

tive one to an individual one, requires partitioning the collective goal into individual sections. With the goal partitioned into sections, individuals can no longer fall prey to the free-riding attempts of others. Each individual can enjoy the fruits (as well as suffer the consequences) of his or her personal contributions. Unfortunately, outside the psychology laboratory, it often is not possible or not feasible to partition the public good into individual sections. Many tasks, such as building a house, producing a group project, and winning a team sport, require that efforts be combined. Alternative solutions, such as promising that free riders will be punished, will be effective only so far as contributors believe that the people who control the rewards and punishments can identify which group members did what. Clearly, strategies for reducing the psychological costs of contributing are sorely needed.

SUMMARY

The tendency for people to loaf or free ride on the contributions of other people, although commonplace, is not an inevitable consequence of working in a group. We now know that the lower productivity found among individuals pooling their contributions relative to individuals working alone is largely a problem of low motivation resulting from the perception that contributions are unrewarded, unneeded, or too costly. Moreover, research by psychologists and other social scientists has revealed that managers, coaches, teachers, and other group leaders can elicit high effort from group and team members provided there is an incentive to contribute, members of the collective perceive their contributions as indispensable, and the costs of contributing do not exceed any benefit that might be derived from a good collective performance.

Notes

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Social Loafing: Research Findings, Implications, and Future Directions

Steven J. Karau and Kipling D. Williams

Imagine a college course in which students work together in small groups to design, conduct, analyze, and write up a research project. Each group member coauthors the paper and shares the same grade. This is an example of a collective task: Individual contributions are combined to produce a single group product. Other examples of groups that work collectively include rowing teams, construction crews, juries, marching bands, and government policy committees. Indeed, much of the world's work is accomplished collectively. But what is the psychological effect of com-

binning one's contributions with those of other people? How does it affect people's motivation and productivity? In the past 15 years, research on social loafing has attempted to answer these questions, as well as many others.

Formally, *social loafing* is a reduction in motivation and effort when individuals work collectively compared with when they work individually or coactively. When working collectively, individuals work in the real or imagined presence of other people with whom they combine their inputs to form a single group product. When work-

Steven J. Karau is an Assistant Professor of Psychology and Health Administration at Virginia Commonwealth University. His research interests are in the area of group processes, including social motivation, leadership, and temporal influences on group interaction and group decision making. **Kipling D. Williams** is an Associate Professor of Psychology at the University of Toledo. His research interests include the group's influence on the individual's motivation and performance, social ostracism, and social influence in the legal setting. Address correspondence to Steven J. Karau, Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284-2018; e-mail: skarau@cabell.vcu.edu, or to Kipling D. Williams, Department of Psychology, University of Toledo, Toledo, OH 43606; e-mail: kipling@uoft02.utoledo.edu.

ing coactively, individuals work in the real or imagined presence of others, but the inputs of different people are not combined.

In the 1880s, in what may have been the first social psychological study, Ringelmann examined the effects of working collectively on a rope-pulling task and noted a decrease in performance with increasing group size.¹ However, these results were essentially ignored, regarded with skepticism, or interpreted as a mere artifact of incoordination among group members rather than motivation loss. It was not until 1974 that Ringelmann's findings were replicated, and an additional 5 years passed before the motivational component of this effect was understood as an important and reliable phenomenon unto itself and given the label social loafing.²

Since the late 1970s, more than 80 studies on social loafing have been conducted, providing a host of findings relevant to theorists interested in evaluation processes, the self, and group dynamics. Both laboratory experiments and field studies have been conducted using a wide variety of tasks and examining a range of subject populations varying in age, gender, and culture. These studies provide valuable insights into the nature of individual motivation on collective tasks and document the existence of a number of moderating variables that suggest strategies for reducing or eliminating social loafing in naturally occurring groups.

MAGNITUDE AND GENERALITY OF SOCIAL LOAFING

Given the relatively large empirical literature that is now available, a coherent understanding of social loafing is beginning to emerge. Recently, we conducted a meta-analytic synthesis of this research

that casts light on the strength and generality of social loafing, as well as the extent to which various factors influence effort reduction in collective contexts.³ The bulk of the available evidence suggests that social loafing is moderate in magnitude and found consistently across studies. Across all studies, we found a mean weighted effect size (d , the difference between the experimental and control groups, divided by the standard deviation of the two groups combined) of 0.44 (95% confidence interval = 0.39 to 0.48), indicating that individuals tended to engage in social loafing when working collectively. This figure also suggests that the magnitude of social loafing is comparable to that of a number of prominent social psychological effects. It should also be noted that this effect size was obtained even though most of the studies included in our meta-analysis had attempted to find factors that eliminate the effect.

Social loafing has been found for a wide variety of tasks. These include physical tasks, such as rope pulling and swimming; cognitive tasks, such as navigating mazes and identifying radar signals on a computer screen; creative tasks, such as thought listing and song writing; evaluative tasks, such as rating the quality of poems, editorials, and clinical therapists; and work-related tasks, such as typing and evaluating job candidates. Furthermore, although differences do occasionally and inconsistently emerge across samples, a number of studies have found significant social loafing regardless of participants' gender, nationality, or age. Thus, social loafing generalizes across tasks, as well as most subject populations.

THEORIES OF SOCIAL LOAFING

Why do individuals engage in social loafing when working collec-

tively? Several researchers have proposed theories of social loafing. Although all of these theories have some limitations, each has inspired useful research and provided valuable insights into the nature and possible causes of social loafing. Therefore, we briefly present four of the most prominent views and offer a few observations about their adequacy and completeness.

Social Impact Theory

Social impact theory considers the extent to which individuals can be viewed as either sources or targets of social influence. When individuals work collectively, the demands of an outside source of social influence (e.g., an experimenter or one's boss) are diffused across multiple targets (i.e., across all of the group members), leading to decreased levels of effort. On individual tasks, no such diffusion takes place, and individuals work hard. The division of social influence is thought to be a function of the strength, immediacy, and number of sources and targets present, and is predicted to follow an inverse power function specifying that each additional group member will have less influence as group size increases.⁴

Arousal Reduction

The arousal reduction viewpoint proposes a drive explanation to accompany a social impact approach to social loafing.⁵ Research has demonstrated that arousal enhances drive and effort in a manner that facilitates dominant responses, or those behaviors that the individual is most likely to follow in a given situation. On a simple or well-learned task, the dominant response is likely to be useful or correct. On a complex, novel, or unfamiliar task, the dominant response is likely to be in error. Thus, arousal enhances per-

formance on simple tasks and reduces performance on complex tasks.⁶ Arousal reduction theory argues that the presence of other co-workers actually reduces arousal when these others serve as co-targets of an outside source of social influence. Thus, working collectively reduces arousal, thereby reducing performance on simple tasks but enhancing performance on complex tasks.

Evaluation Approaches

Several interpretations invoke the concept of evaluation.⁷ These viewpoints suggest that social loafing occurs because working collectively often makes each group member's inputs difficult to identify and evaluate. Thus, working collectively may allow individuals to "hide in the crowd" and avoid taking the blame for a poor group performance. Working collectively may also lead individuals to feel "lost in the crowd" so that they cannot receive their fair share of the credit for a good group performance. This viewpoint suggests that evaluation by anyone (including oneself) may often be enough to eliminate social loafing. In addition, research associated with this view has documented that in order for evaluation by any source (the experimenter or supervisor, one's co-workers, or oneself) to be possible, (a) the participant's inputs must be known or identifiable, and (b) there must be a standard (personal, social, or objective) with which these inputs can be compared.

Dispensability of Effort

Dispensability views suggest that people exert less effort when working collectively because they feel that their inputs are not essential to a high-quality group product. Moreover, such a reduction in individual

effort might occur even when group members' contributions can be directly identified and evaluated. Thus, on some tasks, individuals may be unwilling to work hard if they feel that their inputs are redundant with those of other group members, or are otherwise irrelevant to group performance.⁸

Discussion

Supportive evidence exists for each of these four viewpoints, but they have also been criticized.³ For example, social impact theory appears to predict the effects of group size quite well, but has been criticized for not specifying the underlying psychological processes that it describes. Similarly, experiments have clearly documented that evaluation processes can be very impor-

tant in collective contexts, yet some studies have found social loafing even when individual responses can be identified and evaluated both co-actively and collectively.

The most significant limitation common to all four views is that each offers explanations and makes predictions about social loafing within a restricted domain. For example, the evaluation and dispensability views provide excellent analyses of the roles that those specific variables play in social loafing, but neither viewpoint can explain nor attempt to explain the operation of the entire range of variables that have been found to moderate social loafing. Indeed, each moderating variable seems to be associated with a separate theory that elucidates only one of several possible causal mechanisms. We now present the central features of an integrative the-

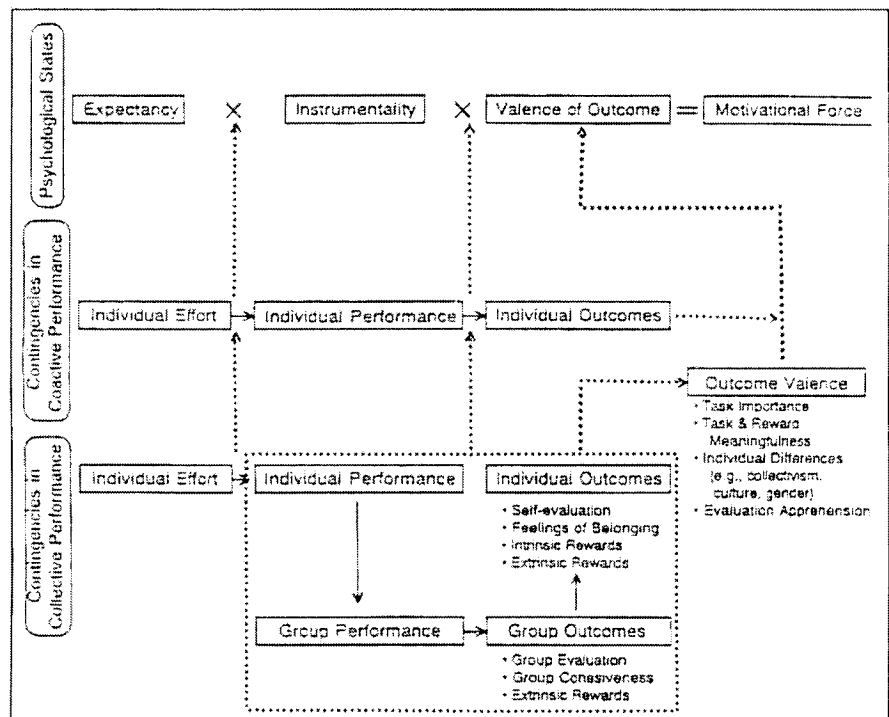


Fig. 1. The Collective Effort Model. The top two rows depict the psychological states and performance contingencies, relevant to coactive tasks, that are specified by traditional expectancy-value models. The bottom row depicts additional performance contingencies that are relevant to collective tasks. The bulleted items in the bottom row highlight factors that are relevant to self-evaluation processes in group settings. Vertical arrows highlight common contingencies between coactive and collective performance and indicate how those contingencies map onto psychological states. From Karau and Williams.³ Copyright 1993 by the American Psychological Association.

ory that proposes to envelop most if not all of the findings in the existing social loafing literature and that offers specific predictions for future research.

AN INTEGRATIVE FRAMEWORK

Basic Attributes

The Collective Effort Model (CEM)³ combines key elements of traditional expectancy-value models of effort (which suggest that people seek to maximize the expected utility of their efforts) with recent research and theory on self-evaluation processes in group contexts.⁹ Expectancy-value models help identify the most likely threats to individual motivation, and self-evaluation theories help clarify which particular outcomes are likely to be valued by individuals when working collectively. The key features of the CEM are shown in Figure 1. Briefly, the model suggests that individuals will be willing to exert effort on a collective task only to the degree that they expect their efforts to be instrumental in obtaining outcomes that they value personally. When those outcomes tied to the collective situation or the group's performance are not important, meaningful, or intrinsically satisfying, individuals are unlikely to work hard. Moreover, even when the relevant outcomes are highly valued, individuals are unlikely to work hard if their effort is not expected to lead to performance that will be instrumental in obtaining those valued outcomes.

As depicted in the bottom row of the figure, individuals must perceive that a number of factors are present before they will be willing to work hard on a collective task. Individual effort must relate to individual performance, which must in turn relate to the group's performance. The group's performance must then lead

to a favorable group outcome, which must be related to a favorable outcome for the individual. Finally, the individual must attach some personal value to this outcome. If individuals perceive that the task performance setting substantially disrupts any of these relationships, then they will not be likely to view their efforts as useful and will not work as hard on the task. Similarly, individuals will not work very hard when the available outcomes are not valued, even if these outcomes are directly related to individual effort. Relevant group outcomes include things such as extrinsic rewards, evaluation of the group, and cohesiveness of the group. Relevant individual outcomes include things such as intrinsic and extrinsic rewards, feelings of belonging or attraction to the group, and information relevant to self-evaluation.

But what outcomes are individuals likely to value? The CEM suggests that outcome valence depends on a number of factors, including the perceived meaningfulness of the task and any associated rewards, the importance of the task to the individual and group, the degree to which the individual is predisposed to view collective outcomes as important (based on personality, culture, gender, or other factors), and the degree to which the individual is concerned with his or her evaluation. Thus, outcome valence may be influenced both by objective outcomes, such as pay, and subjective outcomes, such as enjoyment, satisfaction, and feelings of connectedness with the group. In the case of objective outcomes, however, it is the individual's evaluation of the outcome rather than the outcome itself that determines its value. In the case of subjective outcomes, because people are social animals and are generally motivated to maintain a favorable self-evaluation, collective situations that have special relevance to one's self-evaluation should generally be more motivating than situations that

do not provide much information relevant to one's self-evaluation. Self-evaluation information is more plentiful and diagnostic when one's performance can be evaluated, and this information is likely to be most relevant to individuals when they are working in the context of important or valued groups. Indeed, recent work on social identity theory and on group-level versions of social comparison theory suggest that an individual's self-identity is strongly influenced by the accomplishments and activities of the groups to which he or she belongs.¹⁰

Implications

The CEM has a number of implications for social loafing. First, the model suggests that collective work settings are highly susceptible to social loafing because an individual's outcomes frequently depend less on his or her efforts when the person is working collectively than when the person is working coactively. Second, the CEM suggests that individuals will work harder on a collective task when they expect their efforts to be instrumental in obtaining valued outcomes. Therefore, social loafing should be reduced when individuals (a) believe that their collective performance can be evaluated by the experimenter, their co-workers, themselves, or other people; (b) work in smaller rather than larger groups; (c) perceive that their contributions to the collective product are unique, rather than redundant with the inputs of other group members; (d) are provided a standard with which to compare their group's performance; (e) work on tasks that are either intrinsically interesting, meaningful to them, important to their reference groups or to other valued people, or high in personal involvement; (f) work with respected people or in a situation that activates a salient group identity; (g) expect their co-workers to perform poorly; and

(h) have a dispositional tendency to view favorable collective outcomes as valuable and important. As we discuss in the next section, these suggestions as to what factors should reduce the likelihood of social loafing have received a fair amount of empirical support.

MODERATORS OF SOCIAL LOAFING

Individual studies have found a number of variables that moderate social loafing. In our recent meta-analysis, we were able to examine

the extent to which each of these factors moderated social loafing across the large body of studies in the existing literature.³ A summary of some of the more interesting results of that analysis is presented in Table 1.¹¹ Within each class of a variable in the table, a significant ef-

Table 1. Factors affecting the magnitude of social loafing

Variable and class	n	Mean weighted effect size (<i>d</i> , <i>s</i>)	95% confidence interval	
			Lower	Upper
Evaluation potential ^a				
None	5	-0.12	-0.33	0.08
Coactive condition only	115	0.59	0.55	0.64
Coactive and collective conditions	27	0.08	-0.01	0.17
Unclear	16	0.32	0.20	0.45
Task meaningfulness or importance				
High	30	-0.10	-0.22	0.02
Moderate or unclear	128	0.49	0.45	0.54
Low	5	0.90	0.57	1.22
Group valence ^b				
High	9	-0.17	-0.41	0.08
Moderate	11	0.25	0.08	0.42
Low	127	0.50	0.46	0.55
Unknown or unclear	16	0.28	0.18	0.38
Opportunity for group-level evaluation				
Present	12	0.03	-0.10	0.16
Absent	151	0.48	0.44	0.52
Expectations of co-workers' performance				
High	14	0.33	0.14	0.53
Moderate	141	0.45	0.41	0.50
Low	8	-0.17	-0.45	0.10
Uniqueness of individual contributions				
Unique	8	0.03	-0.18	0.24
Potentially redundant	64	0.49	0.41	0.56
Completely redundant	91	0.44	0.39	0.49
Complexity of task				
Simple	133	0.47	0.42	0.51
Complex	7	-0.11	-0.37	0.14
Unclear	23	0.36	0.25	0.47
Setting of study				
Laboratory	140	0.47	0.43	0.51
Field	23	0.25	0.16	0.35
Sex of subjects ^c				
Men	39	0.57	0.48	0.65
Women	23	0.22	0.13	0.32
Both	113	0.44	0.39	0.49
Culture of subjects ^d				
Eastern	15	0.19	0.06	0.32
Western	148	0.46	0.42	0.50

Note. Data from Karau and Williams.³ All results presented are from statistically significant categorical models.¹¹ *n* refers to the number of coactive-collective comparisons available in each class. Such comparisons included both entire studies and subdivided study units, as appropriate. See Karau and Williams³ for a detailed description of the criteria for coding variables and partitioning data within studies.

^a This variable refers to the conditions under which individual outputs could be evaluated.

^b Group valence was coded as high if co-workers were friends or teammates, moderate if co-workers were mere acquaintances, and low if co-workers were strangers.

^c This analysis includes effect sizes that were, whenever possible, partitioned by sex of subject within each separate study unit.

^d Eastern cultures included Japan, Taiwan, and China. Western cultures included the United States and Canada.

fect of social loafing is indicated by a positive mean effect size accompanied by a confidence interval that does not include zero. As shown in the table, a number of variables had a significant influence on the magnitude of effect sizes, suggesting a variety of possible strategies for reducing or eliminating social loafing. In addition, the magnitude of social loafing increased significantly with increases in group size. The observed pattern of relationships corresponds quite well with the logic and implications of the CEM. Indeed, in nearly every case, the CEM was successful in accounting for the empirical status of moderators of social loafing.

Two of the moderators, gender and culture, warrant brief elaboration. Although significant levels of social loafing were found within each class of participants for these variables, the effect was smaller for women than for men and for individuals from Eastern cultures than for those from Western cultures. Several recent analyses have suggested that women often tend to be more group or communally oriented than men. Similarly, Eastern culture is often depicted as group or socially oriented, whereas Western culture is often depicted as individualistically oriented.¹² Therefore, one interpretation of these gender and culture findings that is consistent with the CEM is that women and individuals from Eastern cultures are more likely to be oriented toward viewing collective tasks as important and meaningful than are men and individuals from Western cultures.

IMPLICATIONS AND FUTURE DIRECTIONS

The existing research indicates that individuals tend to engage in social loafing when working collectively. The experimental results

highlighted in this review suggest a variety of ways in which loafing might be reduced or overcome in natural settings. Nevertheless, social loafing is still likely to have serious consequences for a variety of everyday group settings, both because so many threats to collective effort exist and because many of these threats are difficult to change or eliminate in the context of natural groups.

Although existing research on social loafing has provided many valuable insights, a number of questions remain to be answered in future investigations. One pressing need is to further substantiate social loafing outside the laboratory, for example, in industry, committees, juries, and interpersonal relationships. Once the effect has been documented more clearly in such settings, attempts could be made to determine whether the moderating variables isolated in laboratory research apply to these other contexts as well. Additional research could further explore the dynamics and generalizability of social loafing. Among the questions that might be addressed more directly are the following: What are the long-term effects of working collectively? Do people prefer tasks on which they can loaf? Is social loafing adaptive in some cases? When does social loafing result from automatic processes and when does it result from deliberative, strategic processes? How does working collectively affect liking for the task, liking for co-workers, and desire to work independently or collectively in the future? Can certain reward structures or goal-setting procedures reduce or eliminate social loafing? How might social loafing manifest itself within interacting groups such as juries or decision-making teams, and how might individual efforts be measured in these contexts?

The research agenda to this point has been to eliminate social loafing, an understandable goal given that social loafing was labeled a social

disease. Consistent with this emphasis, studies have documented that a number of factors reduce or eliminate social loafing. Yet two caveats are worth noting: First, the vast majority of factors shown to decrease social loafing have been demonstrated in the context of the 30- to 60-min experiment. Perhaps evaluation concerns and intrinsically interesting features of tasks fade over days, weeks, and months of continued collective effort. Second, better understanding of the causes and implications of social loafing would result if the agenda were not so one-sided: Researchers need to expand their focus to include not only factors that reduce social loafing, but also factors that lead to motivation gains on collective tasks,¹³ as well as factors that increase social loafing.

Acknowledgments—We thank Martin Bourgeois, Kristin Sommer, and Phil Ulrich for their valuable comments on drafts of this article.

Notes

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6. See, e.g., R.B. Zajonc, Social facilitation, *Science*, 149, 269-274 (1965).
7. See, e.g., S.G. Harkins, Social loafing and social facilitation, *Journal of Experimental Social Psychology*, 23, 1-18 (1987).
8. N.L. Kerr, Motivation losses in small groups: A social dilemma analysis, *Journal of Personality and Social Psychology*, 45, 819-828 (1983).
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10. D. Abrams and M. Hogg, *Social Identity Theory: Constructive and Critical Advances* (Springer-Verlag, New York, 1990); Goethals and Darley, note 9.

11. For a detailed description of the statistical procedures used in the meta-analysis, see Karau and Williams, note 3; L.V. Hedges and I. Olkin, *Statistical Methods for Meta-Analysis* (Academic Press, San Diego, 1985).

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13. For an example of such a strategy, see K.D. Williams and S.J. Karau, Social loafing and social compensation: The effects of expectations of co-worker performance, *Journal of Personality and Social Psychology*, 61, 570-581 (1991).