

The Effects of Reappraisal on High and Low Social Power

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Abstract

While people who are high in social power tend to experience more positive emotions, perceive rewards in an ambiguous environment, have an activated approach system, and have higher self-esteem, people who are low in social power tend to experience more negative emotions, perceive more threats, have an activated inhibition system, and have lower self-esteem. The present study hypothesized that reappraisal, an emotion regulation strategy in which one changes the way one looks at an emotion-eliciting situation to shift its emotional impact, would help reduce the discrepancy in these effects between high and low power. Eighty-two undergraduate students participated in the study. After completing the Emotion Regulation Questionnaire, participants completed either a high or low social power manipulation. All participants then completed an emotional experience scale (to measure positive and negative emotions), an interpretation questionnaire (to measure perception of rewards or threats in ambiguous scenarios), a personal goals questionnaire (to measure their intended approach and avoidance behavior), and a self-esteem scale. Only partial support was found for the hypothesis. Interaction effects of reappraisal and condition were only found for positive emotion experience and positive interpretation of the ambiguous scenarios. Specifically, reappraisal seemed to increase these positive benefits of having power but did not have an effect on low power. Implications and future directions are discussed.

The Effects of Reappraisal on High and Low Social Power

From birth to death, there is one constant. It is this constant that teaches the child to obey a father, the athlete to respect a coach, and a man to strive for presidency. Hierarchies are embedded in the human experience, at every level of our society and in our every relationship. With every human interaction, whether cultural, social, organizational, or familial, comes the hierarchical assertion of power of one and deference of another. The recurrent presence of power in our society and everyday lives has made it a topic of wide interest across many fields, and has especially acquired much attention in psychology.

Power is defined as an “individual’s relative capacity to modify others’ states by providing or withholding resources or administering punishments” (Keltner, Gruenfeld, & Anderson, 2003, p. 265). These resources and punishments can be material (food, money, physical harm, or job termination) or social (knowledge, affection, friendship, decision-making opportunities, verbal abuse, or ostracism). How valuable these resources or punishments are relies on the person’s dependence on those resources and whether he or she could get them somewhere else. Although most power research has been conducted comparing high and low power, it is important to note that an individual’s power is not necessarily dichotomous, but rather, it falls on a continuum relative to the power of others (Keltner et al., 2003; Langner & Keltner, 2006).

Research shows that high power is associated with positive emotions while low power is associated with negative emotions. For example, Langner and Keltner (2006) conducted a couple studies examining partner effects of power on emotions. They found that the more power an individual’s partner attributed to him/her, the more positive emotions the individual experienced. Conversely, participants who were reported as having low power by their partners experienced

more negative emotions (Langner & Keltner, 2006). A different study found that college men who were rated as having high power by their peers were more likely to experience positive emotions such as amusement, desire, enthusiasm, happiness, and love (Anderson, John, Keltner, & Kring, 2001). The people whose peers had rated them as having low power, on the other hand, were more likely to experience negative emotions, such as embarrassment, sadness, and shame, than positive emotions (Anderson et al., 2001). Another experiment looked at fraternity members and found that high-power members were more likely to display smiles of pleasure than were low-power members, who were more likely to display fear, embarrassment, and pain than positive emotional expressions (Keltner, Young, Heerey, Oemig, & Monarch, 1998). As a final example, during a meaningful group discussion, participants who were assigned to have high power expressed more positive emotions, such as happiness and interest, than negative emotions. Conversely, low power participants expressed more negative than positive emotions, such as anger, discomfort, disgust, embarrassment, fear, guilt, and shame (Berdahl & Martorana, 2006).

In addition to its association with emotional experience, power has been theorized to be associated with social attention; specifically, elevated power may increase sensitivity to rewards while reduced power may increase sensitivity to threats. Although more empirical support is needed, some research has found, for example, that when men have high power, they are more likely to perceive sexual interest in women's ambiguous behavior (Keltner et al., 1998). Children from low economic backgrounds have been found to perceive threats in ambiguous social interactions (Schwartz, Dodge, & Coie, 1993). In a series of studies on the relationship between power and positive versus negative construct accessibility, participants in the high power condition were significantly more likely than those in the low power condition to respond quickly to positive rather than negative words, to make fewer negative word fragment

completions, and to approach rather than avoid a stimulus on the computer (Smith & Bargh, 2003). Finally, Anderson and Galinsky (2006) conducted a series of experiments aimed at studying the effect of power on risk-taking behavior. They found that people who had a higher sense of power had more optimistic perceptions of their personal future and of the world in general than low power participants. They saw the world as less dangerous and filled with fewer risks than individuals in a low-power mind-set.

With increased positive affect and paying more attention to rewards, it would make sense that high power would be associated with activated approach behaviors towards those rewards and less inhibition (Berdahl & Martorana, 2006). Since they perceive more freedom and access to material and social resources and they encounter less interference from others when pursuing rewards, they are more likely to be guided by an approach system and less likely to use avoidance (Anderson & Galinsky, 2006). On the other hand, since low power people are more subject to material and social threats, and are aware of the constraints these threats place upon their behavior, they are more likely to inhibit themselves (Anderson & Galinsky, 2006). For instance, one study found that low-power group members were more passive and withdrawn during group projects (Moreland & Levine, 1989). In another study, during a group discussion, 'leaders' (participants assigned to the high power condition) reported expressing their true opinions more than inhibiting them while low power participants inhibited their true opinions more than expressed them (Berdahl & Martorana, 2006). The high power individuals also expressed their opinions more often than did low power participants (Berdahl & Martorana, 2006). In another experiment on power and approach versus inhibition, participants were left in a room with an annoying fan on. Those who had been primed with high power were more than twice as likely to take action against the annoying fan than to ignore it while less than half of the

low-power participants acted on the fan (Galinsky, Gruenfeld, & Magee, 2003). Researchers concluded that power can be “a catalyst for achieving prosocial outcomes that might not otherwise be realized” (Galinsky et al., 2003, p. 453).

In addition to emotion, perceived threats or rewards, and approach or avoidance behavior, power has also been found to be related to self-esteem (Wojciszke & Struzynska-Kujalowicz, 2007). A series of experiments showed that high power increases self-esteem while low power decreases it. Furthermore, this effect was mediated by the affective changes that followed the power priming. Having high power led to increased positive affect which, in turn, increased self-esteem; low power led to increased negative affect which, in turn, decreased self-esteem. Since having high self-esteem is both intrinsically appealing and attractive to others (Wojciszke & Struzynska-Kujalowicz, 2007), these experiments show an additional gain that comes with high power.

The various research discussed show that there is a large discrepancy between the effects of high power and low power. The prevalence of power in so many social interactions makes these discrepancies important to study. Every social situation involves a different power position and most people will, at some point or another, find themselves in a low social power role. Although for some situations, it is best to use active problem solving and get out of the negative low power role (e.g., an abusive relationship), many situations are simply natural or necessary parts of our society and require that one work through being in a low power role (e.g., a job interview, being an employee, a particular fight with a friend/loved one that has the social influence that time, etc). In these cases, it would be beneficial to find a way to improve the situation by reducing the differences between the effects of high and low power.

Since “a powerful individual derives his or her power to a significant extent from others’ ascriptions of power to that individual” (Langner & Keltner, 2006, p. 850), social power is dependent on the cognitive attribution of that role. Having power over someone else or being powerless to another’s influence is based on a cognitive appraisal of the situation in which one recognizes that another has some desirable resource that one perceives cannot be acquired somewhere else. If power involves an appraisal, then using reappraisal, an emotion regulation strategy, could be useful in regulating the effects of power.

Cognitive reappraisal is a type of emotion regulation strategy that involves construing an emotion-eliciting situation in a way that changes its emotional impact (Gross & John, 2003). For example, a job interview is often viewed as a stressful experience where one is continuously evaluated and has the possibility of ending in rejection. Using reappraisal, one can change the negative emotional impact of a job interview by looking at this situation, instead, as an opportunity to learn more about a company and as having the possibility of ending in acceptance. Reappraisal involves covert cognitive processing (Gross & John, 2003). It has been found to successfully down-regulate negative emotion and reduce the behavioral components of negative emotion. For instance, in one study where participants watched a negative emotion-eliciting film, some were asked to suppress their emotions – another type of emotion regulation involving inhibiting any expression and experience of emotion – while others were asked to use reappraisal in order to not respond emotionally. Those in the reappraisal group had decreased experience and behavioral expression of negative emotion (Gross, 1998).

In a series of studies on this emotion regulation strategy, the use of reappraisal was found to be related to greater expression of positive emotion and less expression of negative emotion in self-reported and peer-reported measures (Gross & John, 2003). Reappraisers were found to

negotiate stressful situations by taking an optimistic attitude. They also reported greater life satisfaction, more optimism, higher self-esteem, and greater well-being in terms of having high levels of environmental mastery, personal growth, self-acceptance, and a clearer purpose in life (Gross & John, 2003). The researchers concluded that the way reappraisers take charge of their emotional reactions seems to be connected to a more global sense that they are in charge of their environments.

The many advantages to using reappraisal should make it a useful strategy for social power situations. If reappraisal involves changing the way one looks at a situation to reduce or change its emotional impact, people with low power could use this strategy to change the stressful aspects and negative effects of lacking power in a social situation. Since reappraisers get a sense of mastery and control over their environment and are able to negotiate stressful situations in an optimistic way, they may be able to apply this to powerless situations. By definition, being powerless means lacking control; hence, using reappraisal can help change this perception or at least reduce its negative effects. Reappraisers can use this strategy to down-regulate the negative emotions associated with low power. Furthermore, since low power's association with decreased self-esteem was found to be mediated by negative affect (Wojciszke & Struzynska-Kujalowicz, 2007), reappraisal can also help reduce this trend.

Reappraisal can also be useful in shifting low power people's perception of threats in the environment. For instance, one study found that people who used reappraisal were able to reduce their stress level in response to a threat (Houston & Holmes, 1974). Reappraisal may help the powerless reduce the stress they experience from the perceived threats in the environment, and it may allow them to reduce this threat perception in ambiguous situations. With a possible

reduction in this trend, reappraisal may also help people with low power lessen the activation of their inhibition system and promote less avoidance.

If people with low power were able to use reappraisal to cope with the social situation, it should lessen the negative effects of lacking power. It should therefore help reduce the discrepancy between the effects of being in a low and high power role. Specifically, it should have an effect on positive and negative emotional experience, on perceiving rewards versus threats, on approach and avoidance behavior, and on self-esteem. The present study aims to examine whether reappraisal will make a difference on these effects of social power.

Hypothesis

Consistent with past research, I expect to find a main effect of high power versus low power on positive emotional experience, perceiving more rewards than threats in ambiguous scenarios, reporting more approach goals, and having higher self-esteem. It is also hypothesized that there will be an interaction effect of reappraisal and power. The difference in effects of high or low social power on emotional experience, perceived threats or rewards in ambiguous situations, approach and avoidance goals, and self-esteem will be reduced for people who tend to reappraise their emotions.

Method

Participants

Eighty-two undergraduate students from American University answered an ad for a psychology study on campus or were recruited through their psychology course. They either received course credit for their participation or \$5 compensation. Forty (49%) chose the course credit, and forty-two (51%) chose the money. Participants were run either individually or in pairs by a female undergraduate assistant who was blind to the power condition.

Measures

Emotion Regulation Questionnaire. Participants completed the Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003), a 10-item scale designed to assess their habitual use of two emotion regulation strategies: cognitive reappraisal (e.g., “When I want to feel less negative emotion, I change the way I’m thinking about the situation”) and expressive suppression (e.g., “When I am feeling positive emotions, I am careful not to express them”). They ranked these ten items on a scale of 1 (“strongly disagree”) to 7 (“strongly agree”).

Although the main focus of this study was to look at the effects of reappraisal on social power, the full questionnaire, with the suppression subscale, was used because of its extended use and empirical validation. In addition, the suppression component was thought to be useful in getting insight on the effects of another emotion regulation strategy on social power. The reappraisal component of the ERQ had good internal consistency (Cronbach’s $\alpha = 0.752$). The suppression component had high internal consistency ($\alpha = 0.817$).

Affective Control Scale. Participants filled out the 42-item Affective Control Scale (ACS) (Williams, Chambless, & Ahrens 1997) designed to assess fear of emotion (specifically on fear of anger, depression, anxiety, and positive emotion). Participants were asked to rate the items (e.g., “Depression could really take me over, so it is important to fight off sad feelings”) on a scale of 1 (“strongly disagree”) to 7 (“strongly agree”). Since the present study focuses on the effects of emotion regulation on social power, this scale (using the total score of all subscales) was included to see if fear of emotion, which is likely to affect emotion regulation, would have any effects on social power. The ACS had high internal consistency in the current study ($\alpha = 0.807$).

Power Task. Participants were randomly assigned to either the high power or low power condition. High and low power priming was replicated from a previous study (Galinsky et al., 2003). Participants assigned to the high power condition were instructed as follows:

Please recall a particular incident in which you had power over another individual or individuals. By power, we mean a situation in which you controlled the ability of another person or persons to get something they wanted, or were in a position to evaluate those individuals. Please describe this situation in which you had power— what happened, how you felt, etc.

Those participants assigned to the low power condition were instructed as follows:

Please recall a particular incident in which someone else had power over you. By power, we mean a situation in which someone had control over your ability to get something you wanted, or was in a position to evaluate you. Please describe this situation in which you did not have power—what happened, how you felt, etc.

Participants were given a sheet of paper with 20 lines to complete this task.

Dependent Measures

Emotional Experience Questionnaire. After completing the power manipulations, all participants rated the amount of emotion they experienced on a scale from 1 (“not at all”) to 9 (“extremely”) on various positive and negative emotions. Sixteen emotions (amused; happy/joy/glad; aroused; proud/triumphant; relieved/unburdened; tranquil/calm/serene; determined/challenged/motivated; interested/engaged; hopeful/optimistic; lucky/fortunate; involved; stimulated; curious; eager/enthusiastic; excited; grateful/thankful; amazed/surprised) were averaged to measure the positive emotions subscale of this questionnaire. It had high internal consistency ($\alpha = 0.884$). Fourteen emotions (anger; guilt; anxiety; contempt; discomfort;

disgust; embarrassment; fear; sadness; shame; tension; concern; intimidated; self-conscious) were averaged to measure the negative emotions subscale. This also had very strong internal consistency ($\alpha = 0.918$).

Ambiguous Scenarios Questionnaire. Participants completed a questionnaire replicated from a previous study (Amin, Foa, & Coles, 1998). This questionnaire consists of 22 ambiguous scenarios, each followed by three interpretations to choose from (one positive, one neutral, and one negative).

Two examples of these ambiguous scenarios are:

Someone you are interested in dating says, "Hello" to you.

___S/he wants to get to know you. (Positive)

___S/he says, "Hello" to everyone. (Neutral)

___S/he feels sorry for you. (Negative)

You get your cable bill and notice that

___The company is charging you for services you did not receive. (Negative)

___The company is giving you two free channels for a month. (Positive)

___The company sent you your monthly bill. (Neutral)

Fifteen of the scenarios involved direct social interactions (e.g., "You see a group of friends having lunch, they stop talking when you approach"). The remaining seven did not involve a direct social interaction (e.g., "You get your cable bill and notice that..."). Participants were provided with three alternative interpretations for each scenario: negative (e.g., "They are saying negative things about you"), positive (e.g., "They are about to ask you to join them"), and neutral (e.g., "They just ended their conversation"). For each scenario, participants were asked to rank the three interpretations with respect to their likelihood of coming to mind in similar

situations. The most likely interpretation was given a ranking of 1, the second most likely ranked with a 2, and the least likely interpretation was ranked as 3. The Interpretation questionnaire had high internal consistency for both the positive and negative interpretations ($\alpha = 0.796$; $\alpha = 0.844$, respectively).

Approach/Avoidance Future Goals Questionnaire. Participants completed the Personal Goals Measure (Elliot & Sheldon, 1998) in which they wrote down their personal goals – defined as “individual, specific goals” – that they would be pursuing over the next month. Two trained individuals who were blind to the condition independently coded each goal as approach or avoidance. The inter-rater agreement in the current study was high (kappa of .923) with disagreements resolved through a third rater.

Self-esteem Measure. Participants completed the State Self-Esteem Scale (Heatherton & Polivy, 1991) which involves 20 self-descriptive statements that they rated on a 1 (“not at all”) to 5 (“extremely”) scale. This measure had high internal consistency ($\alpha = 0.896$).

Procedure

Participants completed the study in a laboratory room on campus either individually or in pairs. When in pairs, participants sat on opposite sides of a large table and received explicit instruction to keep quiet upon completion until notified by the experimenter. Each participant read through an informed consent form and signed it, agreeing to participate in the study. They filled out the ERQ and ACS (with order randomly assigned). They then completed either the high or low power manipulation task. After this, they filled out the various dependent measures. Finally, they were debriefed on the experiment and given their desired compensation.

Results

Preliminary Analysis

Table 1 shows the mean and standard deviation of each variable.

Table 1
Descriptive Statistics

	N	Mean	Std. Deviation
ACSTotal	82	140.5750	33.69117
ERQSupp	82	13.8902	4.88132
ERQReapp	82	29.5610	5.24015
EmoExPositive	81	71.9809	19.85528
EmoExNegative	81	41.3315	20.60783
InterpPositive	82	44.1580	6.33937
InterpNegative	82	52.6361	7.27516
interpposminneg	82	-8.4780	12.82450
appgoalperc	82	.9418	.09873
EsteemTotal	82	69.7644	12.56686

ACSTotal - total score on the Affective Control Scale designed to measure fear of emotion

ERQSupp - total suppression score in the Emotion Regulation Questionnaire

ERQReapp - total reappraisal score in the Emotion Regulation Questionnaire

EmoExPositive – total score of the positive emotions in the Emotional Experience Questionnaire

EmoExNegative – total score of the negative emotions in the Emotional Experience Questionnaire

InterpPositive - total score of the positive interpretation rankings in the Ambiguous Scenarios Questionnaire

InterpNegative - total score of the negative interpretation rankings in the Ambiguous Scenarios Questionnaire

Interpposminneg – total score of positive interpretation minus the negative interpretation rankings in the ASQ

Appgoalperc – percentage of approach goals listed in the Personal Goals Measure

EsteemTotal – total self-esteem score in the State Self-Esteem Scale

As Table 1 shows, the sample size for the Emotional Experience variable is 81 while the others have a sample size of 82. One participant had extensive missing data on this questionnaire, so was not included in the analyses using it. Another important point to note in the table is the mean and standard deviation of the percentage of approach goals listed. These values show a ceiling effect of approach goals, meaning that most people listed many more approach goals than avoidance goals. This makes it difficult to find any power and reappraisal effects on approach and avoidance goals, due to range restriction.

Table 2 provides the correlations between each of the variables.

Table 2
Pearson Correlations

		appgoalperc	EmoExNeg	EmoExPos	InterpPos	InterpNeg	EsteemTotal	ACSTotal	ERQReapp	ERQSupp
Appgoalperc	Correlation	1.000								
	Sig. (2-tailed)									
EmoExNeg	Correlation	-.121	1.000							
	Sig. (2-tailed)	.283								
EmoExPos	Correlation	-.020	.046	1.000						
	Sig. (2-tailed)	.860	.685							
InterpPos	Correlation	-.056	.227*	-.308**	1.000					
	Sig. (2-tailed)	.614	.041	.005						
InterpNeg	Correlation	.088	-.234*	.255*	-.774**	1.000				
	Sig. (2-tailed)	.431	.035	.021	.000					
EsteemTotal	Correlation	.126	-.338**	.117	-.504**	.440**	1.000			
	Sig. (2-tailed)	.260	.002	.299	.000	.000				
ACSTotal	Correlation	-.176	.374**	-.051	.394**	-.414**	-.577**	1.000		
	Sig. (2-tailed)	.114	.001	.649	.000	.000	.000			
ERQReapp	Correlation	.005	-.131	.066	-.229*	.248*	.155	-.258*	1.000	
	Sig. (2-tailed)	.962	.244	.561	.038	.024	.166	.020		
ERQSupp	Correlation	.074	.050	-.142	.184	-.255*	-.274*	.223*	-.122	1.000
	Sig. (2-tailed)	.511	.660	.207	.097	.021	.013	.044	.276	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Manipulation Check

The manipulation check for the power conditions was modeled after the procedure from a previous study (Galinsky et al., 2003). One coder, who was blind to the condition, categorized what type of relationship (e.g., manager-subordinate, teacher-student) was described in the participants' priming essays (see Table 3 below for a breakdown of the power relationships). This coder also rated all the power-prime essays as either having power or someone having power over them. A second coder rated 10% of the essays and there was perfect agreement, indicating that reliability was high. Therefore the single coder's ratings were used.

Table 3
Percent of Power Relationship Types Described

Type of Power Relationship	%
Club leader-member	21.25
Manager-subordinate	15
Romantic/dating partners	15
Interview/admissions/tryouts	12.5
Friends/relatives	10
Peers	7.5
Parent-child	5
Miscellaneous	5
Customer service-customer	3.75
Teacher-student	2.5
Coach-athlete	1.25
Counselor-camper	1.25
Total	100

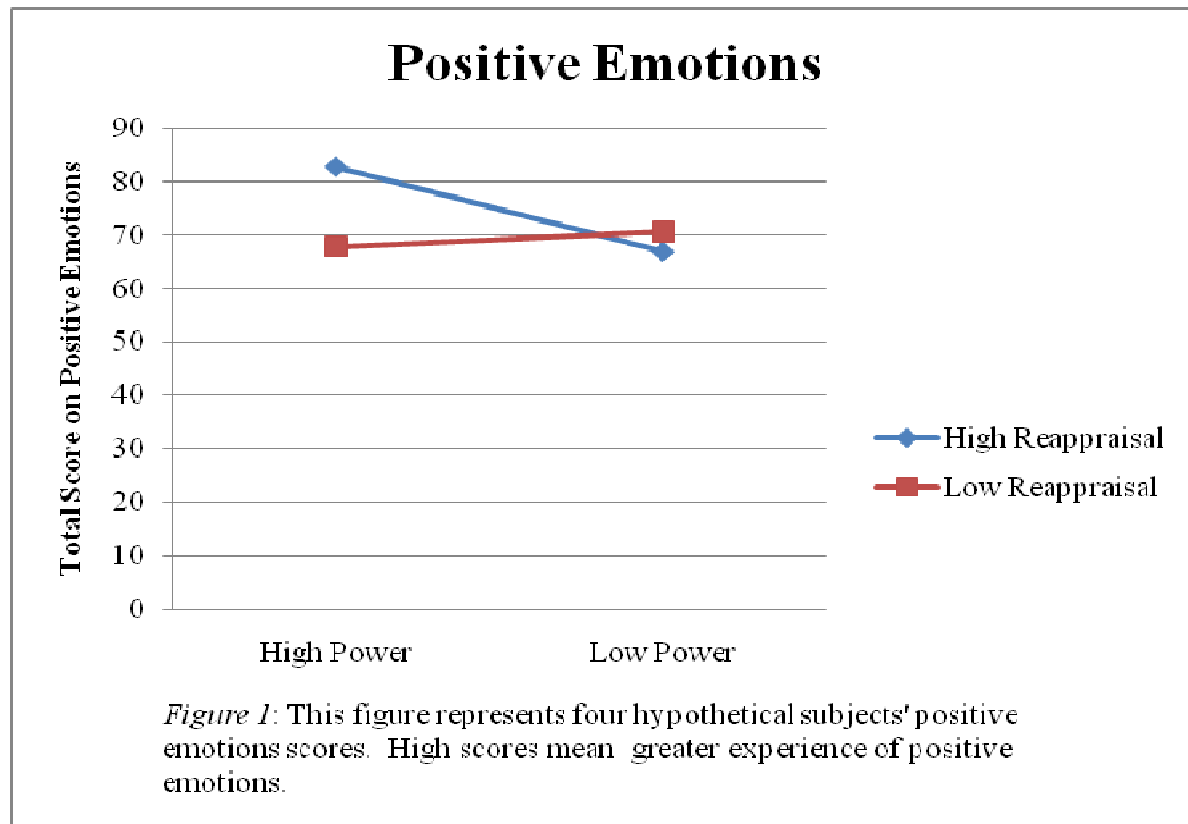
Emotion Experience

To test whether the tendency to reappraise would reduce the discrepancy in emotional experience of people in high and low power situations, participants had ranked the degree to which they were experiencing various positive and negative emotions at the time. Although there was no significant main effect of reappraisal or condition on positive emotional experience ($F(1,78) = 0.352, p = .555$; $F(1,78) = 2.230, p = .139$, respectively), there was a significant interaction effect of the two ($F(1,77) = 4.149, p = .045$). To better understand the direction and degree of positive emotions in this interaction effect, four hypothetical scores were computed by plugging specific values for reappraisal and power condition (1 standard deviation above and below the mean) into the regression equation for positive emotions. This is shown in Figure 1. As the figure shows, reporting being high on reappraisal had a positive effect on participants in the high power condition.

Post-Hoc Analysis. To further understand the interaction effect, correlations of reappraisal and positive emotions were calculated separately for low and high power. The

correlation between positive emotional experience and reappraisal for the low power condition was nonsignificant ($r = -0.093, p = .559$). In the low power condition, reappraisal was not related to positive emotions. For the high power condition, however, reappraisal was positively related to experiencing positive emotions. The correlation between positive emotional experience and reappraisal in the high power condition was significant ($r = 0.368, p = .021$).

A second analysis was performed to examine how the effect of power on positive emotions depended on reappraisal. A median split of the reappraisal scores was conducted. Participants whose total score on the reappraisal component of the ERQ was lower than 30 were categorized as low on reappraisal and those whose total score was 30 or above were categorized as high on reappraisal. An effect of power on positive emotions was calculated separately for high and low reappraisers. For participants low in reappraisal, the effect of power on positive emotions was insignificant ($t(37) = 0.028, p = .978$). For participants high in reappraisal, however, the effect of power on positive emotions was marginally significant ($t(37) = 1.741, p = .089$).



No significant main effect of reappraisal or condition on negative emotions was found ($F(1,78) = 1.359, p = .247$; $F(1,78) = 0.055, p = .816$, respectively). In addition, no significant interaction effect of reappraisal and condition on was found ($F(1,77) = 1.618, p = .207$).

Interpretation of Ambiguous Scenarios

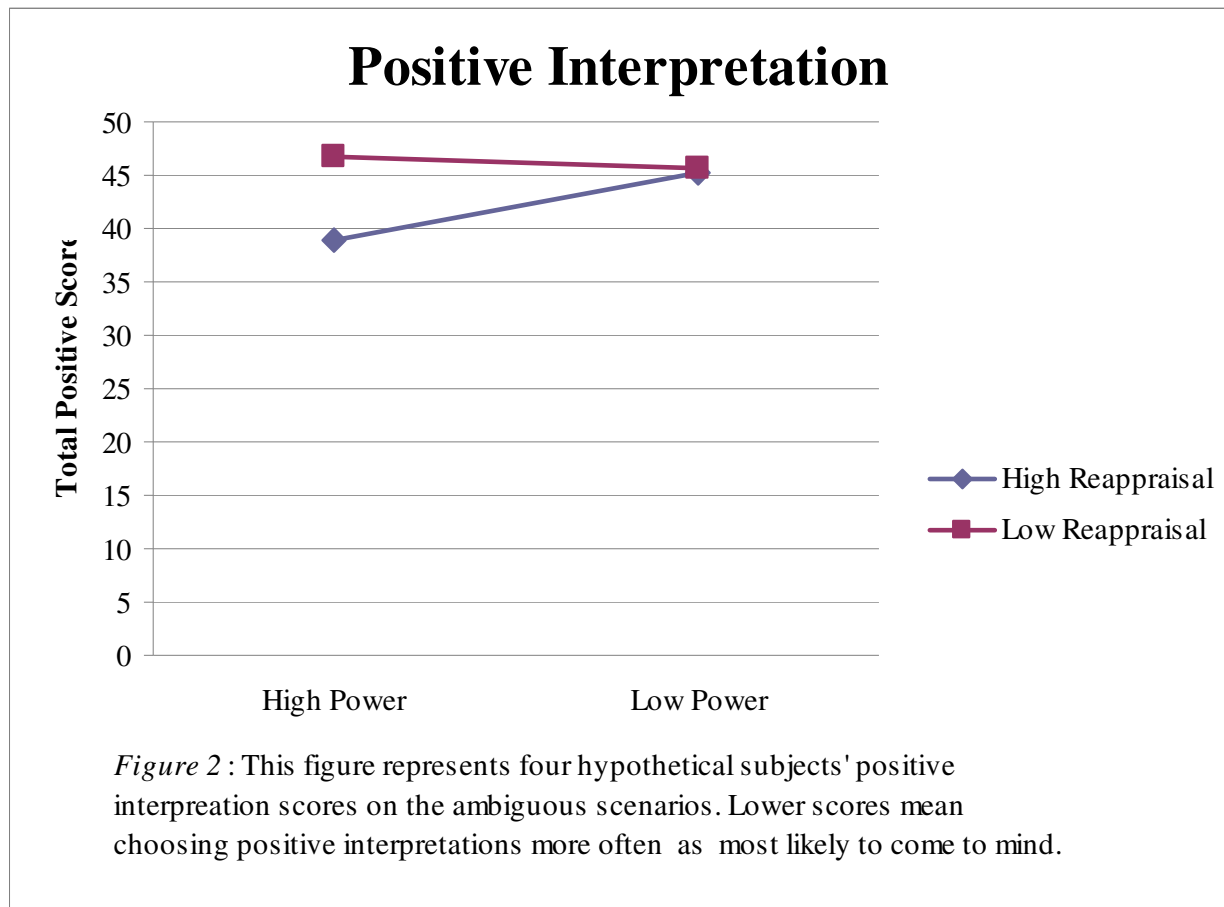
Participants ranked possible interpretations (positive, neutral, and negative) of a series of ambiguous scenarios on how likely they were to come to mind. This was done to examine whether the tendency to reappraise would affect high and low social power people's perception of rewards versus threats in ambiguous situations. Positive interpretation scores were compiled by summing up the rankings (1 for most likely to come to mind, 3 for least likely, and 2 for the remaining one) for the positive option of each scenario. The smaller the total score for this category, the more the person tended to perceive rewards. The main effect of power condition

was only marginally significant ($F(1,79) = 3.595, p = .062$). High power participants had a low score; therefore they tended to perceive more rewards in the ambiguous scenarios than participants in the low power condition. A significant main effect of reappraisal was found ($F(1,79) = 4.601, p = .035$). Participants with a tendency to reappraise perceived more rewards than participants low on reappraisal. Supporting the hypothesis, there was a highly significant interaction of reappraisal and condition ($F(1,78) = 7.092, p = .009$). As with positive emotions, being high on reappraisal was related to choosing more positive interpretations in the high power condition, but not the lower power condition. This is shown in Figure 2 using the same method as with positive emotions to generate four hypothetical participants' scores for positive interpretations.

Post-Hoc Analysis. To further understand this interaction effect, correlations of reappraisal and positive interpretations were calculated separately for low and high power. For the low power condition, reappraisal was not significantly related to choosing more positive interpretations (perceiving rewards) in ambiguous scenarios ($r = -0.052, p = .745$). For the high power condition, reappraisal was significantly related to positive interpretations of ambiguous scenarios ($r = -0.469, p = .002$). This negative correlation indicates that the higher participants are on reappraisal, the lower their scores are on the positive interpretations subscale. Since low scores represent being more likely to come to mind, this correlation means that those high in reappraisal perceived more rewards in ambiguous situations.

A second analysis was conducted to examine how the effect of power condition on positive interpretations depended on reappraisal. The same median split of reappraisal scores was used. An effect of power on positive interpretations was calculated separately for high and low reappraisers. For participants low in reappraisal, the effect of power on positive interpretations

was insignificant ($t(37) = -0.109, p = .914$). For high reappraisers, however, the effect of power on positive interpretations was significant ($t(37) = -2.108, p = .041$).



Negative interpretation scores were gathered the same way as for the positive interpretation scores; rankings for the negative option of each scenario were summed. The smaller the number, the more people chose the negative interpretation as being most likely to come to mind. There was no significant main effect of condition ($F(1,79) = 0.856, p = .358$), but there was a main effect of reappraisal ($F(1,79) = 5.262, p = .024$). Contrary to the hypothesis, there was no interaction effect of reappraisal and condition on negative interpretation scores ($F(1,78) = 1.442, p = .233$).

Approach/Avoidance Goals

Participants were asked to list ten personal goals they hoped to accomplish. Note that since there was little variance in the goals listed (a ceiling effect of approach goals), effects of condition and reappraisal are difficult to examine. No significant main effect of reappraisal or condition was found ($F(1,79) = 0.002, p = .964$; $F(1,79) = 2.756, p = .101$, respectively), and no significant interaction effect of reappraisal and condition was found ($F(1,78) = 0.004, p = .950$).

Self-Esteem

The discrepancy in self-esteem scores that is usually found between high and low social power individuals was hypothesized to be reduced for reappraisers. There was no main effect of reappraisal or condition ($F(1,79) = 1.968, p = .165$; $F(1,79) = 1.141, p = .289$, respectively). In addition, there was no significant interaction effect of reappraisal and power condition ($F(1,78) = 1.618, p = .207$).

Exploratory Analyses

Suppression. The Emotion Regulation Questionnaire that participants filled out at the beginning of the experiment measured tendencies to reappraise and suppress. Although the study was designed to examine reappraisal, I examined if any interaction effects were found between suppression and power condition. There were no significant interaction effects for any of the dependent variables. The largest F -statistic with the lowest p -value found was $F(1,78) = 0.7056, p = .404$.

Affective Control Scale. Participants were also asked to complete the Affective Control Scale to measure their fear of emotions. Statistical analysis found no interaction effects of fear of emotions and power condition for any of the dependent measures. The largest F -statistic with the lowest p -value found was $F(1,78) = 1.858, p = .177$.

Discussion

Consistent with past research, the study expected to find a main effect of power on emotional experience, perceived threat versus rewards, approach and avoidance behavior, and self-esteem. Contrary to this, there was only a marginal main effect of power on perceived rewards in ambiguous scenarios; participants high in power were more likely to choose positive interpretations than participants low in power, regardless of reappraisal. More importantly, the study expected to find that the effects of reappraisal on positive and negative emotional experience, positive and negative interpretations of ambiguous scenarios, approach and avoidance goals, and self-esteem depend on power. However, the results only found significant interaction effects for positive emotional experience and positive interpretations of the ambiguous scenarios. Specifically, people in the high power condition benefited from reappraisal, where as those in the low power condition were unaffected by it. High power and high reappraisal increased participants' experience of positive emotions and the tendency to perceive rewards in an ambiguous environment. The interaction effects were only significant for high power participants or high reappraisers but not for people with low power or low on reappraisal. As for negative emotional experience, negative interpretation of ambiguous scenarios and self-esteem, the interaction of reappraisal and power condition had no significant impact. There was also no interaction effect of reappraisal and power condition on approach and avoidance goals. However, this is likely due to the ceiling effect of approach goals listed. This range restriction made it difficult to find any effects.

As predicted, the interaction of reappraisal and power had an effect on positive emotional experience. Reappraisal only had an effect on positive emotions for people in high power but not for low power. It would make sense that being high on reappraisal would be beneficial to people

in high power. Being more sensitive to rewards may have enabled better positive reappraisal to up-regulate the positive emotions known to follow having power and to perceive even more rewards in the environment. What is unexpected, however, is that the reappraisal effect on positive emotions was insignificant for those with low power. Although Figure 1 seems to suggest a slight decrease in positive emotions for low power participants when they are high on reappraisal, further analysis found that reappraisal did not have a significant effect on them. This may be due to the association between power and attention to threats versus rewards (Keltner et al., 1998). With increased sensitivity to threats, it may be harder for low power participants to distinguish any positive emotions to positively reappraise, even if they report that they typically use reappraisal. The constraining aspects of low power may have prevented participants from applying their tendency to reappraise.

It was also found that power predicted differences in positive emotions and positive interpretations for those high on reappraisal but not for those low on reappraisal. This shows that the effect of power depends on reappraisal for high reappraisers but does not matter for low reappraisers. The former finding seems logical since being a reappraiser involves taking control of and reframing the emotional aspect of a situation. Since high power also involves having control, it would make sense that high reappraisers with power would have the ability to reap the benefits of the social situation to experience more positive emotions and to perceive more rewards. It is unusual, however, that power does not matter for people who are low on reappraisal. Perhaps people who are low on reappraisal are not even appraising the power situation as a low or high role to begin with, so they are not being affected by it. They may simply be less aware and mindful of their role in a social situation. Without the perception of lacking power, the consequent effects of low power do not matter since power is dependent on

that appraisal. To better understand this possible explanation, it would be helpful for future research to examine the appraisals that participants make during power situations.

Of particular interest is the significant finding that reappraisal seems to be most beneficial for people who already have power. One possible reason for this may be that high power helps provide the opportunity and ability to reappraise while low power prevents it, even if someone has the tendency to reappraise. People with high power have been found to be more likely to express state and trait consistent behaviors (Chen, Langner, & Mendoza-Denton, 2009). For instance, one study had participants complete a large personality inventory before and after a power manipulation and examined how strong their personality-environment fit was depending on whether they were high or low in power. A confederate rated their trait-consistent behaviors as well. They found that participants high in power expressed more trait-consistent behaviors and their personality traits were more likely to be discerned by the confederate than participants with low power (Chen et al., 2009). Although using reappraisal is not necessarily a personality trait, the questionnaire assessed tendencies. A tendency is similar to a trait in that it is consistent and can guide an individual's behavior. Therefore, it may have been that participants who were high on reappraisal and in the high power condition were more likely to use reappraisal, consistent with their tendencies, while those in the low power condition and high on reappraisal did not tap into this resource.

Supporting this possible explanation, other research has posited that “the actions of high-power individuals are governed by internal traits and states, and the actions of low-power individuals are governed by situational factors” (Keltner et al., 2003). For instance, one study found that the emotional experiences of low power partners in a romantic relationship were more influenced by the emotions of high power individuals than were participants who had power

(Anderson, Keltner, & John, 2003). Another study previously mentioned found that high-status college students' personality traits predicted both their reports of emotion and expression of emotion (Anderson et al., 2001). The present study's findings may be a reflection of this trend. The participants in high power who tend to reappraise may have been better able to apply this tendency and "reap" the benefits of both power and reappraisal. On the other hand, if people in low power are usually governed by situational factors and they tend to perceive threats in the environment, it could be that the participants in the present study who tend to reappraise were constrained by perceived threats and were not able to use reappraisal. Providing support for this possible explanation, research suggests that people with elevated power express their true opinions more and inhibit their expressions less while low power people inhibit their true opinions more and express themselves less (Berdahl & Martorana, 2006). Perhaps which emotion regulation strategy, or how it used, follows this same pattern. Even if reappraisal is an emotion regulation that the low power participants tend to use, it may not have been the one that they actually did use during the study, possibly because they were socially constrained by their primed powerless role.

Limitations, Improvements, & Future Directions

One of the limitations in this study is the use of a questionnaire that measures one's tendencies, as is the case with the ERQ. Because of various methodological issues with self-report questionnaires, such as recall bias, what coping strategies people report they tend to use does not always translate well into what they actually do use (Zeidner & Saklofske, 1997). This questionnaire cannot directly assess an individual's use of the emotion regulation (whether reappraisal or suppression) in context of specific emotion regulation episodes (Gross, 1998). In addition to having participants complete the ERQ, it would be beneficial for future research to

place participants in a reappraisal training group where they are trained on successful reappraisal strategies and are primed to use them during the power task. Then, compare the consequent effects of power for the reappraisal training group to a control group. This would be an important improvement to make so that a causal relationship between reappraisal and power effects can be studied in addition to the correlational one found in the present study. Furthermore, to better understand this relationship, it would be useful to study the appraisals, if any, participants actually make of their power roles. This would help provide a clearer explanation for the finding that power does not have an effect on low reappraisers. In addition, since the stress and coping process involves appraisals (Lazarus & Folkman, 1984), looking at appraisals of power roles would provide better insight on the appropriate coping strategies to target for specific power roles and situations.

A second limitation to the use of the ERQ is that it focuses on broad emotions, positive and negative, (e.g., “When I am feeling positive emotions, I am careful not to express them”), but it would be useful to look at emotion regulation for specific emotions (Gross, 1998). For example, it could be that some people use reappraisal for anger but use suppression for shame or fear and use reappraisal for happiness and pride but use something else for contentment and gratitude. Future research should look at which emotion regulation strategies are used for various specific emotions and should look at the power effects on specific emotions. This could provide additional insight into the relationship between power effects and emotion regulation and could help in finding the strategies that best capitalize the positive effects of high power and best reduce the negative effects of low power.

Despite the listed limitations of the Emotion Regulation Questionnaire, this measure, along with the others used in this study, have all been applied in past research and found to have

high reliability and be valid measures of their variables. Using such validated measures is one strength of this study. Specifically, the power manipulation in this study has been used in past research and found to successfully activate the same sense of power that participants felt during the actual power situation (Anderson & Galinsky, 2006; Galinsky et al., 2003; Smith & Trope, 2006; Wojciszke & Struzynska-Kujalowicz, 2007). Bargh and his colleagues (Bargh, Raymond, Pryor, & Strack, 1995), the first researchers to activate the concept of power and observe its effects on behavior, explain that whenever power is activated, the associated concepts and behavioral tendencies are activated as well. So when participants had to recall and write about a time they either possessed power over someone else or someone else possessed power over them, it should have activated similar emotional experiences, cognitions, and behaviors that occurred when they were actually in that situation. Despite the past effectiveness of this power manipulation however, it would still be useful in future research to study power and emotion regulation using other manipulation techniques. Specifically, it would be beneficial to use methods that randomly assign participants to either high or low power and behaviorally elicit either role at that actual time.

A final and important limitation in this study is that the demographics information was not gathered for each participant. There could have been possible gender or ethnicity effects. Although gender effects of reappraisal were not found in past research, gender was found to make a difference on the use of suppression; Men scored higher on suppression than women did (Gross, 1998). This could have made a difference on the suppression findings in this study. Although no significant effects of suppression was found on any of the variables, if gender had been recorded, gender effects could have appeared, especially for men. In addition, there may be gender differences in writing about power and its subsequent power effects. Past research has

also found ethnicity effects on suppression; minorities tend to use suppression more than Caucasians (Gross, 1998). If it had been recorded, ethnicity effects of suppression may have been found in the present study for participants in minority groups.

In addition to taking into account demographic information, future research should use a larger population and study more diverse age and ethnicity populations than the private university students population used in this study. Another way to improve on this study in the future is to use a behavioral measure of approach and avoidance instead of a goals questionnaire. As explained earlier, it would be useful to use reappraisal training in addition to using a questionnaire assessing tendencies and to use other forms of power manipulations in order to actually measure participants first-handedly in their power roles. Finally, it would be useful to look at other types of emotion regulation and how they may be used on power roles.

Aside from looking at how emotion regulation plays a role on the effects of power, it would also be interesting to study mindfulness and power. Mindfulness involves being increasingly aware of oneself and one's surroundings in the present moment which cultivates 'reperceiving,' change in the relationship to one's present experience (Shapiro et al., 2006). Specifically, one can decenter one's focus on emotional and internal states (Shapiro et al., 2006). Mindfulness has been found to have many psychological and physical health benefits (Shapiro et al., 2006), so perhaps a mindful person may be better able to cope with being in a low power situation. If one can be nonjudgmentally aware of his/her power role and its effects, one may be able to decenter oneself from the negative emotional aspects of being in a low power role. It may be that someone cannot change their position of power but perhaps being better aware of it can help one accept it and localize the low power role as being specific to that situation only and, thereby, reduce its constraining effects.

Despite the many improvements future research could make and this study's various weaknesses, it is the first study of which I am aware to study how reappraisal plays a role on social power. Although the results suggest that reappraisal is mainly beneficial for people who have power and not for those who lack power, more research with methodological improvements should be done to better understand the usefulness of reappraisal and other emotion regulation strategies for both social power roles. Hierarchies of power are persistently present in everyday life and being in a low social power role at some point in life is almost unavoidable, if not common, as is experiencing high social power. For some power situations, we wish to change our power status, and in those cases, problem-solving coping would be most effective. However, many daily interactions and social positions involve power situations for which our goal is not to change our power role but to regulate its subsequent effects. This places a great value on the study of how emotion regulation can be used to cope with social power. It can help shed light on the best ways to cope with low power and reduce its negative effects and to cope with high power and capitalize on its positive effects. Social power is not going anywhere so we it is important to study how we can make the best of whatever role we find ourselves in.

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