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Power, Persuasion, and Heuristic Processing

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THE FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

POWER, PERSUASION, AND HEURISTIC PROCESSING

By

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TABLE OF CONTENTS

List of Figures	iv
Abstract	v
1. INTRODUCTION	1
Power Defined	1
Power, Approach Motivation, and Heuristic Processing.....	1
Heuristic Processing	3
Power and Persuasion.....	3
Moderating Effects of Individual Differences.....	5
Overview of Present Research.....	6
2. METHODS	7
Participants	7
Materials and Procedure	7
3. RESULTS	9
4. DISCUSSION.....	13
Limitations and Future Directions.....	15
Conclusion.....	16
APPENDICES	18
Persuasive Messages	18
AMS Dominance Scale	21
Human Subjects Committee Approval and Informed Consent	22
REFERENCES	24
BIOGRAPHICAL SKETCH	27

LIST OF FIGURES

1	Figure 1.....	10
2	Figure 2.....	12

ABSTRACT

Power promotes a broad motivational orientation associated with approach and action. Power also insulates its holder from punishment and other costs of mistakes. I hypothesize that these factors encourage powerful individuals to use heuristic processing: a cognitive strategy that emphasizes speed and simplicity over accuracy. To assess the use of heuristic processing by powerful individuals, participants were primed with high power, low power, or control and then read persuasive arguments that independently varied by quality and quantity. High power participants were more persuaded than other participants by the number of arguments, even when the arguments were of low quality. In addition, the effect of power on heuristic processing interacted with the individual's desire for interpersonal dominance. For individuals high in dominance motivation, the high power prime caused especially strong reliance on the "quantity heuristic." In contrast, individuals low in dominance motivation were less persuaded by argument quantity. Findings are consistent with the hypothesis that power promotes reliance on heuristics, especially among individuals high in dominance motivation, for whom power is likely to be perceived as a positive rewarding state.

CHAPTER ONE

INTRODUCTION

Power is a fundamental component of human social groups. Within almost every group, some individuals have more control over resources than others do. Such resources may be material or social, but their defining characteristic is their perceived value. Powerful people have control over valuable resources and are able to allocate them to or withhold them from other members of the group. Managers can give employees pay raises or promotions; generals can order troops into battle; politicians can support or deny funding to organizations. The decisions made by people in power have tremendous consequences for the groups and individuals subordinate to them. Understanding the cognitive style of powerful individuals thus can illuminate how some of the most influential decisions are made. Specifically, this paper reports research testing the hypothesis that social power increases people's reliance on heuristic processing when evaluating persuasive attempts.

Power Defined

Social power is defined in terms of a person's control over material and social resources. Access to resources allows powerful individuals to satisfy their goals with relatively little interference from, or reliance on other members of a group (Keltner, Gruenfeld, & Anderson, 2003; Galinsky, Gruenfeld, & Magee, 2003). Because of their relative independence in acquiring resources and attaining goals, powerful individuals are relatively immune from punishment. Conversely, individuals lacking power depend on other people to acquire resources and satisfy goals. In general, a lack of power also means people are more likely to encounter obstacles, punishment and scarce resources. The environment thus affords different opportunities and constraints for powerful versus powerless individuals. To negotiate such affordances, powerful individuals may employ a suite of cognitive strategies that encourage approach behavior, allowing them to reap the benefits of resource-rich environments.

Power, Approach Motivation, and Heuristic Processing

Power promotes a broad motivational orientation associated with approach and action (Galinsky et al., 2003; Maner, Kaschak, & Jones, 2010). Approach behaviors are characterized by action in pursuit of goals and other desirable outcomes. Conversely, avoidance behaviors are

characterized by movement away from potential threats or undesirable outcomes (Elliot, Gable, & Mapes, 2006). In a reward-filled environment, people tend to adopt an approach orientation. In an environment with few rewards and a high likelihood of punishment, avoidance is the most likely behavioral style (Carver & White, 1994). Powerful individuals have access to resources and a greater chance of successfully attaining their goals (Guinote, 2007). Therefore, powerful people tend to exhibit perceptual, cognitive, and behavioral strategies that encourage approach behavior (Keltner et al., 2003).

Recent research has indeed shown that power leads to action and goal pursuit (Smith & Bargh, 2008). For example, participants with power were more likely than participants lacking power to take another card in blackjack, turn off an annoying fan, contribute to a common good, and engage in basic approach behaviors (Galinsky et al., 2003; Maner et al., 2010). In addition, powerful individuals are likely to initiate and persist in goal directed action (Guinote, 2007). The current research examines the cognitive underpinnings that may make action and goal pursuit easier and quicker for individuals in power.

To complement previous research on the behavioral effects of power, this study focuses on the cognitive style that powerful people employ. As noted earlier, social power affects the affordances in the social and material environment. Material rewards like food and money are plentiful for powerful individuals, which may encourage action over contemplation. Time spent making decisions infringes on time spent on goal-directed action. When individuals act or make decisions, they often exhibit a tradeoff between speed and accuracy (Fitts, 1966; Pachella & Fisher, 1972; Swanson & Briggs, 1969; Wickelgren, 1977). Slower decisions tend to be more accurate, but at the cost of cognitive effort and time. Individuals tend to use techniques that produce the most accurate results when they are motivated to be accurate, not rushed for time, and concerned about the costs of mistakes. Conversely, individuals will prioritize speed over accuracy when they are motivated to make quick decisions and less concerned about the costs of mistakes (Simen et al, 2009). Theories of power suggest that powerful individuals are motivated toward action and tend not to be especially concerned about punishment (Ebenbacher & Keltner, 1998). Thus, I predict that having power will lead people to employ cognitive techniques that produce quick, easy decisions. Such decisions can be facilitated by the use of heuristic processing.

Heuristic Processing

The social and physical world that people inhabit is massively complex. The quantity and variety of stimuli preclude anyone from attending to, interpreting, or evaluating everything in the environment. To manage and simplify decisions, individuals often use mental shortcuts called heuristics (Kahneman, 2003). Heuristic processing involves the use of cognitive strategies that help simplify the decision making process. For example, when evaluating a set of persuasive arguments, an individual could employ two different strategies. The individual could read each argument carefully, analyzing its logical reasoning, and integrating the arguments with former knowledge. Alternatively, the individual could be persuaded merely by the quantity of arguments. The former strategy of gathering information and relying on logical analysis is considered systematic processing (Chaiken, Lieberman, & Eagly, 1989). The latter strategy of relying on the simple cue of quantity is an example of heuristic processing.

Decisions and judgments that rely on heuristic processing are not necessarily poor. In fact, heuristics have two main advantages. Heuristic judgments, by simplifying the decision-making process, are faster and easier than other strategies (Kahneman, 2003). However, heuristic processing does sacrifice some accuracy, and sets the stage for biases in decision making (Kahneman, Tversky, & Slovic, 1982). Every individual uses a mix of heuristic and systematic processing. Situations in which quick and easy decisions are desired and the consequences of a wrong decision are perceived to be low tend to result in heavy reliance on heuristic processing. Alternatively, situations in which the benefits of quick decisions are small, and the costs of errors are perceived to be high tend to reduce reliance on heuristic processing. Thus, power is expected to promote relatively strong reliance on heuristics. This hypothesis is tested in the context of evaluating persuasive messages.

Power and Persuasion

Persuasion reflects an attempt to change another's viewpoint. Not all targets of persuasion evaluate persuasive attempts in the same manner. People evaluate persuasive attempts through a combination of heuristic and systematic processing. The systematic route is based on critical thinking and logic. The heuristic route is based on less relevant cues, such as the attractiveness of the persuader (Chaiken, 1980). Depending on features of the situation, people may mix the two strategies or disproportionately rely on one route over the other (Petty,

Rucker, Bizer, & Cacioppo, 2004). When people lack the motivation or ability to use the systematic route, heuristic cues tend to drive persuasion.

In one classic experiment, students were given persuasive arguments in favor of comprehensive exams. Experimenters independently manipulated the quantity and quality of the persuasive arguments. Participants then answered a series of questions that assessed the arguments' persuasiveness (Petty & Cacioppo, 1984). Rather than thinking about the content and quality of the messages, participants using heuristic processing relied on the number of arguments when assessing persuasiveness (Petty, Wheeler, & Bizer, 1999). In this example of heuristic processing, participants seem to be relying on a "quantity heuristic." By assessing persuasiveness through the relatively simple cue of quantity, participants save the time and effort necessary to evaluate quality. In the current study, we manipulated power and hypothesized that high power would increase people's tendency to focus on quantity when evaluating persuasive messages.

Some previous research has begun to examine the links between power and persuasion. Briñol et al (2007) manipulated the power of persuasive message recipients. According to the authors, power validates current mental contents. Power causes individuals to have more confidence in their thoughts. This confidence increases the potential impact of each thought on judgment. Thus, priming participants with power prior to a persuasive attempt led participants to be confident about their current mental contents (i.e. previously held beliefs about persuasive topic) and therefore expend little effort evaluating persuasive messages. In support of this view, participants primed with high power before reading the arguments were less discriminating between strong and weak arguments than participants primed with low power. Conversely, the authors found that priming participants with power *after* reading persuasive messages *increased* the processing of persuasive arguments because the power increased confidence in current mental content (i.e. thoughts about the persuasive messages). Thus, among participants primed with power *after* reading the persuasive messages, those primed with high power differentiated strong and weak arguments better than participants primed with low power.

The authors hypothesized a link between power and a lack of motivation to process arguments effortfully. However, by lacking a control condition the authors limited the inferences they can draw from the results. The effect of power could have been driven by the high power condition, the low power condition, or a combination of both. The current

manuscript includes a control condition to quantify the relative contribution of high versus low power. My main hypothesis is that high levels of power (versus control) will increase participants' tendency to rely on argument quantity, a pattern associated with reliance on heuristic processing.

Moderating Effects of Individual Differences

The hypothesized effects of power on heuristic processing of persuasive messages may depend on individual differences in dominance motivation. Individuals vary widely in their desire to gain and maintain power, status, and dominance (Cassidy & Lynn, 1989). For individuals high in dominance motivation, power is rewarding and subordination produces anxiety. Conversely, for individuals low in dominance motivation, the acquisition of power is viewed as a threat, feels unpleasant, and causes anxiety whereas holding subordinate positions are more comforting (Josephs et al, 2006). These mismatch effects between dominance motivation and power have been found with the hormonal correlates of dominance motivation (testosterone) and anxiety (cortisol). Individuals high in testosterone (highly dominant individuals) showed spikes in cortisol after being placed in low power. Individuals low in testosterone showed similar spikes in cortisol after being placed in high power (Mehta, Jones, & Josephs, 2008). These results indicate that everyone does not respond to power in the same manner. Mismatches between dominance motivation and acquired power lead to anxiety. This reflects a more general phenomenon wherein mismatches between expectations and external circumstances lead to anxiety and effortful cognition (Tiedens & Linton, 2001).

Heuristic processing is more common than systematic processing when desires, expectations, and external circumstances all match (Chaiken, 1980). When the world seems predictable and desires are being fulfilled, the individual has little motivation to engage in effortful, systematic processing. When the environment is unpredictable, unfamiliar or the individual feels anxious, systematic processing is common (Hale, Lemieux, & Mongeau, 1995; Hodson & Sorrentino, 2003; Garcia-Marquez & Mackie, 2001). For individuals high in dominance motivation, acquiring power is expected, familiar, and does not produce anxiety. Power is considered an opportunity. Thus, dominant individuals that acquire power are expected to rely on quick and easy cognitive strategies that facilitate action, namely heuristics. Conversely, individuals low in dominance motivation are likely to see power as an unexpected burden or responsibility that produces anxiety. Thus, while high power is hypothesized to cause

heuristic processing among high-dominance individuals, the same is not expected for low-dominance individuals.

Overview of Present Research

Using well-established experimental methods, I tested hypotheses about the relationship between power and heuristic processing in the context of persuasion. Individuals were exposed to a number of persuasive arguments, with quality and quantity varying between conditions. Heuristic processing was assessed by the effect of quantity on attitude change. More specifically, I hypothesize that individuals primed with high power would show greater persuasion based on the number of arguments than individuals primed with low power or control. This effect of quantity among powerful individuals was hypothesized to be particularly pronounced for individuals who are high in dominance motivation.

CHAPTER TWO

METHOD

Participants

Participants were 136 undergraduate students (64 male, 72 female) enrolled in introductory psychology classes. Participants received partial credit in exchange for their participation.

Materials and Procedure

Experimenters informed participants that the experiment would consist of autobiographical stories and personality questionnaires. Participants would also have to evaluate a policy proposal ostensibly written by another student. After obtaining informed consent, the experimenter gave the participant a packet of materials and left the room. The packet contained the manipulations and dependent variables.

Participants were primed with power using an autobiographical essay. Participants were asked to write an essay about one of three randomly assigned scenarios. In the high-power condition, participants wrote about a time they had power over another individual or group. In the low-power condition, participants wrote about a time they were subordinate to another individual. The control condition had participants write about their day yesterday. This power priming procedure mirrors other research in the power literature (Galinsky et al, 2003).

To assess persuasion, participants read arguments in favor of comprehensive undergraduate exams (Petty & Cacioppo, 1984). The arguments varied in quality and quantity. Participants either read three weak arguments, eight weak arguments, three strong arguments, or eight strong arguments. In sum, the power prime, argument quality, and argument quantity were the three between-subjects independent variables. (See Appendix for arguments)

After reading the arguments, participants answered four questions assessing the persuasiveness of the argument on seven point Likert scales: “How persuasive were the arguments? (1 = “not at all persuasive” 7= “very persuasive”); “How much did you like the arguments?” (1 = “not at all” 7 = “very much”); “How convincing were the arguments? (1 = “not at all convincing” 7 = “very convincing”); “Compared to your initial feelings about comprehensive exams, how have your feelings changed?” (1 = “much less in favor” 7 = “much

more in favor.”). Responses to these four items were averaged to form a composite index of persuasion (Cronbach’s $a = .89$). This index was the primary dependent variable.

Individuals’ dominance motivation was assessed using the dominance subscale of the achievement motivation scale (Cassidy & Lynn, 1989). The questionnaire included 5 items (Cronbach’s $a = .74$) such as “I enjoy planning and deciding what other people should do.” “I think I would enjoy having authority over other people.” (See Appendix B) The dominance subscale has been used in previous research to measure individual differences in dominance motivation (Maner & Mead, in press). After completion of the packet, participants were thoroughly debriefed, thanked for their participation, and given credit.

CHAPTER THREE

RESULTS

I used regression to test the main effects and interactions among argument quality, argument quantity, power condition, and dominance motivation. Power condition was dummy coded to test the effect of high power compared to control and low power compared to control. The quantity of arguments (3 or 8), quality of arguments (strong or weak), dummy-coded power condition (high power vs. control and low power vs. control), dominance motivation (a continuous variable), and all centered interaction terms were included in the model.

Regression analysis revealed a significant effect of argument quality, such that strong arguments ($M = 4.87$, $SD = 1.32$) were more persuasive than weak arguments ($M = 4.04$, $SD = 1.24$, $\beta = .30$, $p = .028$, $sr = .175$). As predicted, I found an interaction between power condition (high power vs. control) and argument quantity ($\beta = .23$, $p = .043$, $sr = .16$). This interaction reflected the fact that the effect of argument quantity was significantly greater for high power participants than control participants (see Figure 1). For high power participants, eight arguments ($M = 4.91$, $SD = 1.12$) were significantly more persuasive than three arguments ($M = 3.97$, $SD = 1.62$, $\beta = .32$, $p = .02$, $sr = .30$). In contrast, control and low power participants showed no significant effect of quantity (control $\beta = -.009$, $p = .96$, $sr = -.009$; low power $\beta = -.059$, $p = .70$, $sr = -.057$). The effect of argument quantity was not significantly different for low power and control participants ($\beta = -.02$, $p = .843$, $sr = -.016$). These results suggest that high power participants were persuaded by the number of arguments while low power and control participants were not. No three-way interaction between argument quality, argument quantity and power condition (high power vs. control) was found ($\beta = .17$, $p = .16$, $sr = .11$). This indicates that high power individuals relied on the quantity heuristic to a similar degree when evaluating strong and weak arguments.

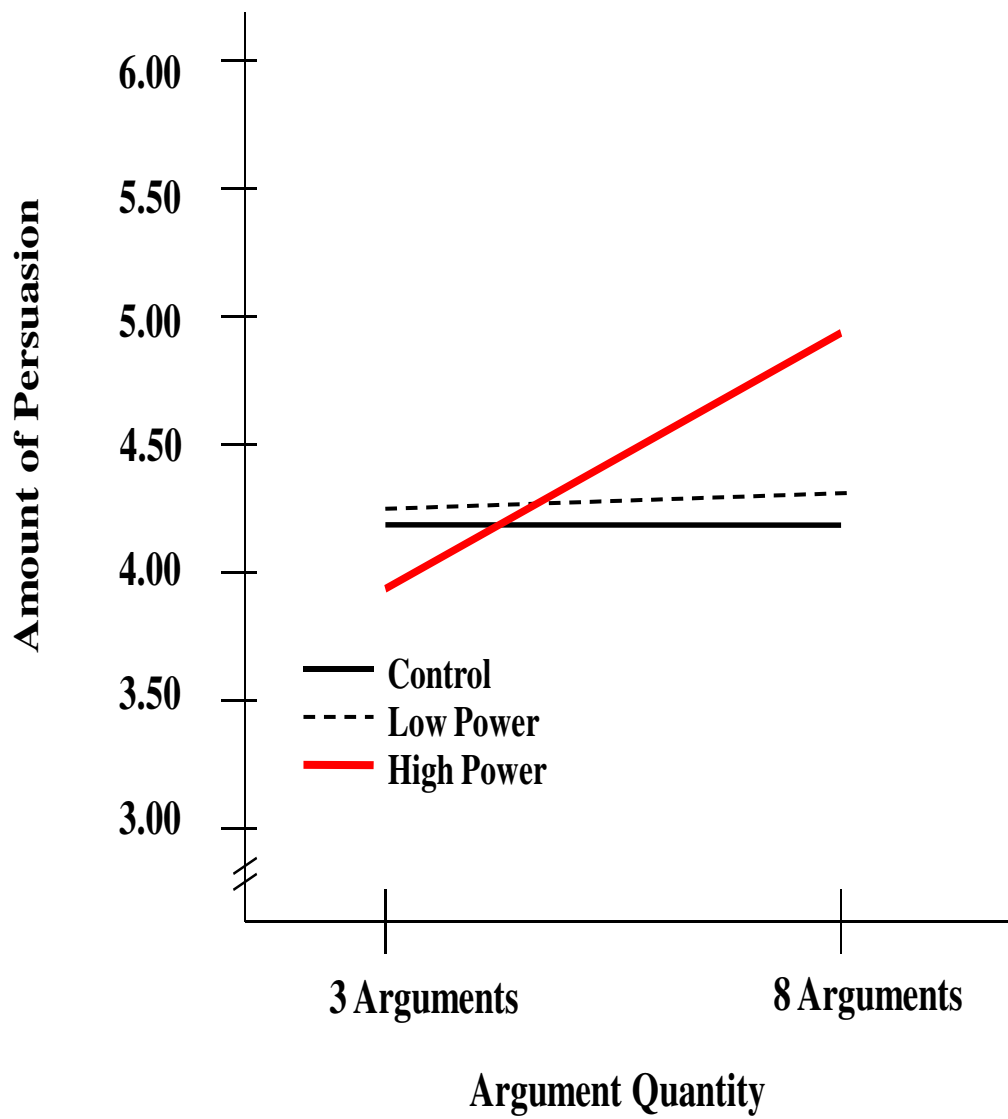


Figure 1: The effect of argument quantity and power condition on persuasion. High power participants found 8 arguments more persuasive than three arguments. Control and low power participants did not show an effect of quantity.

The two-way interaction between power condition and quantity was qualified by a predicted marginal three-way interaction between power condition (high power versus control), argument quantity, and dominance motivation ($\beta = 1.87, p = .064$ sr = .15). Consistent with predictions, participants high in dominance motivation (1 SD above the mean) responded to high power by showing a significant effect of argument quantity ($\beta = .51, p = .018$ sr = .39). In contrast, participants low in dominance motivation (one SD below the mean), when placed in high power, showed no significant effect of argument quantity ($\beta = .05, p = .81$ sr = .029). Thus, highly dominant individuals, when placed in high power, are more likely to rely on the heuristic of quantity when assessing persuasive arguments than individuals low in dominance motivation (see Figure 2).

In contrast to previous research (Briñol et al., 2007), results revealed no significant two-way interaction between power condition and argument quality (high power vs. control $\beta = .079, p = .50, sr = .054$; low power vs. control $\beta = -.12, p = .30, sr = -.082$). These results indicate that, across conditions, participants were equally persuaded by strong arguments over weak arguments.

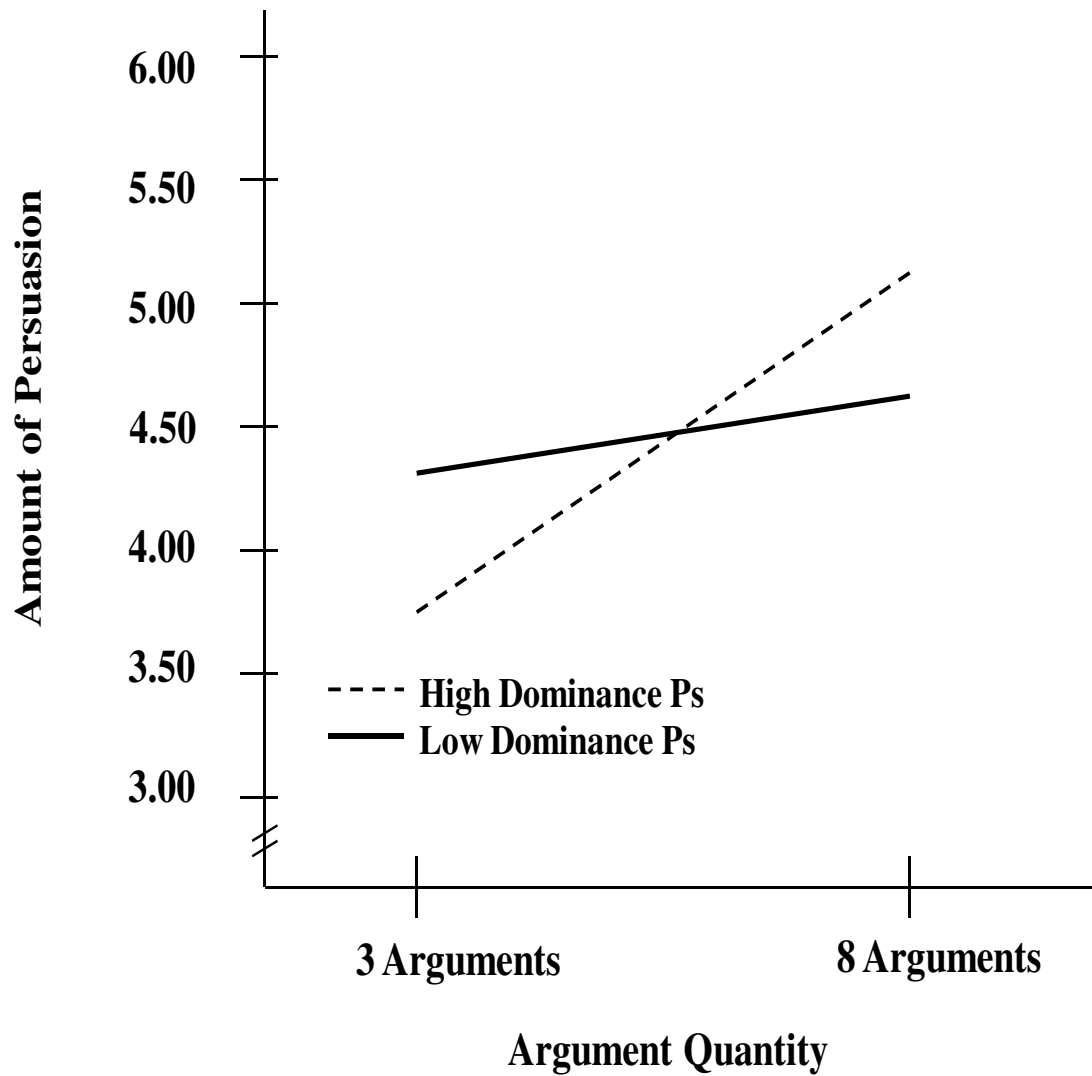


Figure 2: The effect of argument quantity and dominance motivation on persuasion among participants primed with high power. Individuals high in dominance motivation found eight arguments more persuasive than three arguments. Individuals low in dominance motivation showed no effect of quantity.

CHAPTER FOUR

DISCUSSION

The experiment described above provides evidence that priming individuals with power leads to heuristic processing. Participants who wrote about a time in which they experienced a high level of power, compared with participants who wrote about neutral or low power experiences, were influenced to a greater degree by the mere number of arguments presented to them. Participants primed with high power found eight arguments to be significantly more persuasive than three arguments, even when those arguments were weak. The number of arguments presented serves as a shallow cue that can be used to assess the persuasiveness of a message. These findings thus provides support for the overall hypothesis that power leads people to rely on relatively quick and easy styles of cognitive processing.

The current research was inspired by Keltner's (2003) power-approach theory. Power is hypothesized to indicate access to resources in the environment and a relative immunity from punishment. Such a situation would presumably provide favorable opportunities for action and reduce the extent to which people need to carefully survey the environment for potential threats. Thus, Keltner et al (2003) predict that power will lead to a suite of motivational, cognitive, and behavioral strategies that encourage quick, approach-oriented action. Recent research has indeed shown that power leads to quick, approach-oriented action (Smith & Bargh, 2008; Galinsky et al., 2003; Maner et al., 2010). However, the intermediate steps between power priming and action have not received as much empirical attention. The current research endeavors to provide evidence for one potential link in the causal chain. To facilitate behavioral pursuit of goals, powerful individuals may use heuristic processing to simplify and shorten the decision-making process. Thus, heuristic processing may be one of the missing links that accounts for power's effects on action and approach.

This study expands recent work examining the effect of power on persuasion. Briñol et al (2007) found that priming high power prior to argument exposure led to low levels of processing. The researchers found that high power participants were less likely than low power participants to differentiate between strong and weak arguments. In contrast, the current study found that participants in each power condition did not vary in their tendency to find strong

arguments more persuasive than weak arguments. One possible explanation is that the current study may have had a greater disparity in argument quality than Briñol et al (2007). The weak arguments in this study were designed to be of very low quality (see Appendix A) to assess the extent that individuals would be persuaded merely by the quantity of arguments.

The current research also provided evidence that the effect of the power prime depended on the individual's desire for dominance. For individuals high in dominance seeking, the quantity of arguments strongly affected persuasion, indicating heavy reliance on heuristic processing. One potential explanation is that dominant individuals who are placed in positions of power have satisfied their desire for power. They are comfortable with their status in the social hierarchy, and have little motivation to disengage the autopilot of heuristic processing for the relatively trivial task of rating the arguments in this study. Instead, dominant individuals that acquire power may shift their cognitive effort to other domains such as maintaining their own status within the group. Indeed, dominant individuals are highly concerned with gaining and maintaining power and researchers have found that dominant individuals will go to great lengths to maintain their power, even sabotaging their own group's success (Maner & Mead, in press). The task used in the current study had no explicit link to participants' ability to maintain their position of power and status. However, if dominant individuals felt that their power was dependent on their performance in a task, they may be very motivated to perform well. This motivation could lead to greater effort and less heuristic processing. Future research should investigate if power maintenance motives or other factors discourage dominant individuals from relying on heuristic processing.

In contrast to dominant individuals, individuals low in dominance motivation did not respond to power with an increase in heuristic processing. One possibility is that power's effect was offset by participants' lack of comfort in positions of power. Non-dominant individuals tend not to aspire to positions of power and, in fact, power has been shown to distract and threaten non-dominant individuals, who typically prefer less attention-grabbing social roles (e.g. Josephs, Sellers, Newman, & Mehta, 2006). Individuals tend to prefer effortful cognition in situations where they are uncertain or uncomfortable. Therefore, non-dominant individuals appear not to respond to power with the same care-free reliance on heuristic processing as dominant individuals.

The current study found that dominant individuals who are primed with power tend to use heuristic processing more than individuals low in dominance. This finding raises concern for organizations that are arranged hierarchically. The individuals who have the greatest desire to gain power in the organization may also be most likely to rely on heuristic processing once they gain positions of power. This finding suggests that organizations might benefit from selecting leaders based on an individual's task-relevant ability, as opposed to a general desire to rise in the hierarchy (see Van Vugt, Hogan, & Kaiser, 2008). In addition, the use of personality questionnaires that assess dominance motivation may be useful when selecting leaders.

By including a control condition, the current research also provides more direct evidence that heuristic processing is caused by the experience of high power, as opposed to the experience of low power or subordination. Previous studies typically only compare high and low power conditions; consequently, it has been difficult to determine whether power or subordination is responsible for any observed effects. In a review article, Keltner et al (2003) hypothesized that high power would lead to activation of the behavioral activation system and a related suite of cognitive, emotional, and behavioral techniques that encourage approach. Conversely, low power was hypothesized to lead to activation of the behavioral inhibition system with a different suite of complementary techniques. The vast majority of research in the power literature has focused on the high power side of this equation, even when the comparison group was low power (Guinote, 2007; Galinsky et al, 2003; Briñol et al, 2007). Keltner's theory suggests that subordination may have distinct effects when compared to a control condition, although no evidence for such effects was observed in the current study. Nevertheless, using low power as a control for high power could mask the effects of subordination and make interpretation of the results difficult. By including a control condition, researchers can test more fully their predictions about the effects of subordination and make confident assertions about the effect of either high power versus subordination.

Limitations and Future Directions

The current research has some promise, but there are limitations to the research method and its generalizability. Power was manipulated in this study through an essay prime. While this is a common manipulation in the field (Galinsky et al., 2003; Guinote, 2007), the external validity of this technique is low. There is uncertainty about the similarity between the actual experience of power and a retrospective essay about the experience. To increase the ecological

validity of this work, future research should examine the use of heuristic processing among individuals who are actually placed in a position of power. In addition to laboratory manipulations of power, research would also benefit from directly examining the cognitive consequences of power within extant social hierarchies.

Another limitation of this study is the potential confound of mood. Previous research has established that positive mood is correlated with heuristic processing (Schwarz, Bless, & Bohner, 1991). In addition, there is some evidence that power leads to positive mood (Keltner et al, 2003). Thus, the use of heuristic processing by powerful individuals may have been caused by differences in mood between the control and high power condition. Unfortunately, I failed to include a measure of mood in this study, so I can not directly test this alternative explanation. However, previous research using the same essay prime has not produced significant mood effects (Maner & Mead, in press). Nevertheless, future research will have to measure or control for mood to better understand the complex interplay between power, mood, and heuristic processing.

Conclusion

It is important to note that the current research does not imply that power makes one less intelligent. High power individuals in this study were still capable of differentiating between strong and weak arguments. Indeed, the use of heuristic processing has costs and benefits. On one hand, heuristic processing allows individuals to make quick decisions with a minimal amount of effort. Powerful individuals are faced with many decisions to make, arguably more than less powerful individuals, with a limited amount of time and mental resources. Heuristics help conserve mental effort that powerful individuals can allocate to other tasks. In addition to being quick and easy, evidence is accumulating that heuristic processing can rival systematic processing in accuracy under certain conditions (Wilson & Schooler, 1991; Goldstein & Gigerenzer, 2002; Gigerenzer & Goldstein, 1996). The use of heuristic processing allows powerful individuals to effectively navigate their social role and make timely decisions for themselves and their group.

On the other hand, power and heuristic processing also open the door to errors in judgment. In a classic study, individuals using heuristic processing found the arguments of attractive individuals more persuasive than the same arguments presented by less attractive individuals (Chaiken, 1979). In the current study, powerful individuals found eight weak

arguments more persuasive than three weak arguments. Powerful individuals are the target of persuasive messages that can have momentous consequences, yet research on heuristic processing implies that their judgments can be affected by relatively trivial factors like the attractiveness of a persuader or the mere number of arguments presented.

In a world filled with social hierarchy, an understanding of the cognitive effects of power is critical. Politicians make decisions about the merit of policies that can affect entire countries, business leaders make decisions about hiring employees or laying them off, and generals make decisions about military operations that have life or death consequences for their subordinates. The decisions made by powerful individuals have enormous consequences, yet the current research implies that heuristic cues like quantity may hold disproportionate sway in the decision making process. Understanding the cognitive strategies of powerful individuals is important to guard against, and hopefully prevent, the harmful effects of poor decisions.

APPENDIX A

PERSUASIVE ARGUMENTS

All participants read the following introductory paragraph:

Florida State University is considering the implementation of comprehensive exams for undergraduates in their chosen major. In order to graduate, students would be required to pass a standardized test. Test scores would be compiled and reported to the Education Testing Service (ETS). At Florida State University, graduate students already are required to take comprehensive exams to get their degree. Listed below are a few arguments that other students have researched and proposed in support of undergraduate comprehensive exams. Please read the arguments and answer the questions at the bottom.

Participants in the “weak argument” condition read either three or eight of the arguments below.

My girlfriend Trisha thinks that comprehensive exams would be a great idea because she is sure she could pass them. In fact, all of my friends think they are a good idea.

My favorite undergraduate psychology professor took a comprehensive exam in undergraduate and graduate school. Now he’s a popular, successful professor at Florida State University, so it must have worked for him.

Students in graduate school take the exams and say they have been helpful. They think that undergraduate students would benefit just as much.

It’s not fair that graduate students get the benefits of comprehensive exams while undergraduates are left out. Undergraduates deserve the same quality of education as graduate students.

As a good student, I would welcome these exams as a way to prove myself to my family and friends. The possibility of failing makes the exams really meaningful.

The exam may be difficult, but life is full of challenges and these exams will help us prepare for them. Every job market is competitive and unstable, so it's important that we get the opportunity to compete with the possibility of both success and failure before we graduate.

The Educational Testing Service would not market and use these exams unless they had great educational value.

If the exams were instituted, Florida State University would become the American Oxford and its ratings would improve. The best students would be more likely to come to FSU.

Participants in the “strong argument” condition either read three or eight of the arguments below.

Seven out of eight Ivy League universities require comprehensive exams. University presidents, professors, and students agree that the exams enforce a standard of excellence.

When other universities instituted mandatory comprehensive exams, their standardized achievement scores on tests like the GRE have increased 15% per year for the first four years. In the meantime, similar universities that have not instituted comprehensive exams have seen declining scores.

86% of graduate and professional school admission advisors say that undergraduates who have passed a comprehensive exam are more likely to get into their school. They see comprehensive exams as evidence of academic rigor in the undergraduate program.

Starting salaries for graduates of schools with exams are on average \$2,500 per year higher than students from schools without exams. Graduates of schools with comprehensive exams are also 5% more likely to get a job in their field within the first three months after graduation.

Fortune 500 companies are twice as likely to recruit students for jobs at schools with exams. Students from universities with comprehensive tests are appealing to the top employers because their academic success can be verified.

Students are 30% more satisfied with the quality of undergraduate teaching and felt like they learn more at universities with exams. Universities with exams can also attract more qualified teachers and professors because the schools are viewed as more prestigious.

Schools with exams raise a higher proportion of their funding from university alumni. Studies at multiple universities have shown that alumni and other donors increase donations after exams are instituted. Increased donations from these sources would save current students money because tuition is less likely to rise.

The National Accrediting Board of Higher Education expects all top-tier universities to institute comprehensive exams. The only reason FSU has not received the highest rating from the board is their lack of comprehensive undergraduate exams.

APPENDIX B

AMS DOMINANCE

Dominance subscale of the achievement motivation scale

Responses ranged from 1: Strongly Disagree to 5: Strongly Agree.

1. I enjoy planning things and deciding what other people should do.
2. I think I would enjoy having authority over other people.
3. If given the chance, I would make a good leader.
4. I would like an important job where people looked up to me.
5. I find satisfaction in having influence over others.

APPENDIX C

HUMAN SUBJECTS COMMITTEE APPROVAL MEMO

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

RE-APPROVAL MEMORANDUM

Date: 8/14/2009

To: Andrew Menzel

Address: 1107 W Call St. Tallahassee, FL 32306-4301
Dept.: PSYCHOLOGY DEPARTMENT

From: Thomas L. Jacobson, Chair

Re: Re-approval of Use of Human subjects in Research
Power and Heuristic Processing

Your request to continue the research project listed above involving human subjects has been approved by the Human Subjects Committee. If your project has not been completed by 8/11/2010, you must request renewed approval by the Committee.

If you submitted a proposed consent form with your renewal request, the approved stamped consent form is attached to this re-approval notice. Only the stamped version of the consent form may be used in recruiting of research subjects. You are reminded that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report in writing, any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor are reminded of their responsibility for being informed concerning research projects involving human subjects in their department. They are advised to review the protocols as often as necessary to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

Cc: Jon Maner, Advisor
HSC No. 2009.3030

INFORMED CONSENT FORM

I freely and voluntarily and without element of force or coercion, consent to be a participant in the research project entitled "Power and Group Tasks." This research is being conducted by Andrew Menzel, a graduate student in the Department of Psychology at Florida State University working with Dr. Jon Maner, Professor in the Department of Psychology at Florida State University. I understand that the purpose of this research project is to understand the link between personality styles, leadership, and perceiving other people. I understand that if I participate in the project, I will be asked to play a particular role in a team project. I understand that I will also be asked to answer questions about some of my attitudes and beliefs.

I understand that I must be at least 18 years of age in order to participate. The total time commitment would be about 60 minutes and I will be compensated by receiving a credit point. I understand that my participation is totally voluntary and I may stop participation at any time. If I decide to stop participation, I will still receive my credit point. All my answers to the questions will be confidential to the extent allowed by law and will not be connected to me by name or other identifying information. In addition, my name will not appear on any of the results. No individual responses will be reported, only group findings will be reported. I understand that all data relevant to the study will be kept in a locked file cabinet in a laboratory space provided by the FSU psychology department for 10 years (until January, 2018).

I understand that there is a possibility of a minimal level of risk involved if I agree to participate in this study. I might experience anxiety when completing some of the questionnaires and thinking about my attitudes. The research assistant will be available to talk with me about any emotional discomfort I may experience while participating. I am also able to stop my participation at any time I wish.

I understand that there are no direct benefits to me in this study, other than partial completion of course credit. However, this research may benefit society by providing valuable data about the effects of power on thinking styles.

I understand that this consent may be withdrawn at any time without prejudice, penalty, or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact Andrew Menzel, Florida State University, Department of Psychology, Psychology building room A303, 645 – 7412 or Dr. Jon Maner, Florida State University, Department of Psychology Room 323a, 645 – 1409, for answers to questions about this research or my rights. Group results will be sent to me upon my request. If I have questions about my rights as a subject/participant in this research, or if I feel I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

I have read and understand this consent form.

(Participant Signature)

(Date)

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BIOGRAPHICAL SKETCH

Andrew Menzel earned his B.S. in psychology from Arizona State University. His undergraduate mentors include Doug Kenrick, Robert Cialdini, and Vladas Griskevicius. Andrew is currently pursuing a doctorate in social psychology, his graduate mentor is Jon Maner. His interests include social cognition, power, and decision making.