

## POWER INFLUENCES SELF-ESTEEM

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Two studies are reported where high-versus low-power positions were induced through recalling autobiographical events or by serving a supervisory or subordinate role in a task. Both affective states and global self-esteem increased as a result of elevated power while lowered power resulted in decreases in affect and self-esteem. Changes in self-esteem were completely mediated by changes in affective states. The results are discussed as supporting the approach-inhibition theory of power (Keltner, Gruenfeld, & Anderson, 2003).

Power and self-esteem go together. Power means the potential to influence and control others (Fiske, 1993; Keltner, Gruenfeld, & Anderson, 2003); self-esteem is an evaluative response (Tesser, 2001) or attitude toward the self (Dijksterhuis, 2004). Efficient and stable control over others would hardly be possible in persons who do not believe in their entitlement to do so, and in the long run such entitlement requires a consistent belief in one's own worth. Indeed, a meta-analysis of correlational studies revealed a positive correlation between emerging as a leader and self-esteem, as well as other related traits such as dominance, internal locus of control, extraversion, and lowered neuroticism (Judge, Bono, Ilies, & Gerhardt, 2002).

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The association between power and self-esteem is probably a result of their reciprocal influences. On the one hand, heightened self-esteem may pave the way to power. To attain power, individuals need to believe in their capacity and deservingness to do so and high self-esteem seems to be a prerequisite of such beliefs. On the other hand, variations in power may influence self-esteem and this is the empirical focus of studies reported below. Our main thesis is that heightened power increases self-esteem, while lowered power leads to decreases in self-esteem. This hypothesis can be derived from the approach-inhibition theory of power (Keltner et al., 2003), which assumes that elevated power means access to resources (both material and psychological) as well as lack of social and normative constraints, and thereby activates a general approach system. The approach system involves appetitive processes associated with goal-attainment, positive affect, and increased sensitivity to rewards (Gray, 1994). Decreased power means lack of resources and subjection to social constraints, thereby activating a general inhibition system. The inhibition system involves avoidance or response inhibition tendencies associated with negative affect, as well as heightened vigilance and inspection of punishments.

An increasing amount of empirical research shows important differences in affective, cognitive, and behavioral functioning of people endowed with high versus low power. Consistent with the idea of the approach system activation, people high in power experience more positive and less negative emotion and are more likely to perceive rewards (Anderson & Berdahl, 2002; Berdahl & Martorana, 2006). The subjective sense of power correlates with experience of positive emotions such as amusement, enthusiasm, and happiness (cf. Keltner et al., 2003) and self-reports of dominance, assertiveness, and assumed leadership roles correlate with elevated positive mood (Watson & Clark, 1997). Whereas high sociometric status in children correlates with increased positive affect in spontaneous interactions, lowered status is accompanied by negative mood and increases in negative emotions such as guilt and depression (Hecht, Inderbirtzen, & Bukowski, 1998; Kupersmidt & Patterson, 1991; La Freniere & Stroufe, 1985).

On the cognitive side, high-power individuals are hypothesized to process social information in a relatively rapid, effortless,

and automatic fashion, while low-power individuals are expected to show more deliberative and effortful information processing (Fiske, 1993; Keltner et al., 2003). Indeed, high-power individuals show more stereotyping by default (decreased attention to stereotype-inconsistent information) and by design (increased attention to stereotype-consistent information), while people in low-power positions use stereotypes to a lesser extent (Goodwin, Gubin, Fiske, & Yzerbyt, 2000). However, Overbeck and Park (2001) found that high-power persons show superior memory and use individuating information about their underlings when this information is relevant for judgments they are to make. Smith and Trope (2006) noticed that the automaticity of the social cognition of high-power individuals has never been directly tested (by measuring or manipulating such indicators of automaticity as intention, awareness, or efficiency) and the increased stereotyping of those in power might result from their positive affective states rather than proneness to automatic cognition, as elaborated later in the General Discussion. Smith and Trope (2006) demonstrated that individuals primed with high power show a tendency to see "the big picture"—to think in a more abstract way, categorize objects at a higher level, focus on the primary aspects of stimuli, and extract the gist to a higher degree than control or low-power individuals. Also, Guinote (2006) found that high-power individuals are more able to focus on relevant information and inhibit peripheral information displaying greater processing flexibility compared to powerless individuals. So, the general conclusion about cognition differences between high- and low-power individuals is not that the former are more prone to automatic and the latter to deliberative processing. Rather, high power seems to induce more abstract, task-focused, and agentic information processing compared to cognition typical for low-power positions.

Perhaps most consistent are results concerning behavioral differences between high- and low-power individuals. In line with the approach-inhibition theory, high-power individuals show a stronger propensity toward action, be it egoistic (taking from common resources), altruistic (contribution to common good), or neutral (switching off an annoying fan) (Galinsky, Gruenfeld, & Magee, 2003). Power increases approach-related consummatory

behavior such as eating (cf. Keltner et al., 2003), blatant flirtation with persons of the opposite sex (Gonzaga, Keltner, Londahl, & Smith, 2001), or risk-taking (Anderson & Galinsky, 2006). It also leads to disinhibition from normative and situational constraints (e.g., high-status youngsters tend to tease others more frequently and in a more hostile way; Keltner et al., 1998). This frequently leads to antisocial and egoistic behavior consistent with Lord Ashton's notion that "power corrupts." However, the essence seems to be not the corruption per se but rather the activation of prevailing motives of power holders and expressing their true personalities. For example, men primed with the power concept tend to view women in more sexual terms, but this is typical only for those with a predisposition toward sexual harassment (Bargh, Raymond, Pryor, & Strack, 1995). Similarly, power increases self-serving behavior in people who are exchange oriented, but it increases altruistic behavior in communally oriented individuals (Chen, Lee-Chai & Bargh, 2001). Due to this manifestation of traits or motives, high-power groups show more variability in their behavior than low-power groups (Guinote, Judd, & Brauer, 2002).

## HYPOTHESES

High power induces positive affect, agentic thinking, approach behavior, disinhibition of true self, and pre-existing motives. Low power induces rather negative affect, less agentic thinking, inhibition of true self, and motives. We think that one important link is missing in this characteristic of psychological differences between high- versus low-power positions—differences in self-esteem. Whereas high power increases self-esteem, low-power positions decrease self-esteem. Self-esteem maintenance or enhancement is a strong and universal motivation (Sedikides, Gaertner & Toguchi, 2003; Tesser, 2001) and as such it should be activated in the high-power position. High self-esteem is also associated with both agency and affect (Neiss et al., 2005). For example, self-ascription of agentic traits strongly correlates with self-esteem though the ascription of equally positive, communal traits does not correlate with self-esteem (Wojciszke, 2005). In addition to such associations, several specific mecha-

nisms may link changes in self-esteem to preceding variations in power.

The link between power and self-esteem was initially hypothesized by Kipnis (1972, 1976) who reasoned that power holders are able to effectively influence others, which leads them to believe that their capacities are superior to other people and that they are responsible for the latter's achievements (and such beliefs are additionally bolstered by flattery and respect received from others). Another reason why differences in power result in differences in self-esteem has to do with a legitimization motive to defend or justify the social status quo. Numerous studies have shown that due to this motive, high-status groups are positively stereotyped and seen as deserving more, while low-status groups are stereotyped as incompetent and deserving less (cf. Jost, Banaji, & Nosek, 2004, for a review). Such tendencies are shown by members of both high- and low-status groups, so the latter show derogation of in-groups but enhancement of out-groups. Legitimizing myths imply that the successful and advantaged deserve their lot, and an increase in self-esteem after elevation to power can be a legitimizing response on the side of the privileged. Similarly, a decrease in self-esteem can be a legitimizing response on the part of individuals subjected to the power of others. In line with this reasoning, Jost and Thompson (2000) found that increases in system justification beliefs are accompanied by increased self-esteem for members of advantaged groups but by decreased self-esteem for members of disadvantaged racial groups.

Therefore, our first hypothesis is that power leads to increases in self-esteem, while being subjected to the power of others leads to decreases in self-esteem. This prediction received initial support in a meta-analysis of nine studies showing that elevated status leads to enhanced self-evaluations of task performance in the organizational context (Georgesens & Harris, 1998). The same was shown in a primary study of these authors (Georgesens & Harris, 2000). Georgesens and Harris explain this result in terms of employment protection: People inflate their performance ratings to improve their evaluations in order to protect their employment, and individuals in more powerful jobs are more motivated to defend themselves because they have invested more to attain their positions and high power jobs brings more benefits than lower

positions. However, in addition to such instrumental reasons, it is possible that power simply leads to increases in global self-esteem, which is reflected in heightened self-evaluations of task performance, and lack of power leads to decreases in self-esteem.

Our second hypothesis concerns affective states. The approach-inhibition theory of power cogently explains why attaining high positions should result in heightened affect while lower positions are accompanied by negative affect. Most published support for these ideas is correlational in nature and involves some proxies of power such as sociometric or majority status or individual differences in dominance and related traits (cf. Keltner et al., 2003). Although there is some experimental evidence for the link between power and positive affect (e.g., Anderson & Berdahl, 2002; Smith & Trope, 2006, Experiment 2) this link was not found in several studies, especially when power was primed rather than actually given to participants (Galinsky et al., 2003; Smith & Trope, 2006). In an attempt to expand the experimental evidence on this question we used two measures of affect in our studies.

A third goal of this research was to gain insight into mechanisms mediating the effects of power on self-esteem. Nearly all theories of self-esteem assume a strong link between self-esteem and affect (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). A great deal of correlational research shows strong covariation of self-esteem with a variety of indices of emotional experience, especially negative affectivity (Neiss et al., 2005) and its prominent component—depression (Watson, Suls, & Haig, 2002). Therefore, self-esteem may be seen as an essentially affective phenomenon—a current evaluation of self or a more stable attitude toward self, which may be independent of cognitive self-judgments rather than result from them (cf. Tesser, 2001). The affective nature of self-esteem is directly evidenced in a line of experimental studies where (implicit) self-esteem was successfully modified by evaluative conditioning (Dijksterhuis, 2004). Repeated pairing of the word “I” with positive trait names enhanced self-esteem, even when both the word “I” (the conditioned stimulus) and trait names (the unconditioned stimuli) were presented subliminally, which effectively excluded any cognitive inferences about self as a mediator of changes in self-es-

teem. Self-esteem may be, then, influenced by purely affective processes and this opens a possibility that power (an affective state) may also influence self-esteem via the affect that the former is able to induce. Therefore, our third goal was to test whether the power influences on self-esteem are direct or mediated by changes in affective states.

To summarize, we tested three hypotheses: (1) high power leads to increases in self-esteem, while low power results in decreased self-esteem; (2) high power leads to increases in affect, while low power results in decreased affect; (3) the influence of power on self-esteem is mediated by changes in affective states.

### PILOT STUDY

To induce high or low power we asked our participants to recall events from their own past where they had experienced power over another person or had been subjected to the power of others. Recalling autobiographical events can lead to their re-experience, especially when they are described vividly and in detail (vs. mentioned briefly) or when participants describe how (rather than why) the events occurred (Strack, Schwarz, & Gschneidinger, 1985). Therefore, we asked our participants to describe the recalled events in detail and to list all psychological states experienced during these events with the expectation that this way of reminiscing will induce their re-experience. This expectation is bolstered by the fact that similar manipulations proved effective in previous studies (Galinsky et al., 2003; Smith & Trope, 2006).

After recalling the event, participants were asked to compare themselves on several trait dimensions with an average peer of their own gender. It is well known that people pervasively perceive their own characteristics, opinions, and prospects in a more favorable way than those of others and this better-than-average (BTA) effect is very robust over a variety of conditions such as the specific target or dimension of comparison (Alicke, Klotz, Breitenbrecher, Yurak, & Vredenburg, 1995). Because this effect also emerges in cognitive load conditions that prevent actual comparisons (Alicke et al., 1995) and people are able to realistically predict the behavior of average others while being utterly over-optimistic regarding the positivity of their own behavior

(Epley & Dunning, 2000), we used the BTA effect as a measure of self-esteem.

## METHOD

*Participants and Design.* One hundred and twelve university students participated (61 men and 51 women, mean age = 21.50 years,  $SD = 1.26$ ) in small groups. The design was 2 (power position low vs. high)  $\times$  2 (gender) with 60 persons assigned randomly to the high- and 52 persons assigned to the low-power condition.

*Procedure.* Participants were asked to recall an episode where they had experienced power over other(s) or experienced subjection to the power of another person. They were asked to describe the event in detail on a provided sheet of paper with a few additional questions concerning the nature of the event and its participants (where the event took place and who did what). Afterward, they were asked to recollect their psychological states experienced during the episode and to list all descriptors of those states. Finally, participants completed a short scale of social comparisons that measured the BTA effect.

*Measures.* Altogether, participants listed 108 descriptors of psychological (mainly emotional) states experienced in the recalled episodes. The descriptors were compiled in an alphabetical list that was given to ten psychology students who rated them for valence on a 11-point scale ranging from  $-5$  (extremely negative state) to  $0$  (neither positive nor negative) to  $5$  (extremely positive state). The raters appeared highly consistent, Kendall's  $W = .85$ ,  $p < .001$ ; therefore, their ratings were averaged for each of the descriptors. Finally, the positive and negative descriptors listed by each participant were averaged yielding the measure of global valence of the affect experienced in the recalled episode.

The measure of the better-than-average effect consisted of eight positive personality traits (bold, considerate, intelligent, persistent, responsible, sincere, strong, and understanding). For each of them, participants answered a question regarding how many out of 100 the same-sex peers show a higher (than the participant's) intensity of the relevant trait. To ease the interpretation, this index was inverted in such a way that the higher the number, the higher the BTA effect. This effect was apparent for

TABLE 1. Influence of Power Position on Affective States Reported and Better-than-Average (BTA) Effect

	Power position		<i>t</i>	<i>d</i>
	Low	High		
Amount of power (manipulation check)	-1.67 (0.66)	1.37 (0.55)	26.31***	5.02
Global affect	-2.14 (2.15)	1.78 (1.85)	10.20***	1.96
BTA effect	63.30 (13.29)	72.48	3.27*** (15.85)	0.63

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

each individual trait—the average estimate was always significantly higher than 50,  $M = 68.27$ ,  $t(111) = 12.52$ ,  $p < .001$  (difference from the test value of 50). The eight responses showed high internal consistency (Cronbach's  $\alpha = .81$ ) and they were averaged to a global measure of the BTA effect, which was the main dependent measure.

## RESULTS

*Manipulation Check.* To check whether the recalled events really differed in power between the high- and low-power groups we asked a pair of independent judges to rate each recalled event for the amount of power on a seven-point scale ranging from -3 (the participant was totally subjected to the power of the other person) to 0 (no power difference) to 3 (the participant was totally in power). The raters appeared highly consistent (Kendall's  $W = .79$ ,  $p < .01$ ) and their ratings were averaged. As can be seen in Table 1, the high- and low-power groups differed greatly in the amount of power. Moreover, the low-power mean ( $M = -1.67$ ) was significantly lower than zero,  $t(49) = 17.89$ ,  $p < .001$ , while the high-power mean ( $M = 1.37$ ) was significantly higher than zero,  $t(57) = 18.97$ ,  $p < .001$ . Clearly, the low group reported events that involved being subjected to power and the high group reported the opposite type of events.

*Affect.* The affect measure was subjected to a 2 (power: high vs. low)  $\times$  2 (gender) analysis of variance. This analysis revealed a

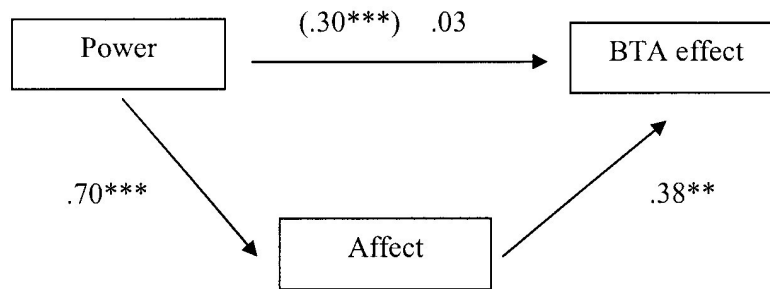


FIGURE 1. Path analysis demonstrating the role of affect in the effect of power on the better than average (BTA) effect in Study 1. All weights represent standardized betas (unmediated effect is given in parenthesis). \*\* $p < .01$ . \*\*\*  $p < .001$ .

strong main effect of power,  $F(1, 108) = 105.67, p < .001, \eta^2 = .50$ . As can be seen in Table 1, participants of high-power position showed higher affect than those of low-power position. The affective state was generally positive in the high-power condition,  $M = 1.78$ , and significantly different from zero,  $t(57) = 7.33, p < .001$ . In the low-power condition it was generally negative,  $M = -2.14$ , and also significantly different from zero,  $t(49) = 7.05, p < .001$ .

*BTA Effect.* The index of the BTA effect was subjected to a 2 (power position)  $\times$  2 (gender) analysis of variance, which revealed the main effect of power as the only significant effect,  $F(1, 108) = 10.83, p < .001, h^2 = .09$ . As can be seen in Table 1, participants recalling a high-power position showed a significantly higher BTA effect ( $M = 72.48$ ) than those recalling a low-power position ( $M = 63.30$ ). No effects involving gender were found in this study.

To test whether the increase in the BTA effect resulting from the recall of high versus low power is due to affective states, a mediation analysis was performed with the power position (low vs. high) as a dummy-coded independent variable, BTA effect as the dependent variable, and the recalled affect serving as a mediator. As can be seen in Figure 1, the results fulfilled the mediation criteria (cf. Baron & Kenny, 1986) and the unmediated standardized  $\beta = .30, p < .001$  dropped to the mediated value  $\beta = .03, p = .82$ , and

this drop was significant as evidenced by a Sobel test,  $z = 2.86, p < .01$ . This suggests that increases in BTA effect were entirely mediated by changes in affective states. To strengthen our argument, we also tested the reverse mediational path with affect serving as a dependent and BTA effect as a mediating variable. In this analysis the unmediated influence of power on affect was very strong ( $\beta = .70, p < .001$ ) and it remained strong ( $\beta = .64, p < .001$ ) after including BTA effect as a mediator.

## DISCUSSION

Clearly, recalling an event involving high power resulted in an increased BTA effect compared to recalling an experience of being subjected to power. These recalled events were accompanied by generally more positive (high-power) or negative (low-power) experiences, which completely mediated the influence of power on the BTA effect. As far as vividly recalling experiences of having (or being subjected to) power can be seen as equivalent to their re-experiencing (Strack et al., 1985), the present results support the hypothesis of power influences on self-esteem as tapped by the BTA effect.

## MAIN STUDY

Although the method of inducing power by recalling autobiographical events has the virtue of ecological validity, it suffers from low control as the recalled events may differ in respects other than power. Also, the hypothesized mediator of power influences on self-esteem (changes in affective state) was only recalled and there was no direct proof that these affective states were actually re-experienced by our participants.

Therefore, the next study aimed at a replication with entirely changed methods. The power position was manipulated experimentally and affect was measured by current mood (and compared to mood measured before the power induction). We also changed the self-esteem measure and used the State Self-Esteem Scale (Heatherton & Polivy, 1991), which has been shown to be amenable to situational influences. Our hypotheses were the

same as before: that elevated power leads to increases in both mood and self-esteem, while low power leads to decreases and that changes in mood mediate the changes to self-esteem. To distinguish the incremental effects of high power from the detrimental effects of low power we also introduced a control, equal status condition in the present design.

## METHOD

*Participants and Design.* One hundred and twenty university students (60 women, 60 men, mean age = 19.85 years,  $SD = 1.03$ ) participated in same-gender pairs of equal ( $N = 20$ ) or unequal ( $N = 40$ ) power status. Persons assigned to the same pair did not know each other or at least never worked together on a task. The design was 3 (power status: low vs. equal vs. high)  $\times$  2 (gender) with 20 participants per condition.

*Procedure and Manipulation.* The experimental task involved making decisions regarding who out of nine candidates should be offered each of three professional positions available. The job positions were described in a way typical for this kind of offer (i.e., name and description of the position, and a list of responsibilities, requirements, and qualifications of a candidate). The applicants were introduced by means of their curriculum vitae. Participants received a form with the list of positions and were to decide which of the applicants was the best and the second best candidate for each position. Participants were informed that the study dealt with decision making in small groups and how this is related to affective states of the group members.

In the equal status condition, the instructions stressed that the participants were a team of equals expected to make collective decisions and that their input should be evenly balanced. In the unequal status condition, the instructions explained that the study concerned decisions made by teams with clearly defined roles of a supervisor and a subordinate. One of the participants was then (truly) informed that he or she was randomly selected for the supervisor role. He or she was handed a paper form, asked to jot down the group decisions, and reminded that it was his or her responsibility to make the final decision. This was heard by the subordinate participant as well. The written instruction informed the

supervisor that three prizes of 100 Polish zlotys (about \$25) each will be allotted by lottery among the participating pairs as compensation for their participation. The supervisor was asked to keep an eye on the relative inputs of the participants as he or she would be asked to distribute the money within the pair if their pair won the lottery.

After the instruction, an initial measure of mood was taken and then participants started the task with 25 minutes allotted for its completion. Afterward, they completed the measure of final mood, of self-esteem, and answered several questions concerning the task. Finally, they were fully debriefed and thanked for their participation. The whole experimental session lasted about 45 minutes.

*Measures.* The main dependent variable, self-esteem, was measured with the State Self-Esteem Scale (Heatherton & Polivy, 1991) translated and adapted to Polish in our previous research. This 20-statement, self-descriptive questionnaire (answered on a 1–5 rating scale) showed a satisfactory reliability in the present sample (Cronbach's  $\alpha = .86$ ). Mood was measured immediately before and after the task. The "before" mood scale consisted of two positive and two negative statements describing the participant's present mood in general terms (e.g., I feel pretty good at the moment. I am in a bad mood now.). Answers were given on scales ranging from 1 (doesn't describe my mood at all) to 7 (describes my mood very well). Average agreement with the four statements (with negatives reverse scored) was used as the mood index. The "after" mood scale consisted of four similar statements that in previous research had been shown to be equivalent to the first four sets of statements in terms of means and standard deviations. Both sets came from a general mood scale developed in Polish by Wojciszke and Baryla (2005). For a random half of the participants, the order of the "before" and "after" sets was reversed. The mood measure appeared internally consistent both in the before condition (Cronbach's  $\alpha = .77$  and  $.76$  for Set 1 and Set 2, respectively) and after condition ( $\alpha$ s =  $.82$  and  $.76$ ).

Participants also answered several questions concerning the task. They were asked to distribute 100 percent of the responsibility for what was going on during the task between themselves, their partner, and someone else (to be specified by the partici-

pants themselves). Second, they answered two independent questions about their own and their partner's input to the final solution of the task. Both of these questions were answered on a scale ranging from 0 (not at all) to 10 (very much). Finally, the high-power participants were asked to distribute 100 zlotys (about \$25) between themselves and their partners (in case they won the lottery).

## RESULTS

Initial analyses showed neither main effects nor interactions involving gender as a factor. Therefore, this factor was omitted in the Results description and Discussion.

*Power Perception.* The perceived influence (percentages assigned to the self and to the partner) was analyzed in two separate analyses of variance (for self and for partner) with power position as a single factor. As can be seen in Table 2, both of these analyses yielded a significant main effect of power position: The higher the power position, the larger the responsibility assigned to self ( $\eta^2 = .14$ ) and the smaller the responsibility assigned to the partner ( $\eta^2 = .17$ ). The perceived input measure was subjected to a 3 (power position)  $\times$  2 (self vs. partner as ratings on separate scales) analysis of variance with repeated measures on the second factor. An interaction between two factors was the only significant result of this analysis,  $F(1, 117) = 13.25, p < .001, \eta^2 = .19$ . As can be seen in Table 2, which presents decomposition of this interaction, the higher the power position, the higher the perceived self influence on the task results ( $\eta^2 = .06$ ) and the lower the perceived influence of the partner ( $\eta^2 = .06$ ). In effect, participants occupying the low-power position perceived their input as lower than that of their partners ( $M_s 6.35$  vs.  $7.15$ ),  $t(39) = 3.71, p < .001$ . On the other hand, participants occupying the high-power position perceived their input as higher than that of their partners ( $M_s 7.30$  vs.  $6.35$ ),  $t(39) = 3.34, p < .001$  (in the equal power position this difference was nonsignificant).

Finally, we analyzed the distribution of possible money between pair members as conducted by the high-power participants. Sixty percent of those participants distributed the sum

TABLE 2. Influence of Power Position on the Perceived Influence and Perceived Input of Self and Partner, Self-esteem, and Mood

	Position in the power hierarchy			F	$\eta^2$
	Low	Equal	High		
<b>Perceived influence</b>					
Self	44.75 <sub>a</sub> (16.52)	51.75 <sub>ab</sub> (11.52)	59.20 <sub>b</sub> (15.55)	9.68***	.14
Partner	51.25 <sub>a</sub> (12.81)	45.25 <sub>b</sub> (11.54)	36.20 <sub>c</sub> (12.81)	11.54***	.17
<b>Perceived input</b>					
Self	6.35 <sub>a</sub> (1.41)	6.63 <sub>ab</sub> (1.51)	7.30 <sub>b</sub> (1.70)	4.01*	.06
Partner	7.15 <sub>a</sub> (1.51)	6.50 <sub>ab</sub> (1.16)	6.35 <sub>b</sub> (1.44)	3.81*	.06
<b>Self-esteem</b>					
	4.19 <sub>a</sub> (0.34)	4.27 <sub>ab</sub> (0.30)	4.42 <sub>b</sub> (0.32)	5.03**	.08
<b>Mood</b>					
Initial	6.13 <sub>a</sub> (0.59)	6.12 <sub>a</sub> (0.61)	6.04 <sub>a</sub> (0.49)	0.26	.00
Final	5.94 <sub>a</sub> (0.68)	6.28 <sub>b</sub> (0.53)	6.53 <sub>b</sub> (0.35)	12.03***	.17

Means sharing a subscript within a row do not differ at  $p < .05$  (Bonferroni test), \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

equally, 37.5% assigned to themselves more money than to their partners, and 2.5 assigned to themselves less than to their partners. Although the egalitarian distribution prevailed, when there was an exception it was nearly always in the direction of supervisors giving more money to themselves than to their partners, in line with what the power holders were expected to do (Kipnis, 1976).

These results evidence the efficiency of the manipulation, although it was rather weak: The means presented in Table 2 were always significantly different between the high- and low-power positions; the intermediate, equal power mean was located between them but differed significantly from neither.

*Self-esteem.* Self-esteem measure (average over 20 items) was subjected to a 3 (power position) x 2 (gender) analysis of variance

that revealed the main effect of power position as the only significant effect. As can be seen in Table 2, participants of high-power position showed significantly higher self-esteem ( $M = 4.42$ ) than those of low-power position ( $M = 4.19$ ). The mean of the equal power position (4.27) was located between the two but differed significantly from neither (as showed by Bonferroni post hoc test).

*Mood.* The mood index was subjected to a 3 (power position)  $\times$  2 (before vs. after) analysis of variance with repeated measures on the second factor. This analysis yielded an effect of the time of mood measurement,  $F(1, 117) = 22.35, p < .001, \eta^2 = .16$ , with mood being higher after ( $M = 6.25$ ) than before ( $M = 6.09$ ) the task. This suggests that the task was generally pleasant (mood-increasing) for the participants. However, this main effect was constrained by a significant interaction between the two factors,  $F(1, 117) = 34.47, p < .001, \eta^2 = .37$ . As can be seen in Table 2, there were no differences between conditions in the initial mood (showing efficiency of randomization), but the final mood was significantly higher in the high- and equal power conditions than the low-power condition. In effect, participants occupying the high-power position experienced an increase in mood in the final compared to the initial measurement  $t(39) = 9.35, p < .001$ , and the same was true for participants in the equal condition,  $t(39) = 2.69, p < .05$ . On the other hand, participants in the low-power position experienced a significant decrease in mood,  $t(39) = 3.32; p < .005$  (all  $t$ -tests for dependent data).

To check whether the changes in self-esteem resulting from power are due to affective changes in current mood, we performed a mediation analysis with the power position (low vs. high) as a dummy-coded independent variable, self-esteem as the dependent variable, and the final mood serving as a mediator. As can be seen in Figure 2, the results fulfilled the mediation criteria and the unmediated standardized  $\beta = .33, p < .005$  dropped to the mediated value  $\beta = -.12, p = .29$ . This drop was significant as evidenced by a Sobel test (.14),  $z = 2.93, p < .005$ . This suggests that the power influence on self-esteem is entirely mediated by mood variation. To reinforce this argument we also tested the reverse mediational paths with mood as a dependent variable and self-esteem as a mediator. The change from the unmediated ( $\beta =$

.48,  $p < .001$ ) to mediated ( $\beta = .36, p < .001$ ) effect of power on mood was significant, Sobel test (.15),  $z = 2.31, p < .05$ . Nevertheless, the unmediated effect remained highly significant. Although the power influence on self-esteem is completely mediated by mood, power influence on mood is only partially mediated by self-esteem.

Similar mediation analyses were performed with perceived self-influence and input as potential mediators between power (high vs. low) and self-esteem. Significant drops in the power/self-esteem relation were not found (after controlling for the perceived self-influence the relation dropped to  $\beta = .25$ ; after controlling for the perceived self-input the relation dropped to  $\beta = .27$ ; and both of these coefficients remained significant) in any of these analyses. Changes in mood mediate the power/self-esteem link, whereas changes in the perception of task self-functioning do not serve this function. This suggests that the change in self-esteem resulting from occupied power positions is a purely affective phenomenon, not necessarily mediated by more cognitive changes in self-perceptions.

## DISCUSSION

This study clearly replicated and extended the results of the Pilot Study. The assignment to the supervisor role resulted in an increased experience of power (compared to the subordinate role) as evidenced by the perceptions of influence and input of the self and partner. Changes in the power position led to increases or decreases in both self-esteem and current mood. Moreover, the power-induced change in self-esteem was completely mediated by changes in mood. Like in the Pilot Study, none of these effects was moderated by gender.

## GENERAL DISCUSSION

Despite divergent manipulations of power and different measures of affect, the two studies yielded convergent results: Increased power leads to increases in global self-esteem, while decreases in power reduce self-esteem. To our knowledge, this is

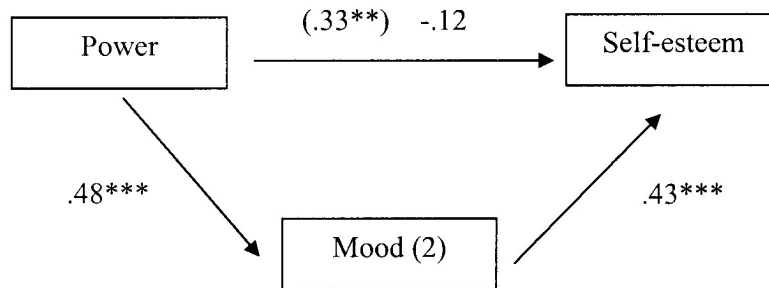


FIGURE 2. Path analysis demonstrating the role of final mood in the effect of power on self-esteem in Study 2. All weights represent standardized betas (unmediated effect is given in parenthesis). \*\* $p < .01$ . \*\*\* $p < .001$ .

the first demonstration of this effect, postulated originally by Kipnis (1972), whose research is sometimes cited as showing this effect, although actually the effect was nonexistent (moreover, Kipnis measured self-perceptions of performance in an experimental task rather than global self-esteem). The present studies also showed that power leads to increases in current affective states extending the somewhat scarce experimental support for this effect postulated by Keltner et al. (2003). Finally, the present studies are the first to show that the influence of power on self-esteem can be completely mediated by changes in the current affective state (and Study 2 failed to show the mediating role of self-perceptions of influence and input to the task).

#### VALENCE OF POWER

These results contribute to the understanding of why power can be attractive even when it brings few instrumental benefits, as required by modern democracy, which despises corruption (i.e., using power as an instrument in attaining material benefits). First, elevated power leads to perceptions of a current situation as more pleasant, probably due to automatic evaluations of incoming stimuli as good rather than bad, as suggested by the mood im-

provement that we found (cf. Forgas, 2002). Second, through mood improvement, elevated power also increases self-esteem, which is by definition intrinsically appealing.

The Power as Control model (Fiske, 1993, Goodwin et al., 2000) assumes that increased power leads to stereotyping (especially when perceiving subordinates) while decreased power leads to piecemeal or individuated perceptions. This is attributed to differences in cognitive load (a boss usually has many subordinates to perceive, but a subordinate usually has one boss) and differences in the motivation to process information carefully (bosses depend less on their subordinates than the other way around). However, the present findings that higher power is accompanied by positive affect suggests yet another explanation of the power-induced differences in stereotyping. It is well known that positive affect leads to simplified or heuristic strategies of information processing while negative affect results in a more analytical and effortful processing style (Bless, Hamilton, & Mackie, 1992; Gasper & Clore, 2002). Therefore, the power-induced differences in information processing might result in changes in affective states in addition to (or instead of) attentional or motivational factors. This seems to be a promising topic for future research.

#### POWER AND SELF-ESTEEM REGULATION

Acquiring power may be seen as another animal in the self-zoo postulated by Tesser (2001)—that is, yet another way to increase, maintain, or protect self-esteem, like striving for successes and avoiding failures, self-serving attributions and social comparisons, dissonance reduction, self- or value-affirmation, prejudice, and so on. According to the self-esteem regulation theory (Tesser, 2001) engagement in any of these exercises (if only successful enough to bolster self-esteem) results in decreased motivation to engage subsequently in any other of them, because people are motivated to maintain self-esteem on a satisfying level rather than to increase it incessantly. Numerous results confirm this theory. For example, self-affirmation decreases attempts in dissonance reduction after attitude-discrepant behavior (Steele & Liu,

1983), recalling self-flattering memories decreases value affirmation while self-defeating memories increase value affirmation (Tesser, Crepaz, Collins, Cornell, & Beach, 2000), and self-affirmation decreases overconfidence in opinions (Blanton, Pelham, DeHart, & Carvallo, 2001).

Self-esteem regulation theory suggests that because power acquisition increases self-esteem it should contain further attempts in self-enhancement. High-power persons should become modest or at least less willing to engage in self-enhancing maneuvers. This, however, is contradicted by numerous anecdotal accounts of the metamorphic effects of power, which suggest that power makes people utterly vain rather than humble: From the Roman emperor Caligula who nominated his horse as a senator (not to ride his godly body on an ordinary beast) to a recent German chancellor who (being over 60) litigated a journalist for disseminating information that he (the Chancellor) colored his hair. A meta-analysis of over 70 studies on status differences in intergroup perceptions showed the in-group bias to be stronger among high- than low-status groups, even on dimensions irrelevant to the status differentiation (Bettencourt, Dorr, Charlton, & Hume, 2001). As far as status can serve as a proxy for power (and in-group bias a proxy for self-enhancement) this suggests that power acquisition may be a peculiar mechanism of self-enhancement in the sense that it leads to increases in self-enhancement.

Whether acquiring power leads to increases or decreases in further self-enhancement remains to be shown in future research. However, having established that power position indeed influences self-esteem, we may further ask questions about how power influences the regulation of self-esteem.

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