Power Use in Cooperative and Competitive Settings

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In this study we argue that when powerholder and target operate in a cooperative context, the decision to use power is influenced by the motive to reach positive joint outcomes. When the context is competitive, the use of power is more dictated by the desire to gain positive outcomes at the expense of the target. Therefore, factors that are indicative of how to bring about positive outcomes for the target will only influence power use in a cooperative context. The results of an experimental study with a 2 (social context: cooperation vs. competition) × 2 (relative competence: high vs. low) between-subjects design, with task components generating 2 levels of confidence as within-subjects variable, supported our line of reasoning. Competence of the powerholder as well as confidence as elicited by the task only affected power use in cooperation and not in competition. The results also indicated that the absolute level of power use in competition and cooperation did not differ.

It is not an overstatement to say that power and the way power is handled are central aspects of society. Interaction between people and the employment of power often go hand in hand; whether in interaction with friends, family, or employers, at some point influence will be wielded. It is therefore not surprising that for centuries administrators and scientists (going as far back as, for instance, Hobbes's *Leviathan* written in 1651 and Machiavelli's *Prince* written in 1513—see McClelland, 1996, for an overview) have been intrigued by power processes. This study focuses on how power use, and the determinants of power use, may differ between contexts of cooperative and competitive interdependence.

Because, despite the long-standing interest in power, there is still no consensus on the nature and definition of power, we first explicate how we define power in this study and then proceed to our theoretical analysis of power use in cooperation and competition. The term *power* has been used to describe sit-

uations where, for example, a legitimate right to direct others existed, situations where such a legitimate right did not exist, situations in which persons had successfully engaged in influence exertion, situations in which a person's influence attempts were not necessarily successful, situations pertaining to a person's relative or absolute control over an other person, and so on (Bacharach & Lawler, 1981; Vecchio, 1995/1997). In this study, as is fairly common in the field, we view power as a potential, that is, as a resource that may or may not be used. Thus, power is the capacity to influence the outcomes or behavior of others (Fiske, Morling, & Stevens, 1996; Pruitt & Carnevale, 1993). Moreover, power implies features of control and dominance (Hollander, 1985), and the use of power often makes the targets of power use do things they would not necessarily have done on their own accord (Dahl, 1957; Kipnis, 1976; Vecchio, 1995/1997).

Social Context and Power Use

People utilize the capacity to wield power to achieve a desired objective, result, or state of affairs. This desired end state may,

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or may not, coincide with the one that the person being influenced by the powerholder would like to see realized. As a consequence, the powerholder's attempts to reach some desired state of affairs may have negative as well as positive consequences for the target, depending on whether the goals of the powerholder and the target are congruent. Thus, the social context in which the use of power takes place is an important aspect of the interaction between powerholder and target (Tjosvold, 1985, 1995; van Knippenberg, van Knippenberg, Blaauw, & Vermunt, 1999). Even so, research on power use rarely explicitly takes the social context into consideration (for exceptions, see Tjosvold, 1981, 1984, 1985). This apparent neglect of the role of social context is surprising in view of the fact that power use may be different in nature and may have different determinants in different social contexts (as we discuss in the following). Therefore, to shed some light on the effects of social context on the use of power, this study focused on power use in two basic social contexts: cooperation and competition (Deutsch, 1973). Cooperation and competition permeate all situations in which power use typically is an issue, be it in business, politics, or social life. We argue that in cooperative task settings qualitatively different considerations affect the decision to exert power than in competitive task settings. In the following, we first focus on power use in cooperation, then shift our attention to power use in competition, and conclude with some considerations regarding the absolute level of power use in competition as compared with cooperation.

Power Use in Cooperative Task Settings

In cooperative settings, one's own goals and other's goals are positively related and one's own gains are other's gains (Deutsch, 1973; Kelley & Thibaut, 1978). Behavior in cooperative settings will therefore be governed by the motive to foster mutual gain and the desire to assist the other party in his or her attempts to reach the common goal. The use of power is likely to have a similar objective: It will be dictated by the aspiration to achieve the (common) goal and, thus, by the desire to aid the other party in attempts to do the same. Basically, the use of power in cooperation will be affected by the notion that to help the other is to help oneself.

Assuming that the decision to use power is contingent on the expectation that power use will be helpful in achieving the common goal, we may predict that people use power more easily when they think that their own judgment about what needs to be done is superior to the judgment of the other party. Similarly, the Expectation States Theory (Berger, Wagner, & Zelditch, 1985; Berger, Webster, Ridgeway, & Rosenholtz, 1986), a theory focused on influence processes in cooperative task groups, proposes that the higher the performance expectations (i.e., conceptions of one's own and other's capacities to make useful contributions to the common task) held by one person relative to another, the more

likely that this person will exert influence (Skvoretz, 1985). An important indicator of the extent to which one may be able to facilitate reaching positive joint outcomes relative to the other party's ability to do so is information about one's own task competence and other's task competence. Thus, individuals with relatively high task competence may be inclined to employ power because they expect that their influence will facilitate the obtainment of positive outcomes (cf. French & Raven, 1959; Raven, 1992, who also identified superior knowledge or expert power as a basis for wielding influence). On the other hand, individuals with relatively low task competence may expect that their influence in task performance is less valuable than that of the other party, which makes the employment of power less likely. Indeed, some evidence pertaining to the relation between task competence and power use in cooperative context has been found (Conner, 1977; de Gilder & Wilke, 1994; van Knippenberg, van Eijbergen, & Wilke, 1999). Thus, we predict that in cooperative contexts powerholders with higher task competence than the target will more often use power than powerholders with lower task competence than the target.

The extent to which the powerholder expects that power use will help reaching the common goal is not only dependent on characteristics such as competence. Features of the task may also have an impact on the decision to use power in cooperative contexts. Some task components or aspects of a task are not as clear or as simple as others are. In some cases, it is easier to assess what an adequate response to a certain assignment or task may be than in other cases. For example, a worker who stands at a conveyor belt, performing a task that he or she has performed a thousand times before, knows what to do and can feel confident in his or her task-related judgments. In comparison, a worker who is confronted with instructions accompanying a foreign prefabricated piece of furniture, a new and (more often than not) difficult task, is less likely to know which actions may lead to the most successful task performance and will probably feel less confident. Thus, some task components give rise to greater confidence about one's own judgment of how to deal with them than others do. We propose that in a cooperative social context powerholders use their power more often when they feel more confident about their judgment regarding the task at hand than when they feel less confident about their judgment. When powerholders have confidence in the correctness of their own task solution, they will more strongly expect that their power use will facilitate the attainment of the common goal than when they are less confident about their judgment and have reason to believe that their judgment may not be correct (Littlepage, Schmidt, Whistler, & Frost, 1995; van Knippenberg et al., 1999).

An example may clarify our reasoning with respect to the use of power in cooperation. Take the situation in which a supervisor and a subordinate have to draft up a business proposal. The supervisor is in the position to resolve any

disagreement by enforcing his or her own standpoints. Yet, whether the supervisor will actually do so will be contingent on his or her competence relative to that of the subordinate and on the extent to which the task at hand gives rise to confidence in his or her own judgment. When the supervisor has more task-relevant expertise than the subordinate (e.g., when he or she has years of experience with writing proposals like these, and the subordinate is a relative novice to the task), the supervisor will be more likely to overrule the subordinate than when the subordinate may be considered to be the expert of the two (e.g., because the supervisor is the novice, and the subordinate is the more experienced party). In the same vein, when all relevant information is available, the supervisor may feel more confident in his or her judgment than when decisions regarding the project have to be based on very limited information. Accordingly, the supervisor will feel less hesitant to resolve disagreements by imposing his or her own ideas in the former than in the latter case.

Power Use in Competitive Task Settings

In contrast to cooperation, competition can be defined as a situation in which one's own goals and other's goals are negatively linked: When the other gains, the self loses (Deutsch, 1973). Consequently, behavior, and thus also the decision to use power, will be influenced by the motive to obtain positive outcomes at the expense of the other and by the willingness to frustrate the other party in attempts to reach a certain goal. Thus, in competition, their access to power may give powerholders the means to increase their outcomes relative to the outcomes of the other party, and thus to ensure their "victory" (Tjosvold, 1981). Tjosvold (1981) argues that, in contrast to cooperative contexts where powerholders are often faced with the problem of how to utilize their position to reach the common goal (see also Friedland, 1976), powerholders in competitive contexts may feel more secure because it is usually easier to see how the employment of power will be detrimental to the target. Indeed, in many task situations it is more obvious what brings about negative outcomes than what brings about positive outcomes (e.g., it is often easier to think of hundreds of wrong answers to a difficult question, than it is to think of the one correct answer). Therefore, in competition it is, in general, relatively clear how individuals may utilize their power to harm the other (and consequently help oneself). Thus, in contrast to cooperative contexts in which power use may be contingent on cues regarding the quality of one's own task-related judgments, factors that may be indicative of the quality of one's judgments will affect power use in competitive contexts to a lesser extent, if at all. In line with this reasoning, we expect that competence differentials and variations in the degree to which the task elicits confidence in own task solution more strongly affect the use of power in cooperation than in competition.

To again illustrate our line of reasoning with an example, consider the case of the supervisor and the subordinate. In this case, the attention of both the supervisor and the subordinate are drawn to a particular major account that their department is expected to manage. Because this account is challenging, interesting, and a good career-booster, the supervisor as well as the subordinate want to be the one to handle it. However, only one of them can be assigned the project, which makes the two parties involved competitors. The supervisor may—to make sure he or she will be the one to manage the account—tell the subordinate to take on another project, making it impossible for him or her to manage the account in question. In this example, the supervisor wields power to ensure his or her own victory, and in the process frustrates the subordinate in his or her desire to handle the project himself.

Differential Use of Power in Cooperation and Competition

Our main focus was on the hypothesized greater importance of task competence and task confidence as determinants of power use in cooperation. We did however study two other potential differences between power use in cooperative and competitive task settings. First, we tested the prediction implied by the previous that power use in cooperation is aimed at helping the other, whereas power use is aimed at harming the other in competition. Second, we studied potential differences between cooperative and competitive task settings in the frequency with which power is used. Tjosvold (1985) found that more power was used by powerholders in cooperation than by powerholders in competition. However, we must be cautious with generalizing his results to other situations. Tjosvold's operationalisation of power (in both cooperation and competition) consisted of the possibility to give aid to the other party, for example by providing the other party with hints that would help to solve a problem. Therefore, the use of power only served its goal in cooperative settings and not in competitive ones. In reality, as well as in this study, power use can be instrumental in competition as well as in cooperation. What, then, should we expect about the frequency of power use in cooperation versus competition?

On the one hand, it may be argued that more power will be used by powerholders in competitive situations than by powerholders in cooperative situations. Because it is, in general, relatively clear how power in a competitive context can be utilized to attain the desired goal, the absolute level of power use in competition may exceed the absolute level of power use in cooperation (i.e., if it is not clear how power use will help attaining the goal, its use will be less attractive). More frequent use of power in competitive contexts may also explain the negative view on power use in earlier research on power (see Kipnis, 1976; Tjosvold, 1981), and the rather negative picture of power and power

use that is painted: Power has been thought to corrupt and to be used to fulfill selfish needs (Kipnis, 1972; Pfeffer, 1981).

On the other hand, there are also reasons to expect the opposite, that is, that more power will be used in cooperation than in competition. Several researchers have pointed out that people are often reluctant to take advantage of their power to exploit the other (Camerer & Thaler, 1995; Greenberg, 1978; Kahneman, Knetsch, & Thaler, 1986; van Dijk & Vermunt, 2000). This may indicate that a powerholder is more reluctant to use power in competition than in cooperation, because instrumental use of power in competitive contexts entails the achievement of outcomes at the expense of the other party, whereas this is not so in cooperative contexts. Because a case can be made for both hypotheses, we did not formulate an explicit hypothesis about the effects of social context on the frequency of power use, but studied it with a more explorative purpose in mind. In contrast to the earlier research by Tjosvold (1985), we studied power use in a setting in which it may be functional in competition as well as cooperation.

To recapitulate, we expect that in cooperative settings powerholders with higher task competence than the other use their power more often than powerholders with lower task competence, whereas this effect of task competence is smaller or absent in competitive settings (Hypothesis 1). Furthermore, we expect that when task elements elicit stronger feelings of confidence more power is exerted than when task elements elicit weaker feelings of confidence in cooperation, whereas this effect is smaller or absent in competition (Hypothesis 2). In addition to testing these hypotheses, we investigate whether social context affects the nature of the influence attempt (i.e., aimed at helping vs. hurting), and we explore the effects of social context on frequency of power use.

METHOD

Participants and Design

Sixty-six undergraduate students (27 men and 39 women) from Leiden University participated voluntarily in the experiment in return for 10 Dutch guilders (about 5 U.S. dollars). Participants were placed in a task performance setting in which they were randomly assigned to conditions of a 2 (social context: cooperation/competition) × 2 (competence: high/low) between-subjects design. The degree to which the participants could be confident in their judgment was manipulated by presenting task elements for a short (5s) or a long (25s) period of time. This variable (exposure time: long/short) was included in the design as a within-subjects variable. The main dependent variable, *power use,* was de-

fined as the number of times a participant made use of the opportunity to force a task solution on to the other.[1]

Procedure

Participants were invited in groups of eight persons per session for a study on *decision making*. Upon arrival, they were placed in individual cubicles, each containing an Apple Macintosh computer connected to a server. This computer was used to present instructions, stimuli, and questions, and to register the dependent measures. Participants were told that the task on which they would work had originally been constructed to measure *contrast sensitivity*: an ability unrelated to sex or intelligence, but important for various professions (e.g., being an architect or information technology specialist). They were led to believe that an individual task was to be followed by a task in which, by computer, contact with one of the other participants would be realized. In reality, all contact between participants was simulated. In both tasks participants had to estimate the number of black squares in a checker board grid containing a total of 180 black and white squares arranged in a random pattern (De Gilder & Wilke, 1994). Participants were unaware of the fact that each grid consisted of 90 black and 90 white squares. Each grid was presented at random for 25s (long exposure time) or for 5s (short exposure time).

Following the individual task in which 10 different grids were presented, bogus feedback about competence was provided, allegedly based on the accuracy of the estimates. In the high competence condition, it was stressed that the participant did better than the other in estimating the number of black squares (they were also told that they scored 85 points and that the other scored 53 points on the contrast–sensitivity scale ranging from 0 to 100). In the low competence condition, it was stressed that the participant did worse than the other in estimating the number of black squares (own score: 53 points, other's score: 85 points).

Instructions for the dyadic and last task were given subsequently. The grids used in the dyadic task were similar to those in the individual task. Hence, the induced competence differentials were relevant to the dyadic task. Social context was manipulated by telling participants in the cooperation condition that their score and the other's score combined would be compared with the combined score of another couple participating in the experiment at that time. The couple with the highest score would earn extra money (5 Dutch guilders per person, which is about 2.50 U.S. dollars). In the competition condition, participants were told that their score would be compared with the other's score, and that only the person with the highest score would earn extra money (5 Dutch guilders).

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[1]Initially, we also constructed a variant of this operationalization of power use, but manipulation checks indicated that participants did not perceive the operationalization as intended. Therefore, results pertaining to this attempt will not be discussed here.

The dyadic task also entailed the possibility for the participants to exercise power. Participants were told that the computer had selected them by lot to have the opportunity to decide upon an estimate they wanted the other to make. In other words, they had the power to coerce an answer on the other. Participants had to decide whether to coerce an answer on the other without knowing which exact estimate the other supposedly had given. Participants were told that if they declined the opportunity to force an answer on the other, the other's personal estimate would be left "untouched." If participants used this opportunity, the other's initial own answer would be replaced by the one that the participant decided on. We made it clear that when power would be used, the other would know about it. Moreover, the other would learn which estimate was forced upon him or her.

A total of 12 grids was presented. Following the presentation of a grid, participants first gave a personal estimate (and were led to believe that the other did the same). Then they were given the opportunity to coerce an estimate on the other. The main dependent variable (power use) was defined as the number of times a participant made use of this opportunity to force an answer on the other. Thus, the total frequency of power use has a minimum of 0 times and maximum of 12 times. Because one half of the presentations had long exposure time and the other half had short exposure time, the highest possible frequency of power use in both the long and short exposure time conditions is six times.

After completion of the second task, the successfulness of the manipulations was established. As a check on the competence manipulation, participants were asked how good they performed relatively to the other on the contrast–sensitivity task (1 = *I did much worse*; 6 = *I did much better*). To assess the successfulness of the manipulation of confidence in one's own judgment, participants were asked to indicate both how certain they were of their estimate when the grids had a long exposure time and how certain they were of their estimate when the grids had a short exposure time (1 = *very uncertain*; 6 = *very certain*). As a first check on the social context manipulation (cooperative orientation) participants were asked to what extent they wanted to help the other to obtain as high a score as possible (1 = *absolutely not*; 6 = *very much so*). As a second check (competitive orientation) participants were asked to what extent they wanted the other to gain as few points as possible (1 = *absolutely not*; 6 = *very much so*).

As argued previously, the decision to employ power in cooperative contexts will be governed by the motive to foster mutual gain, whereas in competitive contexts the decision to employ power will be governed by the motive to hamper the other in his or her attempts to reach positive outcomes. Therefore, it follows that the use of power in cooperation will be aimed at giving an estimate as accurate as possible on behalf of the other, whereas in competition the use of power will be aimed at giving an inaccurate estimate on behalf of the other. Given that, regardless of situational context, individuals will try to be as accurate as possible on their own per-

sonal estimates, the discrepancy between own estimate, and estimate given on behalf of the other can be regarded as a measure for the cooperative or competitive intent of the power wielder. Therefore, to gain insight into the nature of the influence attempts, we computed the mean discrepancy between own estimates and the estimates given on behalf of the other in those situations in which participants decided to use their power.

At the end of the experiment, participants were thoroughly debriefed and paid.

RESULTS

All analyses were conducted with a Competence × Social Context × Exposure time design, with the exception of the analysis of the questions asked as checks on the manipulation of competence and social context, which were conducted with a Competence × Social context design (i.e., in these cases exposure time could not be part of the design, because it is a within-subjects variable based on the power use measure). As a safeguard against Type I errors, a significance level of .05 was employed for tests regarding expected effects, whereas a significance level of .01 was employed for unexpected effects (Bock, 1975; Hays, 1963).

Manipulation Checks

All participants in the high competence condition considered their own competence in the contrast–sensitivity task to be higher than that of the other person (scale points 4, 5, and 6; $M = 5.18$, $SD = 0.64$), and all participants in the low competence condition considered their own competence lower than that of the other person (scale points 1, 2, and 3; $M = 1.45$, $SD = 0.51$).

As expected, results indicated that confidence in own task solution was affected by exposure time, $F(1, 62) = 103.35$, $p < .0001$, $\eta^2 = .63$. Participants were more certain of their estimates after a long exposure time, than after a short exposure time ($M = 2.47$, $SD = 1.19$ vs. $M = 3.83$, $SD = 1.29$). In addition to the expected effect of exposure time, we found a significant main effect of competence. High competence participants were more certain of their estimates than were low competence participants ($M = 3.77$, $SD = 0.97$ vs. $M = 2.52$, $SD = 0.89$), $F(1, 62) = 32.65$, $p < .0001$, $\eta^2 = .35$. This also supports the idea that competence was induced as meant.

Participants in the cooperation condition more strongly wanted to help the other to obtain as high a score as possible than participants in the competition condition ($M = 4.48$, $SD = 1.72$ vs. $M = 2.88$, $SD = 1.76$), $F(1, 62) = 14.28$, $p < .0001$, $\eta^2 = .19$. In contrast, participants in the competitive social context more strongly wanted the other to gain as few points as possible than persons in the cooperative

context ($M = 2.79$, $SD = 1.81$ vs. $M = 1.15$, $SD = 0.44$), $F(1, 62) = 24.75$, $p < .0001$, $\eta^2 = .29$.

Power Use

The use of power in the cooperative context was expected to be influenced more strongly by competence differentials than the use of power in the competitive context. An analysis of variance (ANOVA) revealed that relatively high competent individuals wielded their power more often than relatively low competent individuals ($M = 5.33$, $SD = 3.74$ vs. $M = 3.15$, $SD = 3.80$), $F(1, 62) = 6.04$, $p < .05$, $\eta^2 = .09$. Moreover, as expected, this effect was qualified by a Competence × Social context interaction, $F(1, 62) = 4.13$, $p < .05$, $\eta^2 = .06$: High competent persons used power more often than low competent persons in case of cooperation ($M = 6.88$, $SD = 3.56$ vs. $M = 2.82$, $SD = 3.03$), $F(1, 62) = 9.81$, $p < .01$, $\eta^2 = .14$, but not in case of competition ($M = 3.88$, $SD = 3.39$ vs. $M = 3.50$, $SD = 4.56$), $F(1, 62) = 0.07$, $p > .05$, $\eta^2 = .00$.

We also expected the use of power in the cooperative context to be influenced more strongly by feelings of confidence in one's own task solution than in the competitive context. The results revealed the pattern we expected (note that in the results pertaining to the effects of exposure time the maximum frequency of power use is 6 instead of 12): Power was used more often when exposure time was long ($M = 2.55$, $SD = 2.04$) than when exposure time was short ($M = 1.70$, $SD = 1.96$), $F(1, 62) = 12.61$, $p < .001$, $\eta^2 = .17$. Again, this effect was qualified. An Exposure time × Social context interaction, $F(1, 62) = 4.41$, $p < .05$, $\eta^2 = .07$, revealed that power was used more often when exposure time was long than when exposure time was short in the cooperative context only ($M = 3.06$, $SD = 2.44$ vs. $M = 1.73$, $SD = 1.86$), $F(1, 62) = 15.08$, $p < .001$, $\eta^2 = .19$, and not in the competitive context ($M = 2.03$, $SD = 2.30$ vs. $M = 1.67$, $SD = 2.09$), $F(1, 62) = 1.17$, $p > .05$, $\eta^2 = .02$.

Finally, we found no main effect of social context in relation to frequency of power use, $F(1, 62) = 1.65$, $p > .05$, $\eta^2 = .03$. Participants in the competitive context ($M = 3.69$, $SD = 3.94$) did not use their power significantly more often or less often than participants in the cooperative context ($M = 4.79$, $SD = 3.84$).[2]

We conclude that these results strongly support our hypotheses.

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[2]Some evidence pertaining to differential tendencies toward cooperation and competition by men and women (Kimmel, Pruitt, Magenau, Konar-Goldband, & Carnevale, 1980; van Leeuwen & van Knippenberg, 1999) as well as to differential use of power by men and women (Aguinis & Adams, 1992; Molm, 1985; Poeschl, 1999; van Knippenberg, 1999) has been found. Therefore, additional analyses also checked whether men and women varied in the frequency by which they used power under cooperative and competitive context. No gender effects were found (all Fs ≤ 2.78, ps > .05, η^2 s ≤ .05).

Mediational Analysis

Even though results for the manipulation checks suggested that our manipulations had the desired effects and results for power use confirmed our predictions, we conducted two additional analyses to determine whether perceived competence and confidence indeed mediated the effects of our manipulations on power use. According to Baron and Kenny (1986), a first requirement for a variable to operate as a mediator is that variations in levels of the independent variable account for variations in the presumed mediator. The results for the manipulation checks indicate that this precondition is met for both perceived competence and perceived confidence. Furthermore, when controlled for the effect of the presumed mediator, a previously significant effect of the independent variable on the dependent variable must no longer be significant and variations in the mediator must account for variations in the dependent variable. A first indication that this requirement is met can be found in Table 1, in which the correlations between power use and perceived competence and confidence are displayed. These correlations suggest that the relation between relative competence and confidence, on the one hand, and power use, on the other hand, is stronger in cooperation than in competition. To determine whether the observed interaction effects (i.e., the Competence × Social context and Exposure time × Social context interactions) may be attributed to the difference in strength of these relations, we conducted analyses of covariance. Because we expected that the relations between competence and confidence, on the one hand, and power use on the other are stronger in cooperation than in competition, the more commonly used approach is not appropriate (Hull, Tedlie, & Lehn, 1992). Rather, the correct analysis includes the cross product of the proposed covariate and the independent variable it is intended to moderate (i.e., social context) as predictor variable (Hull et al.).

Thus, to determine whether perceived competence mediated the Competence × Social context effect on power use, we conducted an analysis of covariance (ANCOVA) with the frequency of power use as the dependent variable, competence and social context as the independent variables, and the Perceived competence × Social context interaction as the covariate (cf. Stevens, 1986). The results indicated that, when controlled for the main effects of perceived competence and social context, the Perceived competence × Social context interaction was significant, $F(1, 60) = 6.00$, $p < .05$, $\eta^2 = .09$, and that the Competence × Social context interaction was no longer significant ($F[1, 60] = 0.57$, $p > .05$, $\eta^2 = .01$). On the basis of these results we may conclude that perceived competence mediated the effect of our competence manipulation on power use in cooperation and competition.

A similar procedure was followed to determine whether confidence in own task solution mediated the Exposure time × Social context interaction. To circumnavigate the problems associated with testing a covariate interaction involving a within-subjects factor, we analyzed the effect of exposure

TABLE 1
Intercorrelations for Competition (Above the Diagonal) and Cooperation (Below the Diagonal)

Measures	1	2	3	4	5	6	7	8
1. Total frequency of power use	—	.92*** (.91)	.90*** (.89)	–.17 (.00)	.23 (.21)	–.11 (–.04)	–.38* (–.38)	.72*** (.72)
2. Power use long ET	.89*** (.92)	—	.64*** (.62)	–.21 (.11)	.26 (.31)	–.15 (.02)	–.29 (–.32)	.63*** (.62)
3. Power use short ET	.82*** (.86)	.47** (.59)	—	.09 (–.12)	14 (.05)	–.04 (–.10)	–.40** (–.38)	.67*** (.67)
4. Perceived relative competence	.19 (.56)	.20 (.54)	.12 (.45)	—	.18 (.63)	.46** (.76)	.30* (–.12)	–.13 (–.08)
5. Confidence long ET	.28 (.40)	.38 (.49)	.05 (.19)	.44** (.46)	—	.41* (.66)	–.11 (–.22)	–.02 (–.05)
6. Confidence short ET	.18 (.34)	.14 (.30)	.18 (.31)	.65*** (.53)	.54*** (.60)	—	.09 (–.08)	–.22 (–.19)
7. Cooperative orientation	.23 (.32)	.24 (.31)	.19 (.24)	.24 (.28)	.23 (.28)	.26 (.32)	—	–.60***(–.57)
8. Competitive orientation	–.16 (–.24)	–.20 (–.27)	–.06 (–.14)	.20 (–.13)	–.07 (–.13)	–.10 (–.17)	–.36* (–.39)	—

Note. ET = exposure time. The correlations not within brackets are partial correlations which have the effect of competence manipulation removed, whereas the correlations between brackets do not have the effect of the competence manipulation removed. For cooperation as well as competition $n = 33$. Tests of significance are one-tailed.

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

time for the cooperation and competition conditions separately. First, we conducted an ANCOVA with competence as between-subjects factor, exposure time as within-subjects factor, and the manipulation checks for confidence in case of long and short exposure time as covariates for power use in case of long and short exposure time respectively for the cooperation condition. As expected, self-reported confidence was significantly related to power use, $F(1, 30) = 6.58, p < .05, \eta^2 = .18$, for the regression, and the formerly significant effect of exposure time was no longer significant, $F(1, 30) = 0.01, p > .05, \eta^2 = .00$. Even though there was no effect of exposure time under competition, we conducted a similar ANCOVA for the competition condition to determine whether there was a relation between self-reported confidence and power use. As expected, there was not, $F(1, 30) = 2.46, p > .05, \eta^2 = .08$, for the regression. In combination, these results show that exposure time affected power use under cooperation, but not under competition, because confidence was related to power use under cooperation, but not under competition. Thus, we may conclude that the interactive effect of exposure time and social context on power use was mediated by the differential relation between confidence and power use under cooperation and competition.

Nature of Power Use

The analysis of the discrepancy between participants' personal estimates and the estimates forced on the other indicated that the participants used power instrumentally in both cooperation and competition. A small or no discrepancy between personal estimation and the estimation forced on the other would be the strategic choice in case of cooperation, whereas, in contrast, a large discrepancy would be the more strategic choice in competition. As expected, in the cooperative context estimates given on behalf of the other differed significantly less from participants' personal estimate than in the competitive context ($M = 3.32, SD = 5.89$ vs. $M = 29.55, SD = 29.04$), $F(1, 31) = 13.74, p < .001, \eta^2 = .26$.[3]

DISCUSSION

This study dealt with the use of power in cooperation and competition. Although our main focus was on the determinants of power use, our interpretation of the results for the factors affecting power use is rooted in the nature of power use in cooperation and competition. Therefore, we first discuss these results. The results indicate that the use of power in cooperation and competition differs (a) in the motivation or orientation underlying it, and (b) in the effect that it has on the target of power use. In cooperative settings the goals of the parties involved are congruent. In contrast, competitive settings are situations in which the goals of the parties involved are incongruent. This difference in congruency of goals should result in the development of distinct orientations. In cooperation the use of power is more likely to be instigated by the desire to help the other in attempts to reach a certain goal (i.e., because of the congruency of goals, the powerholder's success mirrors the target's success), whereas in competition the use of power is more likely to be dictated by the desire to obstruct or hinder the other's attempts to

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[3]An analysis in which the discrepancy between participants' personal estimate and the estimate forced on the other in all cases in which no power was used was regarded as being zero, led to the same conclusion ($M_{cooperation} = 1.42, SD = 2.53$ vs. $M_{competition} = 12.19, SD = 23.95$), $F(1, 62) = 6.66, p < .05, \eta^2 = .10$.

reach a certain goal (i.e., the incongruency of goals makes this the orientation that is most likely to lead to success for oneself). Indeed, the checks on the manipulation reflected exactly this difference in orientation. Moreover, these divergent motivational processes underlying the use of power reflected on the nature of power use and on the consequences it has for the target of influence. The discrepancy between own estimate and the estimate given on behalf of the other in competitive situations was large in comparison with the discrepancy in cooperation. Large discrepancies suggest that power was wielded to put a crimp in someone's style; small discrepancies, in contrast, suggest that power was wielded to aid the other. Hence, the manner in which power was used in a cooperative context may have positive consequences for the target, whereas the use of power in a competitive context may have damaging effects for the target's outcomes.

These results confirm common sense ideas about the dangers associated with giving people access to power in contexts that are inherently susceptible to the development of antisocial behavior. Unregulated power processes in, for example, organizations may lead to destructive (though possibly strategically sound from the perspective of the power wielder) use of power in situations that involve goal incongruency. Regulations and formalizations aimed at the streamlining of power use may thus preserve the social interaction patterns that are needed to maintain organizational effectiveness. On the other hand (and on the brighter side), our analyses of power use in the cooperative settings suggest that social setting can also instigate pro-social behavior. Translated to the context of organizations this may mean that a cooperative atmosphere may lead to power use directed at helping others, which, in turn, may promote organizational effectiveness. This interpretation of the negative effects of power use in competition as compared to cooperation is congruent with conclusions drawn by Tjosvold (1981, 1984, 1985, 1995), as well as with the results of negotiation studies (Pruitt & Carnevale, 1993).

The primary focus of this study was on the determinants of power use. We found that relative competence of the powerholder as well as confidence elicited by the task only affected power use in cooperation and not in competition. Because it is often easier to see what brings about negative outcomes for the other (required for successful competitive task performance) than what brings about positive outcomes (required for successful cooperative task performance), powerholders will have less difficulty in assessing how power use can hamper the other party's task performance than how power can be wielded in such a way that both own and other's goals can be accomplished. Therefore, factors that are indicative of how to bring about positive outcomes for the target, such as competence and confidence, will only influence power use in a cooperative context. The results of this study strongly support this reasoning.

These results can be considered important for various reasons. Primarily, they show that the social context in

which the powerholder and target interact is an essential aspect of the power process. Whether a certain factor can be considered a determinant of power use depends on the social context in which the behavior takes place. From the perspective of theory development this means that it is a prerogative that theories of social power take the social context into account and develop context-specific hypotheses about the determinants and nature of power use. In this respect, the distinction between cooperation and competition, although important, is not the only relevant aspect of the relationship between powerholder and target. For instance, regardless of the nature of interdependence (i.e., cooperation vs. competition), the dependency on the other for relevant outcomes may be a more or less salient factor in the relationship between powerholder and target (e.g., if the other is the only source of certain information or certain services, one's dependency on the other is greater and more salient than when one has access to other sources), and powerholders may be more hesitant to use power the more dependent they feel on the other (Pruitt & Rubin, 1986; van Knippenberg et al., 1999). Conversely, the less dependent party may be less interested in the other person (Eberhardt & Fiske, 1996) and as a consequence may pay less attention to the effects that power use may have for the other. In a similar vein, a powerholder who has an ongoing relationship with the target may be more reluctant to wield power than a powerholder who is certain that the relationship with the target does not go beyond a single-shot interaction (van Knippenberg & Steensma, 1999). In sum, consideration of the social context seems essential for a proper understanding of both the frequency and nature of power use.

Tjosvold (1985) observed a higher frequency of power use in cooperation than in competition. As we argued in the introduction, this may be attributable to the fact that in Tjosvold's study power use was not instrumental in competition. Consistent with this line of reasoning, in this study, where the employment of power was instrumental in both cooperation and competition, power was used as often in competition as it was in cooperation. These findings show that when power use is instrumental in both contexts, there need not be a difference in the frequency of power use between the two contexts. Yet, this leaves open the question regarding what factors determine power use in competitive settings. Given the fact that power was employed to ascertain victory (see our earlier discussion), we may wonder why power was not used more often (i.e., out of 12 occasions in which power could be used, on average it was only used on 3.69). If the beneficial effects of power use on the outcomes of the powerholder are relatively apparent, this could arguably have lead to a higher frequency of power use in competition than in cooperation. One could argue that we did not find such behavior to occur more frequently because powerholders expected that a limited number of obstructive acts (i.e., imposing a bad estimate on the other) were sufficient to win the competition. However, if this were true, less competent and less confident powerholders should be

more likely to exert power to ensure their victory despite their presumably poor estimates (i.e., the reverse of the pattern observed in cooperation). Obviously, this is not what we found. Thus, a sufficiency principle alone cannot account for power use in the competitive situation. Presumably, fairness considerations played a part in the behavior of competitive powerholders. The cardinal rule of fair behavior (Kahneman et al., 1986) is that an individual may not achieve positive outcomes at the expense of posing an equivalent loss on the other individual. This rule of fair behavior may explain that, although powerholders did know how to use their position to fulfill egocentric needs, they were at the same time reluctant to fully exploit the other. Thus, the negative effects associated with giving people access to power in contexts that are competitive in nature may be dampened by people's tendency to comply to fairness norms (which may be motivated by a willingness to be fair or by a concern for appearing fair). This study does not supply data about fairness considerations, but future research may explore the role of fairness to provide insight into the determinants of power use in competitive settings.

In conclusion, we may focus attention on the fact that we operationalized frequency of power use as the number of times people proceeded to coercive and controlling action. Arguably, this operationalization of power reflects only one way in which power can be wielded (Bruins, 1997; Farmer, Maslyn, Fedor, & Goodman, 1997). In the terminology of this line of research our operationalization of power use can be described as a *hard influence tactic*. Hard influence tactics take control over the situation and the target and do not allow the target any latitude in choosing whether to comply (Tepper, Brown, & Hunt, 1993). In contrast, *soft influence tactics* can be considered to be less controlling and less aggressive than their harder, more forceful counterparts. As such, the distinction between hard and soft influence tactics reflects the difference in forcefulness of influence tactics (Raven, 1992; van Knippenberg et al., 1999; Yukl & Tracy, 1992). Future research may not only focus on power use in the form of hard tactics (as we did in this study), but should also pay attention to softer types of influence.

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