (b) among the participants high in self-uniqueness, those working collectively performed less well than did those working coactively on the easy task; and (c) the reverse effect occurred in the difficult task condition, suggesting that these participants compensated for their co-workers.

Despite the lack of direct measures of instrumentality, it seems therefore that only in participants high in self-uniqueness did their perception of instrumentality depend on whether they worked collectively or individually and on task difficulty. Also consistent with this, participants high in self-uniqueness who worked collectively were again relatively reluctant to participate when faced with the easy task but agreed to participate regardless of their work condition when faced with the difficult task. This did not occur in participants low in self-uniqueness, who agreed to participate regardless of whether they worked collectively or individually on both tasks.

We suggested earlier that the participants high in self-uniqueness were not conscious of their suboptimal effort when they worked collectively on the easy task. This still holds in Study 2, in which participants working collectively did not report lower efforts than those working coactively even though they were simultaneously reluctant to participate in the future. This second study offers something new, however: Among the participants high in self-uniqueness, those working collectively did not report higher efforts than those working coactively when faced with the difficult task. It also seems
difficult to assume that these participants were unwilling to report a high level of collective effort, because this effort was socially desirable (in contrast with social loafing). Overall, these findings suggest that the participants high in self-uniqueness did not behave strategically when they worked collectively.

At least two questions still remain, however. First of all, one may wonder why the participants faced with the difficult task felt their performance was less evaluable than those faced with the easy task in the collective condition. By increasing task difficulty, participants' uncertainty about their performance may have also increased. Although they were encouraged to generate uses regardless of whether these uses were realistic or not, participants may have had special difficulties in deciding whether their ideas illustrated uses rather than something else when faced with the difficult object. Consequently, they felt less evaluable and less comparable on this task than on the easy one. The present interaction, however, may also mean that the participants viewed their inputs as unique on the difficult task. It is also true that unique uses are more difficult to evaluate and compare than common uses. This is consistent with Harkins and Petty's (1982) idea that people generally feel that their contribution is needed when they work on difficult collective tasks. What our results suggest is that this feeling most influences those people who are motivated to assert their uniqueness. Indeed, only the participants high in self-uniqueness actually worked harder collectively than coactively when task difficulty increased.

Second, one may also wonder whether our performance effects can be explained from Jackson and Williams's (1985) drive perspective. According to them, working collectively reduces the individual's level of general drive and arousal and, therefore, inhibits the dominant response tendency (see Zajonc, 1965). This results in poorer performance on simple tasks, in which the dominant tendency is to give correct responses, and better performance on difficult tasks, in which this tendency leads toward incorrect responses. In their research, Jackson and Williams indeed found that participants performed worse on simple tasks when they worked collectively than when they worked individually but that they performed better collectively than individually when faced with a difficult task. At first glance, the Work Condition × Task Difficulty interaction found in Study 2 also supports the drive perspective. As noted earlier, however, the present task difficulty manipulation did not imply that participants' dominant tendency was to give correct responses on the easy task or to make errors on the difficult task. Therefore, deciding whether Jackson and Williams's (1985) perspective applies to our findings seems inappropriate. As argued below, we believe that our findings can be better understood in the context of the CEM.

General Discussion

According to the CEM, people are willing to exert effort on a collective task only to the degree that they expect their efforts to be instrumental in obtaining valued outcomes. Although direct measures of instrumentality were not included here, our findings support this key assumption of the CEM. We assumed that perceived instrumentality in collective work contexts would depend on the extent to which the individuals are motivated to assert their individuality and uniqueness. Specifically, we suggested that individuals high in self-uniqueness would be the most likely to perceive their efforts as not instrumental when working collectively on an easy task in which their efforts would not make a difference. Consistent with this, participants high in self-uniqueness who worked collectively performed less well than those working coactively when faced with the easy task, a difference that did not occur in their low uniqueness counterparts. It remains unclear whether participants high in self-uniqueness perceived that their collective efforts would not make a difference on the easy task. That they were simultaneously reluctant to work collectively on this task, however, supports the present explanation of social loafing in the two studies.

Another possible explanation of the present findings is that participants high in self-uniqueness also had a high positive group bias; that is, not only did these participants think they were individually superb on all dimensions, but they also believed the same thing about their group (in fact, any group to which they happened to belong). If so, it can be assumed that they believed their co-workers were especially good, allowing them to loaf on the easy
task. This perspective, however, does not explain why these participants actually worked harder collectively than coactively on the difficult task.

Consistent with what we derived from the CEM, this finding suggests that participants high in self-uniqueness compensated for their co-workers. Whether these participants believed that their collective efforts would make a difference and whether they anticipated a positive evaluation of themselves in the group context remain unclear. Faced with the difficult task, however, those working collectively did not differ from those working coactively regarding their desire for future participation. This fact suggests that participants high in self-uniqueness perceived the difficult task as meaningful, and this is consistent with the idea that these participants expected that their efforts would make a difference on the difficult collective task.

As in previous social compensation studies (see Williams & Karau, 1991), the fact that the participants high in self-uniqueness actually worked harder collectively than coactively on the difficult task does not necessarily imply that these participants felt compelled to help or assist their co-workers. As suggested earlier, they may have increased their level of collective effort in order to be positively evaluated, an idea that is also consistent with Goethals and Darley's (1987) suggestion that people may use their group's evaluation as a way of obtaining self-validation (see also Harkins & Szymanski, 1989). In the present context, however, the potential for external evaluation (e.g., from the experimenter) seemed sufficient for the emergence of social compensation. Participants had indeed no reason to believe that they could know about their group performance and about the performance of other groups.

More generally, Williams and Karau (1991) found that social compensation occurs when participants expect their co-workers to be unreliable, unwilling, or unable to perform well on the task. Complementary to rather than competing with these findings, our results indicate that people may also engage in social compensation in two other conditions: when they are high in self-uniqueness and when it is not likely that everyone will excel on the collective task. Our findings also suggest that increasing task difficulty is not always appropriate to remedy productivity loss in performance groups (see Shepperd, 1993, for a review of related solutions). This solution seems to be efficient only in individuals who believe that they are generally better than others. There was indeed no reason here for the participants to expect that their contribution was unlikely to be duplicated by fellow workers on the difficult task, if they could not make use simultaneously of any above-average belief. This self-belief was absolutely required regarding the emergence of social compensation. Whatever its origin, however, social compensation seems more likely to occur when the task is meaningful or in some way important to the individuals involved. As suggested by Williams and Karau (1991), if the task or the group product is viewed as meaningless or unimportant, then there is no need to engage in social compensation, because evaluations of the group product simply do not matter. As suggested earlier, it can be reasonably assumed that the difficult task used in Study 2 was perceived as meaningful by the participants.

There is also some reason to believe that participants high in self-uniqueness did not behave strategically in the group context. Consistent with this, Williams et al. (1993) reported that the results from most social loafing studies are not the result of conscious effort reductions. Indeed, most research phenomena in social psychology have been shown to occur at least partly automatically (Bargh, 1996; see also Monteil & Huguet, 1999).

Above all, however, it is the fact that participants low in self-uniqueness engaged neither in social loafing nor in social compensation that constitutes the key finding of our investigation. We suggested that the possibility of making a difference in the group situation would not be essential or important for these participants. It also seems that their perception of instrumentality did not change depending on whether they worked collectively or coactively on both tasks. Our findings do not reveal that participants low in self-uniqueness engaged less than their high uniqueness counterparts in social loafing and social compensation. They reveal that working collectively or individually made no difference for these participants. This leads to the conclusion that both social loafing and social compensation are typical of people who distinguish themselves as better than others and, therefore, typical of male individuals and people from individualistic cultures.
A sample of only female participants was used here, however. This is extremely interesting for our purpose. As noted earlier, the magnitude of social loafing has been found to be larger in studies that used samples of only male participants than for studies that used either mixed samples or samples of only female participants (Karau & Williams, 1993). Consistent with this, myriad studies demonstrate that women and girls tend to be more group or collectively oriented than men and are generally characterized by an emphasis on their interrelatedness to others and to the environment (Huguet & Monteil, 1995; Josephs et al., 1992; Markus & Kitayama, 1991). What does this all mean? It simply means that, within the same culture and gender group, not all individuals would define themselves and behave as expected. By distinguishing themselves as better than others on personal abilities, half of the female participants (participants high in self-uniqueness) described themselves as men from individualist cultures usually do. Consequently, they engaged in social loafing and social compensation. Future research is needed to determine whether the opposite is true for male individuals. It may be that social loafing and social compensation do not appear in male individuals who view themselves as average.

More generally, one may wonder where this self-view comes from and what its major features are. On the basis of Markus and Kitayama’s (1991) terminology, Heine and Lehman (1995) suggested that seeing oneself as average could be the sign of an “interdependent construal of the self” (p. 596). Characterized by an emphasis on the interrelatedness of the individual to others and to the environment (best exemplified by Asian cultures), this construal would lead men and women to view performing well on collective tasks as important. According to Heine and Lehman, distinguishing oneself as better than others, as well as other self-enhancing biases (e.g., illusions of control and unrealistic optimism; see also Taylor & Brown, 1988), appears more in line with an “independent construal of the self” (p. 596). Characterized by a bounded and autonomous sense of self that is relatively distinct from others and the environment (most representative of North America and Western European cultures), this construal would lead individuals to depreciate situations in which their outputs are pooled to form a single group product. In this perspective, the fact that participants low in self-uniqueness worked as hard collectively as individually could reflect both their sense of belongingness and their willingness to preserve interpersonal harmony. Likewise, social compensation can be seen as a way in which participants high in self-uniqueness bolstered their independent self. Markus and Kitayama (1991, p. 247) have already suggested that working collectively could produce differential effects, depending on the self-systems of the individuals. They did not test their interesting suggestion, however.

In summary—and this is certainly the key idea of this article—what people come to believe about the relation between the self and others seems to be a crucial factor in collective work contexts. Future research is needed, however, to really understand how these contexts can have differential effects on performance, depending on people’s self-beliefs, and to specify the boundary conditions for the present effects.

References
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