

## Power gained, power lost <sup>☆</sup>

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### Abstract

Changes in power almost invariably lead to changes in behavior. This research investigates the effects of power increases and power decreases for individuals who are in strong or weak positions. We hypothesized that individuals will have strong reactions to gains in power (their demands will increase markedly) but they will act almost as though they do not recognize losses in power (their demands will not drop much) when they lose power. Four experiments track individuals' actions when they move from ultimatum to dictatorship games, from dictatorship to ultimatum games, or when they have the same power position repeatedly. The data consistently show that people over-react to an increase in power, but that they react appropriately to a loss in power. The discussion explores the behavioral disconnect between increases and decreases in power.

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### *“Power corrupts, and absolute power corrupts absolutely”*

Power can be seductive. Lord Acton's famous warning acknowledges the idea that power is difficult to ignore, and is likely to affect moral action. History supports his claim, with many stories, from the Roman emperor Nero to Idi Amin, describing the attainment

of power and its abuse (Kanter, 1977). Less frequent and almost as impressive are historical anecdotes of individuals who have lost power, and their considerable suffering (often mental), in organizations, politics, and war (Morris, 2002). As Clausewitz (1832; chapter 10) noted, “The vanquished sinks much more below the original line of equilibrium than the conqueror raises himself above it.”

Although research on the psychology of power is extensive (see Fiske & Berdahl, 2007 for a recent review), the behavioral effects of changes in power have received little attention. Political scientists have investigated the effects of power shifts among nation states and have concluded that it is one of the primary causal mechanisms in the initiation of war (e.g., Kim & Morrow, 1992; Powell, 1996). They argue that nations whose power is declining have an incentive to attack rising nations before they become even worse off. Thus, transitions in power are as important, if not more important, than the balance of power among nations in determining the risk of war between nations. Although individuals

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might be viewed as having a more simple nature than nations, we know less about the effects of changes in power on individuals (see Lieberman, 1956, for an exception). Thus, we present a series of four experiments that investigate the behavioral impact of increases and decreases in an individual's power on their subsequent interpersonal action.

Since most conceptions of power view the control of critical resources as fundamental (Keltner, Grunfeld, & Anderson, 2003; Salancik & Pfeffer, 1974), we study the dynamics of power gain and loss in a resource allocation task. More particularly, using economic games (i.e., ultimatum and dictator games), we investigate the effects of increases and decreases in power on the behavior of both powerful (dictator and ultimatum offerers) and weak actors (respondents).

## Power

Most definitions of power (Dahl, 1957; Keltner et al., 2003; Salancik & Pfeffer, 1974; Wrong, 1968) focus on an individual's intentional and effective capacity to control, modify, or influence others by "providing or withholding resources or administering punishments" (Keltner et al., 2003, p. 265). Within organizations, resources vary widely and can include economic rewards, discretion, knowledge, and/or access to social networks. Individuals who control these resources create dependence in their counterparts, who become less resistant to these more powerful individuals' requests (Emerson, 1962, p. 32). Typically, people who don't control resources want them; those who have them want to keep them (e.g., Emerson, 1962).

This conceptualization of power views power and dependency as tightly related (Emerson, 1962; Thibault & Kelley, 1959): power over others increases with the range of outcomes that an individual controls. Dependence is the reciprocal of power: the more dependent others are on a person for important outcomes, the more power that person has over them. In an early study on the dynamics of power and dependence, Schopler and Bateson (1965) found that the more an individual depended on a counterpart, the more they complied with the partner's influence attempts. Thus, power and dependency allow individuals to influence others and to resist others' influence attempts.

In the current research, we observed the effects of power and dependency by investigating resource allocation choices in ultimatum and dictator games. In ultimatum games, offerers control a specific amount of money (e.g., \$10) and offer as much of it as they wish (e.g., \$2) to respondents. Accepting an offer means that respondents receive the amount that they were offered (\$2) and offerers receive the rest (\$8); rejecting means that both receive nothing. In dictatorship games, offerers also

control a specific amount of money, but they have complete control over it: they can take as much of it as they want (including the entire amount). Respondents can still accept or reject their offers (if offers are made), but their choices only determine whether they keep what they were offered; respondents' choices cannot affect offerers' outcomes.

These games are particularly appropriate for studying gains and losses in power, because they provide clear operational definitions of power and dependence. Offerers are considerably more powerful than respondents: ultimatum offerers have primary control over the allocations in the game, as they set the terms of any positive outcome distribution; dictators have complete control. This also means that, although both are powerful, dictators have more power than ultimatum offerers. Conversely, ultimatum respondents have more power than dictators' respondents, as they have control over the two parties' final outcomes: they can enforce zero outcomes for themselves and their offerers; dictator respondents cannot.

These games have been studied extensively (e.g., Roth, 1995), probably because they model some of the dynamics of everyday life. People in supervisory positions, for instance, make allocations that directly affect their subordinates. Although they rarely hold unilateral power, their decisions often go relatively unquestioned (e.g., Mechanic, 1962), especially when subordinates do not realize the extent of their collective influence. Shifting from one game to another as an offerer models some of the subtle but potent variations in a powerful person's power. The two types of respondents similarly model variations in the power of people who are relatively weak.

## Power gain

If given a choice, most people prefer positions with more power to positions with less power (Mulder, 1977). Power is associated with positive affect (e.g., Keltner et al., 2003), increased attention from others (e.g., Ellyson, Dovidio, & Fehr, 1981) and better outcomes in social exchanges (e.g., Molm, 1985). Mulder (1977) suggests that the mere exercise of power (i.e., determining or directing the behavior of others) gives satisfaction. Thus, power is attractive: people who have less power try to acquire more and people who already have power try to protect and augment it.

McClelland (1987) also views power as an attractive goal. He goes further, suggesting that the need for power is a fundamental human motive. This desire for power leads to a wide variety of beliefs and behaviors (Winter, 1973). Empirical evidence also indicates that people attempt to gain power and exercise control over others (c.f. Mulder, Veen, Hijzen, & Jansen, 1973). For example, Bruins and Wilke (1992), found that participants

in a laboratory study were quick to move into a newly vacated powerful position and exercise control over other participants. Studies also find that people are often eager to use their power in social interactions so that they end up being advantaged in social exchanges (e.g., Lindsfold & Arnoff, 1980; Molm, 1985).

Research also suggests that people sometimes abuse their power. In the famous Stanford Prison study, for instance, volunteers who were randomly assigned to the role of prison guards abused their power to such an extent that the experimenters prematurely ended the study (Haney, Banks, & Zimbardo, 1973). In an organizational simulation, students who were randomly given the role of powerful managers made more efforts to influence their subordinates, valued subordinates' performance less, attributed subordinates' efforts to their own control rather than to subordinates' motivation, and desired greater psychological distance than students given the role of less powerful managers (Kipnis, 1972). Recent research also suggests that the powerful are more likely to think that they have more control than they actually do (Fast & Gruenfeld, 2007). Keltner et al. (2003) suggested that power leads to abuse because it reduces evaluation apprehension which increases disinhibited (and often inappropriate) action. Simply priming people with a sense of power leads them to reduce their inhibitions and act more forcefully (Galinsky, Gruenfeld, & Magee, 2003; Keltner et al., 2003).

A combination of the desire for power (McClelland, 1987; Mulder, 1977) and disinhibition (Keltner et al., 2003) suggests that people will react forcefully to an increase in power. In ultimatum and dictator games, this should lead dictator offerers to demand substantially more for themselves when their power increases, i.e., when they have been ultimatum offerers before. It should also lead ultimatum respondents to be much less willing to accept small offers than dictator respondents.

### Power loss

In contrast, people may not react as strongly when they lose power. Research on the effects of loss in power is rare. The literature on control (e.g., Rodin & Langer, 1980), which shows that people are reluctant to admit that they have lost control, suggests that people will resist power losses and persist in believing that they have power even when they do not. The psychological effects of a loss in power are likely to be similar to the effects of a loss in control, because power is a reflection of control over desirable resources. Like the desire for power, people have a strong desire to retain control over their environment (e.g., de Charms, 1968), so strong that they often believe that they have more control than they actually do. Langer's (1975) classic work on the illusion of control, for instance, sug-

gests that a loss of control is noxious, and that people use a variety of cognitive and motivational strategies to retain their sense of control (Bandura, 1989; Fiske, 1993; Fiske, Morling, & Stevens, 1996).

This leads us to expect that people who lose power will be motivated to resist their loss. In particular, results which suggest that the illusion of control is particularly strong when the sense of control is undermined (Thompson & Armstrong, 1998) imply that newly powerless people are particularly likely to resist believing that they have less power. This should lead them to act as though they have not lost much power. In ultimatum and dictator games, this should lead ultimatum offerers to resist reducing their demands after they have experienced being dictators, i.e., when they lose power. It should also lead dictator respondents to continue to reject small offers if they have previously been ultimatum respondents, even though it has no influence on dictator offerers.

### Current research

Having people move from ultimatum to dictator games (or vice versa) provides clear operational changes in a person's power. Offerers lose power when they move from dictator to ultimatum games; respondents lose power when they move from ultimatum to dictator games. As noted, dictatorship games provide offerers with absolute power over their outcomes; dictator respondents have no outcome power. Thus, ultimatum offerers have less power than dictators, which is reflected in their lower outcomes (e.g., Forsythe, Horowitz, Savin, & Sefton, 1994). Research also consistently shows that ultimatum offerers get significantly better outcomes than ultimatum respondents (e.g., Camerer, 2003; Roth, 1995) suggesting that they have more power than respondents. Finally, ultimatum respondents' ability to deny their offerers a positive outcome gives them more power than dictator respondents. Thus, this research investigated changes in power for actors in strong, powerful positions as well as changes in power for actors in weak positions. This allows us to test whether changes in power are general in nature or have distinctive effects for individuals who start with considerable or with minimal power. In both cases, we predict that participants will increase their demands substantially when they gain power and will reduce their demands only minimally when they lose power.

Experiments 1 and 3 focus on offerers and investigate how their behavior changes when they move from ultimatum to dictatorship games or from dictatorship to ultimatum games. The changes in their allocations across games provide a behavioral record of their reactions to changes in power gain for individuals with a strong power base. Experiments 2 and 4 investigate respondents' reactions. Here changes in the value of the smallest offers that they

would accept represent behavioral indicators of their responses to changes in power.

Experiments 1 and 2 also used a contextual factor, i.e., the information held by respondents and recipients, to further accentuate the offerers' power. In partial information conditions, offerers were told that respondents had no information about how much money they were dividing; with complete information, offerers were told that respondents had this information. The information asymmetry of the partial information condition gave ultimatum offerers additional power, because respondents could not evaluate whether their offers were fair. These two conditions also provided empirical connections to previous research (e.g., Straub & Murnighan, 1991; Straub & Murnighan, 1995).

Finally, Experiments 3 and 4 were run in the U.S., a different cultural context than Experiments 1 and 2, which were run in Hong Kong. Although cultural differences were not of primary theoretical interest in this research, Keltner et al. (2003) suggested that cultural differences will influence how a powerful person utilizes power and Chen, Lee-Chai, and Bargh (2001) observed that communally-oriented individuals acted altruistically after attaining power. Our research provides an opportunity to replicate their findings across individualistic-collectivistic cultures on a markedly different task. Including participants from two countries also provided a basis for increased generalizability.

## Methods

### Pilot test

A preliminary pilot-test examined our assumptions about the relative power of offerers and respondents in ultimatum and dictator games. Participants were given descriptions of either the ultimatum or the dictator game and rated the offerers' and respondents' power on 7-point Likert scales. Forty-six undergraduates were randomly assigned to rate one of the games; they rated offerers and respondents for both the partial and complete information versions of the game. As expected, participants viewed dictators ( $M = 6.39$ ,  $SD = .84$ ) as having more power than ultimatum offerers ( $M = 5.43$ ,  $SD = .83$ ) who had more power than ultimatum respondents ( $M = 3.33$ ,  $SD = 1.50$ ) who had more power than dictator respondents ( $M = 1.95$ ,  $SD = 1.09$ ; see Fig. 1). All of these planned contrasts were statistically significant ( $t$ 's  $> 3.5$  and  $p < .01$  in each case). Also, as expected, participants indicated that, compared to complete information, partial information gave more power to ultimatum offerers ( $M = 5.18$ ,  $SD = 0.7$  vs.  $M = 5.80$ ,  $SD = 0.92$ ;  $F(1,23) = 3.56$ ;  $p = .07$ ) and less to ultimatum respondents ( $M = 4.03$ ,  $SD = 1.56$  vs.  $M = 2.35$ ,  $SD = 0.63$ ;  $F(1,23) = 10.34$ ;  $p < .01$ ). Partial information did not appear to give any additional power to dictator offerers or any less power to dictator respondents.

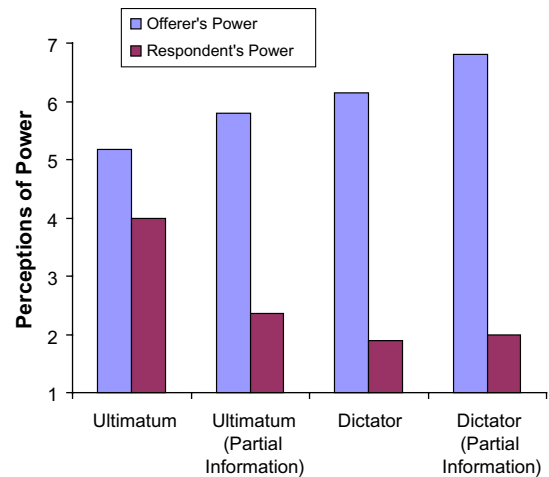


Fig. 1. Perceptions of offerers' and respondents' power in ultimatum and dictator games.

These results further confirm our assumptions about the power of the different positions in these two games.

## Experiment 1: Offerers

### Methods

#### Participants

Participants were 87 undergraduates in four sections of an organizational behavior course in a university in Hong Kong; they volunteered for an exercise in negotiations that offered a chance to earn money.

#### Design

All of the participants in the experiment acted as offerers. Half were dictators first; half were ultimatum offerers first. The central part of the design was a game (ultimatum, dictator) by order (first or second) factorial, with games a repeated measure.

We also manipulated two other factors: whether the offerers were told that respondents knew how much they were dividing (partial versus complete information) and the amount to be divided [100 and 200 Hong Kong dollars (HK\$), approximately \$13 and \$26 US]. Everyone made offers for both games, in both information conditions, for both amounts.<sup>1</sup> Games, amounts, and information were within subject variables; the order of presentation of the two games was a between subject variable. Each participant made four dictatorship offers and four ultimatum offers, in the following order: partial information \$100HK, partial information \$200HK,

<sup>1</sup> We included the two different amounts to expand the number of participants' responses—much like using multiple items in a survey to increase reliability—and to expand the range of monetary outcomes in the design.

complete information \$100HK, and complete information \$200HK. Ultimatum offers preceded dictatorship offers for 47 participants; dictatorship offers preceded ultimatum offers for the remaining 40.

### Procedures

Participants were told that they would be making eight decisions but only received one set of instructions (ultimatum or dictatorship) at a time. The instructions were identical except that, in ultimatum games, offerers were told that they and the respondents would get nothing if respondents rejected their offers; in dictatorship games offerers were told that they would still get what they asked for, even if respondents rejected their offers. Participants were also told that 5 participants (in each of the four experimental sessions) would be randomly chosen to win money; one of their eight decisions would be randomly chosen to determine their actual winnings.

Respondents were described as students from another class whom they would never meet. In the partial information condition, the instructions emphasized that respondents would not know how much offerers were dividing; the complete information instructions emphasized that the respondents would know how much they were dividing.

At the end of each session, a first lottery selected the winners; a second selected the offer that determined their payments. If the chosen decision was an ultimatum, participants were told that it would be delivered to a volunteer and were given instructions about where they could collect their money if the offer was accepted. When the chosen payoff was a dictatorship offer, the participant was given whatever they had demanded (i.e., the original amount minus their offer). The odds of winning (20–25%) seemed to spark considerable interest among participants. After the lotteries were conducted, the participants were thoroughly debriefed and some winners were paid. The winners whose chosen offers were ultimatum games were asked to come to a specified location to collect their money. Their offers were delivered to volunteer respondents from another section of the same course. All the volunteers who belonged to one section of the organizational behavior course signed up after an in class announcement offering them an opportunity to participate in a negotiation exercise for money. These volunteers read the instructions about the game and were told that offerers from another section had made offers and they would respond to them. The volunteers were paid if they accepted; the offerer was paid the remaining amount. If a volunteer rejected an ultimatum offer, then both s/he and the offerer were paid nothing.

### Results and discussion

Fig. 2 suggests that offerers who moved from ultimatum to dictator games increased their demands more

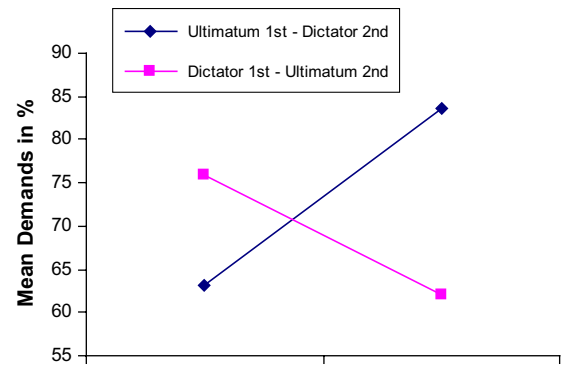


Fig. 2. Offerers' mean demands (in terms of the percentage of the amount that they divided), Experiment 1.

(63.2–83.7%) than offerers who moved from dictator to ultimatum games reduced theirs (76.0–62.1%).

An overall analysis of variance (ANOVA) on the percentage of the total amount demanded (to control for the two different amounts) with games as a within subject factor and the order of presentation of the two games as a between subject factor revealed a significant main effect for games ( $F[1, 85] = 127.69$ ;  $p < .01$ ), a marginally significant effect for order ( $F[1, 85] = 3.56$ ;  $p < .07$ ) and a significant games by order interaction ( $F[1, 85] = 4.88$ ;  $p < .05$ ). Simple main effects of games within each order revealed that dictator offers were significantly larger than preceding ultimatum offers ( $F[1, 46] = 69.34$ ;  $p < .01$ ) and ultimatum offers were significantly smaller than preceding dictator offers ( $F[1, 39] = 77.83$ ;  $p < .01$ ). In this task, people demanded significantly more when they gained power and they demanded significantly less when they lost power.

If we assume that participants understood the games and that their first offers represented a normative standard—an assumption that we address directly in Experiments 3 and 4—then two between-subjects comparisons, of first- and second-round dictator offers and first- and second-round ultimatum offers, can assess whether participants overreacted to their gains or losses of power, respectively. These analyses, which essentially control for players' power positions (but not their experience) led to two findings: Dictators demanded significantly more when they had made ultimatum demands first [76.0% versus 83.7%;  $F(1, 85) = 5.39$ ;  $p < .05$ ]; ultimatum demands did not change significantly, even if they followed dictator demands (62.1% versus 63.2%;  $F(1, 85) = 0.17$ ; *ns*). Thus, when people lost power, they made about the same average demands as people who started with that same power position. This suggests that they recognized their loss of power and reacted appropriately. In contrast, when they gained power, their demands increased significantly, even compared to other offerers who had the same amount of power. Thus, they appear to have over-reacted to gains in power.

The dictators and ultimatum offerers in this experiment made consistently large demands. In only 4% of the cases (27 of 696: 22 ultimatum, 5 dictator) did they offer respondents more than 50% of the total. The fact that dictators demanded more than ultimatum offerers also suggests that the participants understood and acted on the fact that dictators had more power than ultimatum offerers.

These data support our prediction that people will react forcefully to gains in power. However, they do not support our prediction that people will act as though they have not lost power. More importantly, the results show that increases in power resulted in significantly increased demands, even when the comparison was between players with the same high power position. This suggests that increases in power have an impact that adds to the impact of simply having a high power position. In contrast, in the same kind of similar-position comparison, power losses did not lead to significantly reduced demands.

This conclusion must be tentative because alternative explanations are also possible. In particular, one of our sets of analyses controlled the players' power position; another controlled their experience. Neither controlled both. Thus, offerers may have become more familiar with the dynamics of these situations as they moved from one power position to another. Their initial offers could have been influenced by a lack of familiarity, and this may have been particularly true for dictators, who had an unusual position of absolute power. It is also possible that dictators' increased demands might be the result of being granted *absolute* power. Thus, the increased demands that we observed in dictator games may not have resulted from the simple gain in the offerers' power; instead, it may have resulted from the gain to complete power. By studying the reactions of respondents to power changes, Experiment 2 provides an opportunity to determine whether gains in power result in larger demands even when the move is not to a position of absolute power.

## Experiment 2: Respondents

Unlike offerers, who are totally independent in dictatorship games, respondents are dependent on offerers in both games: they are totally dependent in dictatorship games but have some power in ultimatum games because offerers need their acceptance to achieve a positive outcome. Unlike offerers, respondents gain power when they move from dictatorship to ultimatum games; they lose power when they move from ultimatum to dictatorship games. Thus, Experiment 2 investigates the effects of power increases and decreases within the realm of weakness rather than the realm of strength.

## Methods

### Participants

Participants were 50 undergraduates in a decision making class in a university in Hong Kong; they volunteered for an exercise in negotiations that offered a chance to earn money.

### Design

All of the participants acted as respondents. Half were dictator respondents first; half were ultimatum respondents first. As in Experiment 1, the central part of the design was a game (ultimatum, dictator) by order (first or second) factorial, with games a repeated measure.

The amounts to be divided were again 100 and 200 HK\$; participants responded by indicating their minimally acceptable offers in two dictator games (with totals of 100 HK\$ and 200 HK\$) and two ultimatum games (of 100 and 200 HK\$).<sup>2</sup>

### Procedures

Participants were told that they would be making four decisions but they received one set of instructions (ultimatum or dictatorship) at a time. They were told that the offerers, students from another class whom they would never meet, had made their offers earlier. We asked them to indicate the minimum offers that they would accept: if their minima were lower than the offer, then we concluded that they had accepted the offer; if their minima were larger than the actual offer, then we concluded that they had rejected the offer. All of the participants knew the amounts that offerers were dividing before they specified their minimally acceptable offers. The instructions were the same for both games except that, in ultimatum games, respondents and offerers received nothing if they rejected the offer (i.e., if their minimally acceptable offer was larger than the offerer's ultimatum offer); in dictator games, offerers still received what they asked for, even if respondents rejected their offer. Participants were also told that 15–25% of them would be randomly chosen to win money and that one of their four decisions would be randomly chosen to determine their winnings. At the end of the session, a first lottery chose eight winners; a second chose one of their choices for their payoffs. Since there were no real offerers, the eight winners were paid the minimum that they would accept. After selecting the winners, the participants were thoroughly debriefed and the winners were told where to collect their money.

<sup>2</sup> Partial information conditions were not included in this experiment as it did not seem to make sense to determine respondents' minimally acceptable offers when they did not know how much was being divided.

## Results and discussion

Fig. 3 suggests that participants increased their minimally acceptable offers more when they gained power (from 11.07% to 31.34%) than they reduced their minimally acceptable offers when they lost power (from 19.69% to 6.65%).

An overall ANOVA on the percentage of the total amount demanded (to control for the two different amounts) with games as a within subject factor and the order of presentation of the two games as a between subject factor revealed significant main effects for games ( $F[1,48] = 48.94$ ;  $p < .01$ ) and order ( $F[1,48] = 5.09$ ;  $p < .05$ ) and a non-significant games by order interaction ( $F[1,48] = 2.30$ ;  $p < .14$ ). Simple main effects within each order revealed that minimally acceptable offers increased significantly when participants moved from dictator to ultimatum games ( $F[1,23] = 29.35$ ;  $p < .01$ ) and decreased significantly when they moved from ultimatum to dictator games ( $F[1,25] = 18.88$ ;  $p < .01$ ). This pattern is similar to Experiment 1's: gains in power led to significantly increased demands and losses in power led to significantly decreased demands.

As in Experiment 1, we conducted between-groups comparisons of first and second round demands for each game. These analyses led to two findings: ultimatum respondents asked for significantly more when they had been dictator respondents first [31.34% versus 19.69%;  $F(1,48) = 5.28$ ;  $p < .05$ ] but dictator respondents' demands did not change significantly, even if they followed ultimatum demands [6.65% versus 11.07%;  $F(1,48) = 1.86$ ; *ns*]. These results are analogous to Experiment 1's: when people lost power, they made about the same average demands as people who started with low power; when they gained power, their demands increased significantly, even compared to other respondents who had the same amount of (relatively high) power.

These findings sharpen Experiment 1's conclusions. Respondents whose power dropped reduced their mini-

mal demands; respondents whose power increased raised their minimal demands. We also found the same interesting pattern of results for gains and losses in power as in Experiment 1: respondents' demands were relatively unaffected by previous experience of ultimatum games, but their demands in ultimatum games were significantly affected by previous experience of the dictatorship game. Thus, once again, gains in power led to bigger reactions than relatively high power by itself, but losses in power did not lead to smaller claims than low power by itself.

These findings help rule out the alternative explanation that the move to a highly unusual, absolute power position led to Experiment 1's results. None of these respondents had anything close to absolute power, but they claimed more when their power increased. The consistent findings in Experiments 1 and 2 suggest that power affects people most *when they move to a more powerful position*: power by itself may not explain increases in demands; instead, an increase in power seems to be particularly influential in stimulating self-interested behavior.

## Experiments 3 and 4

As noted after Experiment 1, our analyses have not simultaneously controlled for power positions and for experience. Although Experiment 2 addressed one alternative explanation, Kipnis (1976) suggestion that the successful use of power tactics increases powerful actors' perceptions of control, leading them to engage in even more controlling behavior, provides another alternative explanation for our findings. Larger demands may surface, without changes in power, because an individual has more experience in a powerful position.

Erev and Roth (1998) provide a similar explanation based on experience. They suggest that repeated choices in games like these give individuals the opportunity to learn how to improve and exploit their strategies. When a strategy is reinforced (e.g., a small dictator offer), it can lead to even more strategic offers (e.g., even smaller dictator offers). Thus, without any change in power, strategy-reinforced behaviors (Erev & Roth, 1998) may lead to increasingly strategic behavior.

This suggests that familiarity and/or learning might explain our results. To alleviate these concerns, Experiments 3 and 4 added new conditions in which offerers and respondents repeatedly experienced the same power position. If repeated experience leads to changes in behavior, then our results can be explained by experience alone. If not, our provocative conclusion—that people demand more for themselves when their power increases, even compared to people who already have high power—will hold.

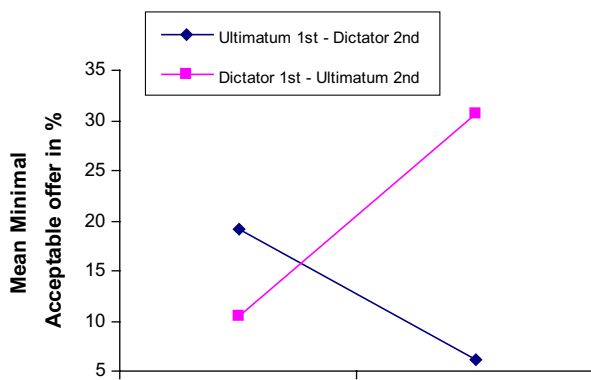


Fig. 3. Respondents' mean minimally acceptable offers (in terms of the percentage of the original amount that offerers divided), Experiment 2.

These new conditions also directly test our assumption that first round demands provide information about normative standards for these kinds of demands. If repeated experience leads to changes in behavior, then first-round demands are not a good indicator of normative standards; if repeated experience does not change in behavior, however, this will suggest that players clearly understand the game, right from the start, and their demands reasonably represent normative standards.

Experiments 3 and 4 included the same initial conditions of Experiments 1 and 2, but they were conducted in the United States rather than Hong Kong, with slightly different incentives and procedures. The different location allows us to build on Chen et al.'s (2001) findings by testing whether individualistic cultures, like the United States, lead to greater responses to power changes than collectivistic cultures, like Hong Kong. Thus, Experiments 3 and 4 include important new tests as well as a conceptual replication of the first two experiments.

## Methods

### Participants

The sample consisted of 61 undergraduate students from a mid-western university who volunteered for the experiment and were paid \$10 for their participation.

### Design

The design was similar to Experiment 1's with the following changes. The amounts to be divided, \$10 (77 HK\$) and \$20 US (144 HK\$), were somewhat less than 100 and 200 HK\$. Information and amount divided remained within subject variables; the order of presentation of the two games remained a between subject condition. We added two control conditions: one consisted of 15 participants making eight dictator offers; the other consisted of 13 participants making eight ultimatum offers. In both conditions participants made four offers and then four more (partial and complete information for the two amounts). Two conditions also replicated Experiment 1, with ultimatum offers preceding dictatorship offers or dictatorship offers preceding ultimatum offers.

### Procedures

Although the procedures were similar to Experiment 1's, all offers in Experiment 3 were made at computer terminals in private rooms. Participants were told that their computers were linked. Instructions emphasized that the decisions were real-time and that participants would never meet each other. As in Experiment 1, all participants acted as offerers. Participants were informed that one of the approximately 6 participants in each session would be randomly selected and awarded their actual offer in addition to their show up fee. At the

end of each session, participants were thoroughly debriefed and received their \$10 show up fee. At the conclusion of the experiment, the lottery was conducted; winners were e-mailed and told when and where to collect their bonus winnings.

## Results and discussion

Offerers who moved from ultimatum to dictator games increased their demands (56.53% to 83.61%;  $F[1, 57] = 152.30$ ;  $p < .01$ ) and offerers who moved from dictator to ultimatum games reduced theirs (71.0% to 63.0%;  $F[1, 57] = 11.07$ ;  $p < .01$ ; see Fig. 4). Offerers in the control condition did not substantially change their demands in the two games: 66.1% versus 68.7% ( $F[1, 57] = 1.15$ ;  $p > .29$ ) for dictators and 60.6% versus 60.6% ( $F[1, 57] = 0$ ) for ultimatums.

Between-subjects comparisons of dictator offers can now include dictators who had prior experience, as either ultimatum or dictator offerers. The results indicate that dictators demanded significantly more ( $M = 83.6\%$ ) when they had been ultimatum offerers first, compared to their demands ( $M = 68.7\%$ ) when they had been dictators before [simple effects  $F(2, 30) = 6.86$   $p < .01$ ]. No such change was apparent for ultimatum offerers: Their mean demands were 60.6% and 63.0% when their prior experience was ultimatum and dictator games, respectively [ $F(2, 25) = 1.43$ ; *ns*]. This is the same pattern that we observed in Experiment 1.

A check on our assumption of normatively standard demands, i.e., first round versus second round demands in the control conditions, indicated considerable consistency in the two experiments. Dictators' first round demands averaged 76% in Experiment 1, 71% in the experimental, 66% in the first and 69% in the second round of the control conditions in Experiment 2. Similarly, ultimatum offerers' first round demands averaged 63% in Experiment 1, 57% in the experimental, 61% in the first and 61% in the second round of the control con-

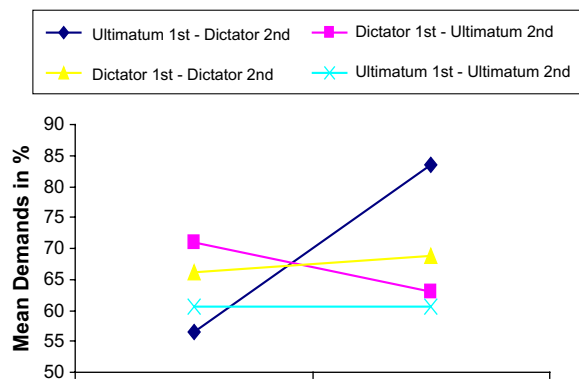


Fig. 4. Offerers' mean demands (in terms of the percentage of the amount that they divided), Experiment 3.

ditions in Experiment 2. Although there is some variation from one experiment to another, as might be expected from their different locations and different monetary amounts, the variation is considerably less than the variation we observed when power changed. This provides support for our assumption of normative standards.

More importantly, these findings continue to provide strong support for our prediction: people increased their demands most when they gained power, and these demands were larger than the demands of comparably powerful offerers whose power had not changed. In contrast, people who lost power asked for about the same amount as those who had less power but whose power had not changed. This does not support our original prediction for power loss, but does support our prediction for the effects of power changes.

The results of this study strengthen confidence in the inference that gains in power, rather than power itself, seem to distort our decisions. In addition, the inclusion of two control conditions rule out familiarity and learning as explanations of the results; they also support our interpretation of first round demands as normative indicators.

It is noteworthy that across this experiment and Experiment 1, ultimatum offerers' demands varied relatively little, with the averages in six different conditions ranging from 57% to 63% ( $F[5, 138] = .92$ ; ns). This accentuates the conclusion that less powerful offerers' demands did not vary much, even if their power increased or decreased. Dictator offerers' demands varied significantly between conditions ( $F[5, 144] = 4.94$ ;  $p < .01$ ), especially when their power had just increased: dictator demands that did not result from an increase in power ranged from 66% to 76%; in the two conditions in which dictators experienced an increase in power, their demands were 84% both times. This was true in the United States and Hong Kong. Experiment 4 assesses these same issues for the weak-respondents.

## Experiment 4: Respondents

### Methods

#### Participants

The sample consisted of 36 undergraduate volunteers from a mid-western university who were paid \$10 for their participation.

#### Design and procedures

The changes in design and procedures, compared to Experiment 2, were similar to the changes in Experiments 1 and 3. The amounts to be divided, \$10 and \$20 US, remained a within subject variable and the order of presentation of the two games remained

between subjects. Two other conditions replicated Experiment 2, with participants choosing minimally acceptable offers for ultimatum and then dictator games, or vice versa. We added two control conditions: one consisted of participants stipulating minimally acceptable offers for four dictator games (two \$10 and two \$20 conditions); the other consisted of participants stipulating minimally acceptable offers for four ultimatum games. As in Experiment 3, participants recorded their minimally acceptable offers on computer terminals in private rooms, and they were informed that one participant from each session would be randomly selected to receive one of their minimally acceptable offers in addition to their show up fee. At the end of each session, participants were thoroughly debriefed and received their \$10 show up fee. At the conclusion of the experiment, the lottery was conducted; winners were e-mailed and told when and where to collect their bonus winnings.

### Results and discussion

In this experiment, participants significantly increased their minimally acceptable offers when they gained power (40.3–50.8%;  $F[1, 31] = 11.88$ ;  $p < .01$ ); although they reduced their minimally acceptable offers when they lost power (32.5–27.3%), the difference was only marginally significant ( $F[1, 31] = 3.63$ ;  $p < .07$ ). In addition, their minimally acceptable offers changed little when they repeated the same game: dictator respondents demanded 27.8% and 27.2% [ $F(1, 31) = .03$ ; ns]; ultimatum respondents demanded 33.1% and 30.3% [ $F(1, 31) = 0.70$ ; ns; see Fig. 5).

Between-group comparisons of second round demands led to two findings: ultimatum respondents asked for marginally more when they had been dictator respondents first (50.8% vs. 30.4%;  $F[1, 15] = 3.77$ ;  $p < .08$ ) but dictator respondents' demands did not change significantly when they followed ultimatum demands (27.3% vs. 27.2%;  $F[1, 17] = 0$ ). These results,

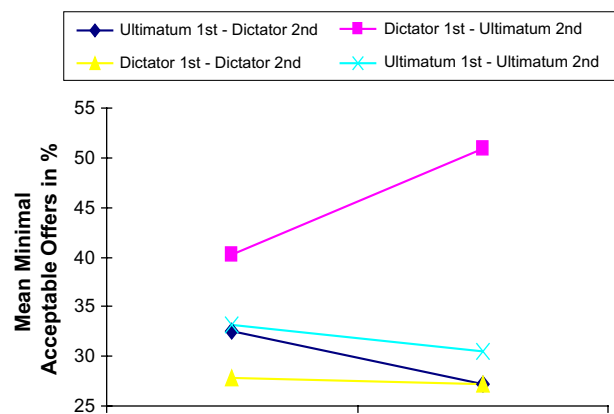


Fig. 5. Respondents' mean minimally acceptable offers (in terms of the percentage of the original amount that offerers divided), Experiment 4.

though only marginally significant, are directionally similar to Experiment 2: participants asked for more when their power increased but their demands when they had less power did not depend on changes in power.

Like Experiment 3, respondents' minimally acceptable offers were highest when they gained power. Having some power, in this case in a relatively weak position, did not lead to large demands, but having increased power—at the same level as ultimatum respondents who had always had that level of power—led to greater demands. These kinds of changes did not occur for players who lost power. In addition, respondents' demands changed little when the game did not change, again providing no evidence for learning or familiarity; they also support our interpretation of first round demands as normative indicators. Thus, these findings continue to strengthen confidence in the conclusion that it is gains in power rather than power itself that corrupts.

Comparisons of the results of Experiments 2 and 4, however, show more variation for respondents' demands than offerers', especially for dictator respondents. Ultimatum respondents' demands varied from 20% in the first round in Experiment 2 to 32%, 33%, and 30% in the first round and the control conditions in Experiment 4, respectively ( $F[3, 48] = 2.22$ ;  $p < .1$ ). Dictator respondents' demands varied from 11% in the first round in Experiment 2 to 40%, 28%, and 27% in the first round and the control conditions in Experiment 4, respectively ( $F[3, 47] = 11.47$ ;  $p < .01$ ). Second round dictator respondents' demands, 7% in Experiment 2 and 27% in Experiment 4 do not stray far from these ranges but differ from one another ( $F[1, 31] = 6.15$ ;  $p < 0.05$ ). Second round ultimatum respondents' demands, however, which represent the result of power increases, stray farther and differ from one another: 31% in Experiment 2 and 51% in Experiment 4 ( $F[1, 34] = 25.29$ ;  $p < 0.01$ ). Both figures represent the highest demands in the two different experiments. The difference between them suggests the possibility of cultural differences.

## General discussion

Four experiments provide consistent evidence that changes in power do not have uniform effects on individuals' behavior. In particular, people reacted to increases in power more than they did to decreases in power. Furthermore, increases in power led to the highest demands, even higher than individuals who had already held the same amount of power.

People also reacted to decreases, but not so strongly. Instead, demands that followed a loss in power dropped to a point that was comparable to the demands of individuals whose lower position of power had not changed.

This was true in different countries, for different amounts of money and for weak and strong power positions (respondents and offerers).

These experiments were designed to investigate the effects of power loss and power gain and to test the specific proposition that in exchange interactions, people will ask more for themselves when they gain power but that they will not ask less for themselves when they lose power. The data support the first part of this hypothesis—people will react forcefully to gains. In contrast, people did not under-react to losses in power. Losses are noxious events that individuals seek to avoid (Kahneman & Tversky, 1979; Larrick & Boles, 1995; Taylor, 1991). Thus, we expected that individuals would try to ignore power losses. In the current context, however, losses are a *fait accompli*—it is difficult to ignore the fact that ultimatum offerers have less power than dictators and dictator respondents have less power than ultimatum respondents. This lack of ambiguity may explain why people could not cognitively transform the situation, to allow them to act as if their power had not diminished.

An alternate explanation could be that a loss in power forced individuals to be vigilant and carefully attend to their powerful partners (Chance, 1967). Fiske and her colleagues (Depret & Fiske, 1999; Stevens & Fiske, 2000), for instance, have shown that people who are dependent on others are motivated to understand those who are powerful so that they can obtain more resources; being dependent undermines a person's sense of control and motivates them to pay close attention to the features of the powerful (Stevens & Fiske, 2000). This logic suggests that a decrease in power increases attention and, by extension, will lead to substantial and appropriate reductions in demands. Future research might explore these potential effects of changes in power on social attention.

The behavioral data, especially the data from Experiments 3 & 4, provide general support for the conclusion that individuals over-react to gains in power but they react appropriately to losses in power. These effects surfaced whether people had considerable power or little. Though this pattern differs from our initial expectations, the general thrust of the results, that gains lead to larger reactions than losses, is consistent with our predictions. What we did not expect was that that people would react appropriately to losses.

In terms of economic effectiveness, increasing demands as a result of a power increase clearly increased dictators' monetary outcomes. The same may have been true for ultimatum respondents, as previous research (e.g., Roth, 1995) suggests that both offerers and respondents are risk averse. Thus, ultimatum respondents who require higher offers might actually receive them. This suggests that, although changes in behavior following power increases were exaggerated

compared to normative standards, the standards themselves may under-represent the potential of the powerful to obtain gains.

In addition, a comparison of the data in the first and the last two experiments provides intriguing evidence of the potential influence of culture, supporting, in part, Chen et al.'s (2001) contention that people in individualistic cultures might respond more to changes in power than people in collectivistic cultures. The offerers in our American sample reacted somewhat more to increases in power than did the offerers in our Asian sample, particularly for the individuals in lower power positions: Asian respondents were willing to accept smaller offers (averages ranged from 7% to 31%) than American respondents (averages ranged from 27% to 51%). Because we did not directly investigate the influence of individualism-collectivism or other cultural variables like power distance, future research is clearly needed to probe these findings further.

## Conclusions

These data indicate that people over-react to gains in power. Such tendencies could have negative repercussions. Getting a promotion and taking gross advantage of its associated perquisites, for instance, might prematurely limit a person's career advancement. Similarly, a sudden increase in money (i.e., lottery winners) often results in an overreaction to the power that this wealth brings, and is evidenced in poor social interactions with others whom they were once dependent upon (Vohs, Mead, & Goode, 2006). At this point, generalizing the current findings to the dynamics of power changes in organizations would require a strong inferential leap. Our research investigated compact, well-defined strategic games; organizational life includes dispersed, ambiguous strategic interactions.

With all due caution, however, it is not unusual to observe over-reactions to power increases in organizations. Individuals who move up the organizational hierarchy and flaunt their new authority are likely to alienate their colleagues (Leiberman, 1956). Sudden increases in financial wealth, for instance, which are all too common occurrences in professional sports, can lead to complacent, under-performing prima donnas (Guglielmi, 2005). The time it takes to rise to power, then, might moderate over-reactions to gains in power. Similarly, the potential decay of over-reactions to increases in power presents yet another avenue for future research. Obviously, organizational power can vary widely and on many dimensions. One important aspect of dictator and ultimatum games is the large qualitative shift from ultimatum to dictatorship games: offerers change from being dependent on respondents' acceptances to being completely indepen-

dent of them. Thus, future research might investigate the still open question of whether a large change in power among offerers who all depend on respondents' acceptances will lead to the same pattern of outcomes as those observed here.

Although we focus most on the consistent over-reach of power gainers, we can also note that the data suggest that powerful individuals may be less exploitative if they have not previously held disadvantaged positions. If most people come to positions of power after having been in less advantaged positions, as seems reasonable, an important question is whether people who have power for a long time become less exploitative. Logical extensions of Simonsohn and Loewenstein's (2006) recent research suggest that powerful actors may also be less exploitative after they have held a position for some time: They found that people moving from costly cities rented pricier apartments than people moving from less costly cities, but that these kinds of over-reactions diminished over time. Thus, powerful actors may learn the boundaries of their domain, and stability may lead them to not abuse their power. Paradoxically, then, the security of long-held power may not unleash tyranny, especially in closed systems like organizations, where almost everyone's power has real limits. Further research might explore the conditions that contribute to these potentially important interpersonal power dynamics.

Contemporary organizational life suggests that change is a constant. As individuals' roles and power bases shift, people will experience potentially significant changes in their power. The rise and fall of dot.com businesses, the regulatory changes that have followed large scale corporate fraud, and the continuing globalization of the marketplace all suggest that organizations and their members should be prepared for these kinds of changes. In particular, the current findings suggest that they should be particularly tuned to the dangers of their natural reactions to changes in their power. While Lord Acton's warning that power can be a corrupting influence and absolute power corrupts absolutely still remains a threat to the powerless, our research adds to this warning by highlighting the potentially corrupting force of power increases, lending support to Abraham Lincoln's intuition, "Nearly all men can stand adversity, but if you want to test a man's character, give him *power*."

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