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Working Harder or Hardly Working? Posting Performance Eliminates Social Loafing and Promotes Social Laboring in Workgroups

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The current paper examines how posting performance—an act that triggers increased social comparisons between workers—influences employees' motivation when working in groups. In the study, posting employee performance moderated the relationship between groupwork and employee motivation. When individual performance was publicly posted in the workplace, employees working in a group performed *better* than when working alone (i.e., social laboring); however, when individual performance was not posted, employees working in a group performed *worse* than when working alone (i.e., social loafing). The findings shed light on how social comparisons can have positive implications for employee performance in groups.

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Introduction

Despite the widespread use of groups and teams in organizations to perform both routine and specialized tasks, concerns have long been raised that working in a group has the potential to harm individual motivation. Numerous studies have documented that when inputs are pooled together, group members experience a diffusion of responsibility where individuals reduce their effort and become less productive compared with when they work alone (for a review, see Karau and Williams 1993); this phenomenon is often referred to as social loafing or free riding. Although social loafing is often described as a potential malady that can harm motivation when individuals work in groups (Hackman 2002, Kerr and Tindale 2004), in recent years, researchers have increasingly begun to document instances of social laboring—when working in a group can lead individuals to increase their effort and be more productive compared with individuals working alone (for reviews, see Kerr and Hertel 2011, Larson 2010, Weber and Hertel 2007). Considering the frequency with which employees work in groups, it is both practically and theoretically important to help shed light on features in the workplace that not only help to eliminate social loafing but also may promote social laboring.

In the current paper, we examine how having performance publicly compared with others in the workplace affects employee motivation when individuals work in groups. We argue that when social comparison processes become salient via the presence of posting performance, employees working in groups will increase their motivation (i.e., social laboring); however, when social comparison processes are minimized via the absence of posting performance, employees working in groups will be inclined to reduce their task motivation (i.e., social loafing). We test our predictions in a call center where employees performed their work either alone or as a member of a temporary workgroup. The setting allowed us to directly examine how posting performance relates to both social loafing and social laboring when employees worked in groups compared with when they worked alone.

Social Bases of Motivation in Workgroups

For more than a century, scholars have documented that working in a group can affect individuals' levels of task motivation (Köhler 1926, Ringelmann 1913).[1] The positive or negative impact of working with others on task motivation has been attributed to two main psychological mechanisms: (1) perceived instrumentality and (2) social comparison processes. Whereas the former affects effort through an individual's assessment of how necessary his or her contribution is for the group to accomplish its task, the latter affects effort through influencing the value

[1] We define a *group* as two or more individuals whose inputs are pooled together toward a common goal (Williams 2010).

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individuals place on how they perform relative to other group members.

Research supporting social comparison theory (Festinger 1954) has documented that individuals generally prefer to compare favorably against others (for reviews, see Buunk and Gibbons 2007, Suls and Wheeler 2000). When performance comparisons are made salient among group members, individual effort can be influenced by the value that individuals place on how their performance is evaluated by others in the group, as well as by themselves. Given that individuals generally desire to be seen as valued members of the groups to which they belong (Hogg 1996), making performance comparisons salient allows individuals to both demonstrate and evaluate their relative value to the group (Harkins and Szymanski 1989). Additionally, when individuals work together on a shared task, concerns over being seen as the weakest link, or the group member who is responsible for lowered performance, can fuel individual effort in groups (Hertel et al. 2000). Moreover, providing explicit comparisons can increase competition, where individuals work harder in an effort to outperform others (Lount and Phillips 2007). Taken together, when performance comparisons are made salient in groups, individuals can feel increasingly accountable for their contributions; the comparisons lead individuals to place increased value on performing well so that they can be seen favorably. Accordingly, researchers have argued that increasing the salience of performance comparisons can help not only eliminate social loafing (e.g., Karau and Williams 1993, Williams et al. 1981) but also promote social laboring in groups (e.g., Kerr et al. 2005, Lount et al. 2008).

Although promoting performance comparisons within groups has the potential to improve effort, the motivational potential of such performance comparisons depends on the perceived similarity of those being compared (e.g., Festinger 1954, Harkins 1987, Sanders et al. 1978). Within groups, comparisons with others who are working on an identical task provide information about group members' relative abilities and contributions, making performance comparisons particularly relevant and increasing their motivational potential (Suls et al. 2002). For instance, Harkins (1987) documented that the task motivation of coactors (i.e., individuals who work near one another but who do not have a shared outcome) was larger when they anticipated having their performance compared with another person who was working on an identical task (i.e., generating as many uses as possible for the same object) compared with when they anticipated being compared with someone performing a dissimilar task (i.e., generating as many uses as possible for a different object).

Although working alongside group members performing an identical task has the potential to increase motivation via social comparison processes, working on a task identical to one's teammates' paradoxically also has the potential to harm individual motivation and promote social loafing. Namely, working on an identical task can lead individuals to lower the perceived importance of their own contributions. In other words, perceived instrumentality can be harmed because individuals become aware that they are not solely responsible for the performance on the assigned task and that other group members can make up for any one individual's low performance (Kerr 1983). Supporting the possibility that motivation is harmed when individuals perform a task identical to that of their teammates, Karau and Williams' (1993) meta-analysis on motivation in groups documented social loafing effects to occur when group members worked on identical tasks, whereas individual motivation was not harmed when teammates worked on different tasks. Taken together, basic research on individual motivation in groups highlights that both social comparison processes and concerns about perceived instrumentality play a critical role in influencing effort when working on a task identical to one's teammates' (Kerr et al. 2007, Hertel et al. 2008). As such, when teammates perform the same task as one another, understanding how to structure groupwork to avoid the potential negative effects of decreased perceptions of instrumentality will likely depend on the how social comparison processes are affected by the broader organizational context.

Whereas prior research has found evidence of social loafing in the laboratory (for reviews, see Karau and Williams 1993, Rutte 2003) and in simulated work environments (e.g., Early 1989, Erev et al. 1993), the degree to which such findings necessarily correspond or predict the behavior of employees in workgroups is unclear. Moreover, doubts have been raised as to whether social loafing will necessarily even occur among employees (e.g., Erez and Somech 1996) because there are a number of features present in the workplace that may deter the propensity to reduce task motivation when working with others (e.g., desire for organization to perform well, potential for promotion, concerns over being laid off). To date, the most frequently cited evidence of loafing in organizational workgroups comes from survey-based studies that have examined *perceptions* of loafing (e.g., George 1992, Liden et al. 2004). Perceptions of loafing—although tapping into beliefs about group-oriented behaviors (e.g., letting others do more of the work)—do not necessarily reflect actual changes in behavior (i.e., motivation losses) caused by working on a shared task. Additionally, building on recent documentations of social laboring obtained from laboratory studies (e.g., Kerr and Hertel 2011) and in team sports (e.g., Hüffmeier and Hertel 2012), it has been

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suggested that the social setting may be structured not only to eliminate social loafing but also to promote social laboring when employees work in groups (van Dick et al. 2009).

We argue below that posting employee performance in the workplace—an action that can help to activate social comparison processes—constitutes a critical component of the work context that can help to eliminate social loafing and promote social laboring when individuals work in groups.

The Current Study

The practice of posting performance is common in many workplace settings and typically takes the form of a manager posting one or more characteristics of an individual's performance in view of his or her coworkers. Posting performance highlights that the organization is aware of and cares about performance, and it can signal to employees that they should also care (Nordstrom et al. 1991). Prior work has shown that employees perform better when they receive feedback from management that allows them to compare their performance to that of others (Blanes i Vidal and Nossol 2011). Posting performance can facilitate a culture of comparison, where performance comparisons are a salient and relevant feature of the workplace. Despite the potential for posting performance to increase employee effort, the motivational benefits of the comparisons will likely depend on against whom one is being compared (Festinger 1954, Harkins 1987). That is, whereas posting performance may promote social comparison processes in certain work settings (e.g., when coworkers perform identical tasks), they may not necessarily elicit such processes when comparisons are deemed less relevant (e.g., when coworkers perform dissimilar tasks).

In the current study, we sought to examine how performance posting would impact the relationship between groupwork and employee motivation when teammates worked on an identical task. Namely, although working on a task identical to one's teammates' can harm individual motivation via reducing perceptions of instrumentality, working under conditions that heighten comparison processes may not only be sufficient to eliminate the tendency reduce one's inputs but also promote the desire to perform especially well. Consistent with the expectation that settings that make comparisons especially salient should lead individuals to be driven to compare favorably, we predicted that posting performance would moderate the relationship between groupwork and individual task motivation. When performance was posted in the office, we expected social laboring to occur (i.e., increased performance of employees working in groups compared with when they work alone). However, when performance was not posted, we expected that a reduction in perceived instrumentality would promote social loafing (i.e., decreased performance of employees working in groups compared with working alone).

To test our predictions in the workplace, it was necessary to examine the performance of employees when working alone compared with when they worked in a group, and we examine whether performance in these contexts differed as a function performance posting. Accordingly, we examined the performance of employees working at a call center who performed the task of recruiting people to participate in a focus group either alone or with other employees recruiting people for the same focus group.[2] While working in a group, an employee's number of recruits was pooled with that of other group members, thereby creating outcome interdependence among group members. The basic nature of an individual's work did not differ while working alone or as a member of a group because employees sat in a cubicle making phone calls in both situations, providing us with an opportunity to compare employee performance across these two types of work settings.[3]

The study was conducted over a 12-week period, 6 weeks during which the company posted employee performance weekly and 6 weeks during which the company did not post employee performance. Across these 12 weeks, employees were assigned, on a daily basis, to work alone or with others completing the same task.

Method

Organizational Setting

FocusCo (a pseudonym) is an organization that conducts focus groups for clients. Focus groups are used to test market products or product marketing campaigns. Clients would contract with FocusCo to recruit individuals, run the focus groups, and report

[2] By *alone*, we simply mean that the individual does not have interdependence with others. The current work environment (i.e., employees working at cubicles side by side) helps controls for many of the psychological effects (e.g., arousal) attributable to working in the presence of others that can affect individual performance (Aiello and Douthitt 2001, Cottrell et al. 1968).

[3] To argue that a process loss or gain in a group has occurred, one needs to compare performance against a baseline (Hill 1982, Tindale and Larson 1992). In the current study, the presence of an individual baseline enabled us to examine whether employees exert different levels of effort when they work in groups compared with when they work alone. Given that the basic nature of the task did not change when individuals worked alone or as a member of a group, positive/negative changes in individual performance across these two work arrangements should largely be attributable to motivation gains/losses instead of coordination gains/losses (Larson and Schaumann 1993, Steiner 1972).

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back with results. Our data come from call center employees responsible for recruiting individuals for these focus groups. Employees contacted prospective focus group members from a list of phone numbers provided by the organization.

For each client project, a profile was created for requested focus group members. The employees were responsible for calling and quizzing prospective group members on the characteristics of the profile (e.g., age, sex, exposure to a particular product, user of a particular product). Although projects generally required similar participant characteristics, there was variation depending on the project, making some focus groups more time consuming to recruit participants for than others. As such, managers generally kept track of project assignments to minimize the chance that certain employees were regularly assigned to more or less difficult projects than others across time.

Before making phone calls, employees began each new project by carefully studying the profile requirements. While on the phone, based on the responses of the prospective focus group member, the employee would determine whether he or she fit the profile. If so, the employee would provide this individual with information about the place and time of the focus group and encourage him or her to attend. If the recruit was able and willing to participate, this would be considered a successful recruit for the employee. However, if the responses provided indicated that the prospective focus group member was not appropriate for the project, the employee would end the call and then proceed to the next call.

Employees worked on only one project at a time. Each project had a quota to be met, and depending on how managers assigned projects that day, individuals worked either alone or simultaneously with others to meet the quota. Assignment to whether one worked alone or in a group was largely random, with some oversight from managers with regard to workflow scheduling. In any given week, employees would be assigned to multiple projects, working either alone or with others on a project. The project was considered complete when the number of recruits met the quota, which could take anywhere from less than a day to several days.

Even though projects were of generally short duration, working together with one or more others created a sense of group membership. When a project was assigned to more than one person, the manager met with the employees who were to be working on the same project, explained the project and their joint goal, and encouraged them to keep track of recruits among themselves to make sure they met the quota and did not recruit too many participants. As we observed in our site visits, employees did this by informing each other of a successful recruit or by checking in with one another throughout the day to determine how many recruits had been achieved. Moreover, group members tended to talk about "our project" rather than "my project." Management reinforced the group nature of the work by making the entire group accountable for reaching the quota and requiring all group members to continue to work on that project until the quota was met. If an employee's recruit was discovered to be unqualified, the entire group, not just the employee who recruited the participant, would have to return to work on the project until the quota was met, even if that meant putting their newly assigned project on hold.

It was also observed in our site visits that, given the high number of rejections employees faced when making phone calls to recruit focus group members, it was viewed as a positive event to complete a quota. In addition, the time transitioning from one project to the next provided an opportunity for a break from the phones. Given the taxing nature of constantly talking, team members who helped reach the quota were generally viewed favorably by their teammates.

We examined performance of employees across 12 weeks. For six consecutive weeks, individual performance was posted at the end of each week in a prominent spot in the office. At the end of the six weeks with posting, the performance list was removed from the office and the manager informed employees that performance would no longer be posted. Thus, performance data during the "posting period" began the first day employees were exposed to the performance list, and performance data during the "no-posting period" began the first day employees worked in the absence of the performance list.[4] The call center manager provided few details to the employees about the posting or why it was removed. The information posted included the employee's name, the number of people recruited for focus groups that week, and the number of hours he or she worked that week. The FocusCo primary performance metric, recruits per hours worked, was also clearly visible. The list was ordered sequentially on the basis of employee performance, with the top performer's information listed first.

[4] The decision to have the first six weeks be the posting time period and have the six weeks following be the no-posting period was made for two reasons. First, managers wanted time to set up the posting system and used the week preceding January 1 (i.e., when the call center is closed) to do so. Second, the call center did not want to compare performance during the holiday season (i.e., six weeks preceding January 1) with performance following the holidays to avoid "holiday effects" because management believed that people may be less interested in participating in focus groups during the holidays.

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Sample

For our analyses, we use data provided by the organization for all call center employees and projects within the 12-week period noted above. The call center organization was small and varied from around 20 to 25 employees. We created a sample to include only employees who were in both the posting and no-posting period for a final count of 21 employees (90% female with average tenure of 2.3 years). Although the number of respondents is small, it is consistent with other experience sampling studies (e.g., 27 participants in Ilies and Judge 2002, 18 participants in Totterdell and Holman 2003). From these employees we obtained 737 observations across the 12 weeks, where each observation included performance data for a particular project on a given day for a particular employee. We focus on the project level as employees would sometimes work on more than one project in a given workday.

Measures

Recruits per Hour. The dependent variable is FocusCo's primary measure of productivity, the number of recruits per hour worked for each employee. This was calculated for each day for each project on which an employee was working. Given that the task is easily learned and performance is determined largely by persistence, consistent with other research examining task motivation among call center workers (e.g., Grant 2008), the number of recruits per hour the employee obtained was operationalized as a behavioral indication of effort.

Posting. A dichotomous variable (0 = no posting, 1 = posting) was created to indicate whether FocusCo was posting or not during the time period.

Groupwork. We calculated the number of other employees who were assigned the same project on the same shift on the same day. There were either two, three, or four people working on the same project on the same shift, with the majority being two per project per shift. We created a dichotomous variable where 0 indicates the person was working alone on this particular project that day and on that shift and a 1 indicates that the person was working with at least one other person on this particular project that day and that shift. Dichotomizing groupwork (0 = alone, 1 = group) is consistent with prior work showing that the distinction between working alone versus working with at least one other person is a critical one in distinguishing between individual and group contexts (Latané et al. 1979, Williams 2010).

Controls. We also controlled for the number of days a person had been working on the current project or task because research has shown that experience can influence performance (Quinones et al. 1995).

Analysis

Data were structured so that each line of data was a separate project/day/person combination (thus, projects were nested within days, which were nested within person). Because of the nested nature of the data, we chose to use hierarchical linear modeling (HLM) to account for the dependence among the observations (Raudenbush and Bryk 2002). HLM accounts for bias associated with dependence among observations that occurs when data are nested within units (multilevel models) by modeling both fixed and random effects.

Results

To determine whether using HLM was empirically justified, we calculated the intraclass correlation coefficients ICC(1), which is a measure of the variance that is attributable to the three levels, project, person, and day, for our dependent variable. We found that although there was significant variance in recruit by hours that is explained at both the project (95%, $p < 0.001$) and the person (5%, $p < 0.05$) levels, we found no significant variance in our dependent variable that was explained at the day level (0%, $p > 0.10$). These findings indicate that using HLM is an appropriate analytical technique and that two-level models (project nested within person) are suitable for these data (Kreft and De Leeuw 2002).

Means, standard deviations, and intercorrelations of study variables are provided in Table 1. Before testing our interaction hypothesis, we first examined the main effects of posting and groupwork. The results of the regression analyses showed that neither posting ($b = 0.02$, $p = 0.63$) nor groupwork ($b = -0.02$, $p = 0.62$) significantly predicted task performance. As anticipated, however, the interaction term significantly predicted individual task performance ($b = 0.42$, $t = 4.20$, $p < 0.01$) (see Table 2, Model 4). Exploring this interaction, we find that when posting was present, individuals working in groups performed better than when working alone (simple slope = 0.19, $t = 2.18$, $p = 0.03$). However, the opposite pattern

Table 1 **Means, Standard Deviations, and Intercorrelations Among Study Variables**

Variable	Mean	SD	1	2	3
1. *Recruits per hour*	0.59	0.61			
2. *Posting* (1 = posting)	0.42	0.49	0.01		
3. *Groupwork* (1 = group)	0.26	0.44	−0.03	0.13**	
4. *Days on project*	1.36	0.72	−0.04	0.12**	0.01

Notes. Within-person correlations between variables were obtained using HLM analyses to account for nonindependence. $N = 737$ (pairwise, within-person correlations).

*$p < 0.05$; **$p < 0.01$.

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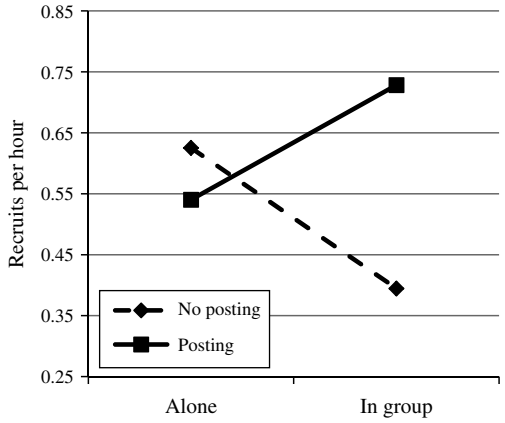
Table 2 HLM Analyses of Recruits per Hour

Measure	Model 1	Model 2	Model 3	Model 4
Intercept	0.64***	0.63***	0.64***	0.68***
Days on project	−0.04	−0.04	−0.04	−0.04
Groupwork (1 = group)	−0.02		−0.03	−0.23*
Posting (1 = posting)		0.02	0.03	−0.09
Groupwork × *Posting*				0.42**
χ^2	22.33***	22.39***	22.64***	27.43***
Sample size (project per /person)	737	737	737	737

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

occurred when posting was *not* present; individuals working in groups performed worse than when working alone (simple slope = −0.23, $t = -4.33$, $p < 0.01$).[5] Taken together, these results supported our primary hypothesis (see Figure 1).

Figure 1 Plot of *Posting* × *Groupwork* for Recruits per Hour



Supplemental Analyses

We conducted additional analyses to help rule out potential alternative explanations for our findings. One might argue that the evidence of social loafing while working in groups when there was no posting was an artifact of the ordering of our data collection. That is, the social loafing finding may be a reaction to the *removal* of posting; thus, there is a concern that this finding may not occur prior to the posting period. To test whether social loafing was occurring prior to the posting period, we ran HLM analyses on the entire year of data (including all employees) prior to posting and tested whether working in a group had a negative effect on individual task performance. This allowed us to maximize the use of our data and increase the power of our analyses. Suggestive of social loafing, working in a group was negatively associated with individual task performance ($b = -0.10$, $t = -6.04$, $p < 0.001$; person: $n = 123$, event: $n = 5{,}152$). As an additional check, we also ran the same analyses with a reduced sample of only those who were employed sometime during the period prior to posting as well as in the posting period. We find a similar pattern of results. Working in a group had a negative effect on individual task performance ($b = -0.04$, $t = -1.77$, $p = 0.08$; person: $n = 15$, event: $n = 1{,}559$).

Next, we sought to examine whether seasonal differences may have accounted for the motivation gains documented in our posting period. To test this we examined the same six-week period corresponding to the posting period but in the year before, a time when no posting was present. We ran HLM analyses on these data, including all employees, and tested whether working in a group had a negative effect on task performance. Social loafing effects on individual task performance were observed as working in a group was negatively related to performance ($b = -0.13$, $t = -2.25$, $p = 0.02$; person: $n = 33$, event: $n = 640$). Additionally, we ran the same analyses using the full 12 weeks of data corresponding to our posting and nonposting period but in the year prior. Similar results were observed; working in a group was negatively related to performance ($b = -0.10$, $t = -3.34$, $p < 0.001$; person: $n = 49$, event: $n = 1{,}458$). As a final check, we also ran the same analyses with a reduced sample of only those who were employed in the 12 weeks in the corresponding year prior and also during the posting period. We again find a similar pattern of results: working in a group had a negative effect on task performance ($b = -0.08$, $t = -1.64$, $p = 0.10$; person: $n = 8$, event: $n = 346$). Taken together, these additional analyses help rule out the possibility that our effects were likely solely attributable to seasonal effects or that our loafing results were triggered by the removal of posting performance.

We also wanted to examine whether individuals' performance in groups during the nonposting period was affected by the reputation of their teammates. Whereas prior work has found that motivation is sensitive to real-time differences in teammates' performance (e.g., Messé et al. 2002, Schultz et al. 2010), expectations about differences in relative abilities may also affect motivation in groups. By the end of the six weeks of posting performance, employees may have made a general observation of their coworkers' performance, which may have influenced subsequent levels of motivation while working with others. As such, we computed an average performance value for each employee during the posting period and

[5] The statistical interaction between *groupwork* × *posting* was also significant when groupwork was entered as a continuous predictor: $b = 0.42$, $t = 3.68$, $p < 0.001$. Simple slope analyses showed that when posting was present, individuals working with more group members tended to perform better than when working with fewer group members (simple slope = 0.15, $t = 2.75$, $p < 0.01$). When posting was *not* present, individuals working with more people tended to perform worse than when working with fewer people (simple slope = −0.18, $t = -1.49$, $p = 0.14$).

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examined whether the average performance of one's group members affected individual performance in the time period following posting. Analyses showed that mean coworkers' prior performance did not influence the performance of individuals working in groups ($b = -0.05$, $t = 0.38$, $p = 0.70$). We also tested both the interaction between an individual's mean performance during the posting period with their average coworkers' performance during posting and for a possible curvilinear relationship. Neither the interaction analysis ($b = -0.03$, $t = -0.05$, $p = 0.96$) nor the curvilinear test ($b = 0.52$, $t = 1.19$, $p = 0.24$) was significant. Taken together, these analyses suggest that individual performance was not affected by differences in performance reputation between group members.

Discussion

Whereas the literature on motivation in groups has regularly speculated that loafing may occur in organizational workgroups, the findings of this study highlight that the relationship between working in a group and individual motivation depends on the broader work environment. That is, whether or not the organization posted employee performance—an act that triggers increased social comparisons between workers—was found to moderate the relationship between groupwork and employee motivation. Specifically, whereas the absence of posting performance in an office was associated with a decrease in task performance for employees working in groups compared with when they work alone (i.e., social loafing), the presence of posting performance was associated with an increase in task performance for employees working in groups compared with when they work alone (i.e., social laboring). These findings highlight the important role that social comparison processes can play in influencing individual motivation, and they provide support for the expectation that group settings can either positively or negatively affect employee motivation (Hackman 2002).

In addition to documenting how heightening social comparisons processes can aid motivation in groups, through examining differences in motivation as a function of whether an employee worked alone or in a group, our results demonstrate that employee effort can be sensitive to groupwork. When performance was not posted in the office, groupwork was found to promote loafing. This finding is consistent with prior work showing students (Erev et al. 1993) and trainees (Early 1989) loafing at simulated work tasks. However, whereas these prior studies showed evidence of loafing when individual performance was anonymous, in the current work setting, individual contributions to the group task were not anonymous because employees could track and compare their performance with their fellow group members. With conditions of anonymity frequently shown to elicit loafing, one may anticipate that even higher levels of loafing may have occurred if the work setting was one where individual performance was completely anonymous.

Despite showing that groupwork can elicit social loafing among employees, it is important to highlight that the results also show the potential of groupwork to positively influence employee motivation. Namely, posting performance in the office not only helped to eliminate loafing but also resulted in motivation gains in workgroups. This finding supports recent speculation that managers and practitioners may actively manage the broader work context to help elicit social laboring in groups (van Dick et al. 2009).

The current study also helps further our understanding into potential boundary conditions about when posting performance in the workplace may impact individual performance. Specifically, there was not an overall change in individual performance for employees who worked alone during posting and after posting was removed. Although this may appear to be inconsistent with prior work linking posting performance with increased task performance (e.g., Azmat and Iriberri 2010, Blanes i Vidal and Nossol 2011), our findings suggest that the benefits of performance comparisons in some organizations may depend, in part, on being compared with others performing the *exact same task*. Although individuals may be compared on tasks that may appear similar on the surface (e.g., two employees installing parts into a car), if the tasks are not identical (e.g., one person is installing seats and the other is installing steering wheels), publicly posting how long it took each person to perform his or her task may be perceived as irrelevant information, and therefore not aid in improving employee motivation. Thus, merely posting performance data in the office may be insufficient to augment effort if employees do not see the performance comparisons as personally relevant.

Finally, our results also contribute to the growing research on within-person performance, which suggests that the same individuals will exert different levels of effort depending on the context. Whereas characteristics of the task (Fisher and Noble 2004) and the behavior of others (Stewart and Nandkeolyar 2007) have been found to relate to within-person performance variation, we find that working with others on a shared task and posting performance matters as well.

Limitations and Future Directions

It is important to note that there are likely boundary conditions that influence motivation in workgroups. Given that employees working in groups in

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our study experienced minimal task interdependence and worked together for short periods of time, the groups we studied may differ from workgroups commonly found in other organizations (Kozlowski and Bell 2003). Accordingly, group-level features that can shape individual behavior (see Cronin et al. 2011), such as cohesion, should be less influential in the types of temporary workgroups examined in the current study. As such, one should be cautious about generalizing the motivational effects of groupwork seen in the current study to *all* workgroups. For instance, although we found evidence of social loafing when the office did not post performance, there are likely instances where employees would not loaf—and may even display motivation gains—while working with others in a setting where performance is not posted. Namely, employees working alongside rivals (Kilduff et al. 2010) or those facing intergroup competition (Erev et al. 1993, Pettit and Lount 2010, Wittchen et al. 2011) may be especially motivated, regardless of whether the office posts employee performance.

Although we have argued that heightening social comparison processes in workgroups promotes a variety of psychological states argued to facilitate increased performance (i.e., increased evaluation concerns, self-evaluation, competition, and the desire to be seen as a valued group member), the degree to which each of these psychological states was activated cannot be determined in the current study. Future research in settings involving daily changes in one's work environment (i.e., working alone versus working in a group) could capitalize on daily surveys or surveys administered following the completion of each project. Such data may provide valuable insight into the psychological states responsible for performance changes when individuals worked alone versus in a group. Insight into psychological mechanisms may also be garnered in the laboratory. For instance, experimentally manipulating posting performance (present versus not present), groupwork (alone versus group), and task similarity (identical versus different) may help to better understand why posting performance is particularly motivating in groups. Self-report data could be collected in an experiment to help examine the degree to which an increased desire to be seen in a positive light by other group members underlies changes in motivation while posting is present. Thus, although the current study showed that performance posting was associated with improved motivation for employees working in groups, future work is needed to more closely examine the specific psychological processes that underlie these effects.

Conclusion

Consistent with a contingency-based approach to understanding behavior in organizations, we have argued in the current paper that employee motivation can be both *positively* and *negatively* affected by working in a group. These findings highlight that factors present in the broader organizational context, such as whether or not performance is posted, can in part help to explain when working in a group will *help* or *hurt* employee motivation.

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References

Aiello JR, Douthitt EA (2001) Social facilitation from Triplett to electronic performance monitoring. *Group Dynam.* 5:163–180.

Azmat GN, Iriberri N (2010) The importance of relative performance feedback information: Evidence from a natural experiment using high school students. *J. Public Econom.* 94:435–452.

Blanes i Vidal J, Nossol M (2011) Tournaments without prizes: Evidence from personnel records. *Management Sci.* 57:1721–1736.

Buunk AP, Gibbons FX (2007) Social comparison: The end of a theory and the emergence of a field. *Organ. Behav. Human Decision Processes* 102:3–21.

Cottrell NB, Wack DL, Sekerak GL, Rittle RH (1968) Social facilitation of dominant responses by presence of others. *J. Personality Soc. Psych.* 9:245–250.

Cronin MA, Weingart LR, Todorova G (2011) Dynamics in groups: Are we there yet? *Acad. Management Ann.* 5:571–612.

Early PC (1989) Social loafing and collectivism: A comparison of the United States and the People's Republic of China. *Admin. Sci. Quart.* 34:565–581.

Erev I, Bornstein G, Galili R (1993) Constructive intergroup competition as a solution to the free rider problem: A field experiment. *J. Experiment. Soc. Psych.* 29:463–478.

Erez M, Somech A (1996) Is group productivity loss the rule or the exception? Effects of culture and group-based motivation. *Acad. Management J.* 39:1513–1537.

Festinger L (1954) A theory of social comparison processes. *Human Relations* 7:117–140.

Fisher CD, Noble CS (2004) A within-person examination of correlates of performance and emotions while working. *Human Performance* 17:145–168.

George JM (1992) Extrinsic and intrinsic origins of perceived social loafing in organizations. *Acad. Management J.* 35:191–202.

Grant AM (2008) Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *J. Appl. Psych.* 93:48–58.

Hackman JR (2002) *Leading Teams: Setting the Stage for Great Performances* (Harvard Business School Press, Boston).

Harkins SG (1987) Social loafing and social facilitation. *J. Experiment. Soc. Psych.* 23:1–18.

Harkins SG, Szymanski K (1989) Social loafing and group evaluation. *J. Personality Soc. Psych.* 56:934–941.

Hertel G, Kerr NL, Messé LA (2000) Motivation gains in performance groups: Paradigmatic and theoretical developments on the Köhler effect. *J. Personality Soc. Psych.* 79:580–601.

Hertel G, Niemeyer G, Clauss A (2008) Social indispensability or social comparison: The why and when of motivation gains of inferior group members. *J. Appl. Soc. Psych.* 38:1329–1363.

Hill GW (1982) Group vs. individual performance: Are $N+1$ heads better than one? *Psych. Bull.* 91:517–539.

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Hogg MA (1996) Social identity, self-categorization, and the small group. Witte E, Davis J, eds. *Understanding Group Behavior*, Vol. 2 (Lawrence Erlbaum Associates, Hillsdale, NJ), 227–253.

Hüffmeier J, Hertel G (2012) When the whole is more than the sum of its parts: Motivation gains in the wild. *J. Experiment. Soc. Psych.* 47:455–459.

Ilies R, Judge TA (2002) Understanding the dynamic relationships among personality, mood, and job satisfaction: A field experience sampling study. *Organ. Behav. Human Decision Processes* 89:1119–1139.

Karau SJ, Williams KD (1993) Social loafing: A meta-analytic review and theoretical integration. *J. Personality Soc. Psych.* 65:681–706.

Kerr NL (1983) Motivation losses in small groups: A social dilemma analysis. *J. Personality Soc. Psych.* 45:819–828.

Kerr NL, Hertel G (2011) The Köhler group motivation gain: How to motivate the "weak links" in a group. *Soc. Personality Compass* 5:43–55.

Kerr NL, Tindale RS (2004) Group performance and decision making. *Annual Rev. Psych.* 55:623–655.

Kerr NL, Messé LA, Park ES, Sambolec EJ (2005) Identifiability, performance feedback and the Köhler effect. *Group Processes Internat. Relations* 8:375–390.

Kerr NL, Messé LA, Seok DH, Sambolec EJ, Lount RB Jr, Park ES (2007) Psychological mechanisms underlying the Köhler motivation gain effect. *Personality Soc. Psych. Bull.* 33:828–841.

Kilduff GJ, Elfenbein HA, Staw BM (2010) The psychology of rivalry: A relationally dependent analysis of competition. *Acad. Management J.* 53 (5):943–969.

Köhler O (1926) Kraftleistungen bei Einzel- und Gruppenabeit [Physical performance in individual and group situations]. *Industrielle Psychotechnik* 3:274–282.

Kozlowski SWJ, Bell BS (2003) Work groups and teams in organizations. Borman WC, Illgen DR, Klimoski RJ, eds. *Comprehensive Handbook of Psychology: Industrial and Organizational Psychology*, Vol. 12 (John Wiley & Sons, New York), 333–375.

Kreft I, De Leeuw J (2002) *Introducing Multilevel Modeling* (Sage, London).

Larson JR Jr (2010) *In Search of Synergy in Small Group Performance* (Psychology Press, New York).

Larson JR Jr, Schaumann L (1993) Group goals, group coordination, and group member motivation. *Human Performance* 6:49–69.

Latané B, Williams KD, Harkins SG (1979) Many hands make light the work: The causes and consequences of social loafing. *J. Personality Soc. Psych.* 37:822–832.

Liden RC, Wayne SJ, Jaworski RA, Bennett N (2004) Social loafing: A field investigation. *J. Management* 30:285–304.

Lount RB Jr, Phillips KW (2007) Working harder with the out-group: The impact of social category diversity on motivation gains. *Organ. Behav. Human Decision Processes* 103:214–224.

Lount RB Jr, Park ES, Kerr NL, Messé LA, Seok D (2008) Evaluation concerns and the Köhler effect: The impact of physical presence on motivation gains. *Small Group Res.* 39:795–812.

Messé LA, Hertel G, Kerr NL, Lount RB Jr, Park ES (2002) Knowledge of partner's ability as a moderator of group motivation gains: Exploration of the Köhler discrepancy effect. *J. Personality Soc. Psych.* 82:935–946.

Nordstrom R, Lorenzi P, Hall RV (1991) A review of public posting of performance feedback in work settings. *J. Organ. Behav. Management* 11:101–123.

Pettit NC, Lount RB Jr (2010) Looking down and ramping up: The impact of status differences on effort in intergroup contexts. *J. Experiment. Soc. Psych.* 46:9–20.

Quinones MA, Ford JK, Teachout MS (1995) The relationship between work experience and job performance: A conceptual and meta-analytic review. *Personality Psych.* 48(4):887–910.

Raudenbush SW, Bryk AS (2002) *Hierarchical Linear Models: Applications and Data Analysis Methods* (Sage, Thousand Oaks, CA).

Ringelmann M (1913) Recherches sur les moteurs animés: Travail de l'homme. [Research on animate sources of power: The work of man]. *Ann. l'Instiuit National Agronomique* 12:1–40.

Rutte CG (2003) Social loafing in teams. West MA, Tjosvold D, Smith KG, eds. *International Handbook of Organizational Teamwork and Cooperative Working* (John Wiley & Sons, Chichester, UK), 361–378.

Sanders GS, Baron RS, Moore DL (1978) Distraction and social comparison as mediators of social facilitation effects. *J. Experiment. Soc. Psych.* 14:291–303.

Schultz KL, Schoenherr T, Nembhard D (2010) An example and proposal concerning the correlation of working processing times in parallel tasks. *Management Sci.* 56:176–191.

Steiner ID (1972) *Group Processes and Productivity* (Academic Press, New York).

Stewart GL, Nandkeolyar AK (2007) Exploring how constraints created by other people influence intraindividual variation in objective performance measures. *J. Appl. Psych.* 92:1149–1158.

Suls J, Wheeler L (2000) *Handbook of Social Comparison Processes: Theory and Research* (Kluwer Academic Publishers, New York).

Suls J, Martin R, Wheeler L (2002) Social comparison: Why, with whom, and with what effect? *Current Directions Psych. Sci.* 11:159–163.

Tindale RS, Larson JR Jr (1992) Assembly bonus effect or typical group performance? A comment on Michaelsen, Watson, and Black (1989). *J. Appl. Psych.* 77:102–105.

Totterdell P, Holman D (2003) Emotion regulation in customer service roles: Testing a model of emotional labor. *J. Occupational Health Psych.* 8:55–73.

van Dick R, Tissington PA, Hertel G (2009) Do many hands make light the work? How to overcome social loafing and gain motivation in work teams. *Eur. Bus. Rev.* 21:233–245.

Weber B, Hertel G (2007) Motivation gains of inferior group members: A meta-analytical review. *J. Personality Soc. Psych.* 93:973–993.

Williams KD (2010) Dyads can be groups (and often are). *Small Group Res.* 41:268–274.

Williams KD, Harkins SG, Latané B (1981) Identifiability as a deterrent to social loafing: Two cheering experiments. *J. Personality Soc. Psych.* 40:303–311.

Wittchen M, van Dick R, Hertel G (2011) Motivated information processing during intergroup competition: A model of intergroup competition effects on individual effort. *Organ. Psych. Rev.* 1:257–272.

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