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WHO UNDERMINES, WHO IS UNDERMINED, AND WHY:

GENDER, POWER, AND UNDERMINING

A Thesis in

Psychology

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ABSTRACT

Two lab studies explored low power peoples' perceptions of powerful people's power worthiness and the various ways low power people can undermine the influence of powerful people. In Study 1, we experimentally manipulated leader gender and controlled for leader behavior—including the leader's demonstration of power over low power people. We also measured low power men's and women's perceptions that the leader was worthy of power and engagement in various forms of undermining behavior (e.g., disagreement with leader's decisions, ignoring the leader's input). We expected low power men to be more likely to undermine female leaders than male leaders. However, we found the converse: Low power women were less likely undermine male leaders than female leaders, whereas low power men were equally likely to undermine female and male leaders. Study 2 was the same as Study 1, but, to test possible indirect effects of leader and/or participant gender on undermining behaviors, we additionally measured: participants' feelings of discomfort when thinking about their performance being seen by others, anger, expectancy violations at the leaders' demonstration of power, and fear of punishment from the leader for undermining. Consistent with the mechanisms expected to produce gender differences in undermining behavior, female leaders were seen as less worthy of their power and were less respected than were male leaders; perceived power worthiness and respect, in turn, predicted greater undermining behavior. Four unexpected, but interesting effects also emerged. First, male leaders were feared less than female leaders and lack of fear, in turn, predicted the greater undermining of male leaders than female leaders (via ignoring the input of male leaders more than female leaders). Second, low power women felt more discomfort at the thought of others seeing their performance than did low power men, and that discomfort, in turn predicted perceptions that leaders were less power worthy and, subsequently women's greater undermining of leaders (via more disagreement with leaders decisions). Third, low power women experienced

more expectancy violation at a female leader's demonstration of power compared with a male leader's demonstration of power. Fourth, low power men were more likely than low power women to undermine leaders (via ignoring the leader's input). Possible theoretical explanations and implications are discussed.

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Chapter 1.

INTRODUCTION

A number of studies suggest that people, perhaps particularly low-power men, undermine powerful women more than powerful men. Influential women in science report experiences of harassment, intimidation and derogation (Sonnert, 1995; Wyer, Barbercheck, Geisman, Öztürk, & Wayne, 2001; Settles, Cortina, Malley & Stewart, 2006; Brainard & Carlin, 1998 as cited in Blickenstaff, 2005), even from subordinates (e.g., students sexually harass female professors; Grauerholz, 1989). Female politicians are "pushed out" of their own parties (Vanlangenakker, Wauters, & Maddens, 2013). Within academics, a traditionally male-dominated domain, women who are heads of departments, research units, and administrative units report bullying (Kloot, 2004). Additionally and more subtlety, women's contributions to and influence on others in a group task are more likely to be ignored or evoke hostility than are men's contributions and influence (Butler & Geis, 1990). Importantly, some work has found that men are more likely to resist women's influence (Carli, 1990; Ridgeway, 1981) and more likely to be influenced by male speakers than female speakers, whereas women are equally influenced by male or female speakers (Rhoades, 1979, 1981). Also, men, more than women, prefer high levels of competence and authority in men (Carli, 2004, as cited in Eagly & Carli, 2007). Compared to low power women, low power men are also more critical of leaders' disciplinary style when a leader is female than when male (Atwater, Carey, & Waldman, 2001).

Given definitions of masculinity and our previous findings (Dahl, Vescio, & Weaver, 2014), we consider the possibility that men may be threatened by powerful women and may be motivated to "get out from under" powerful women to mitigate that threat. Masculinity is a precarious social identity because it is easily threatened when men fail to behave in a sufficiently

masculine manner (Bosson & Vandello, 2011). Sociological, anthropological, and psychological

theory and research on masculinity also suggest that to be masculine means having power,

especially compared with women (e.g., Thompson & Pleck, 1986; Gilmore, 1990; Pascoe, 2007;

Kimmel, 2008). Importantly, masculinity threats have been linked to compensatory behavior, or

behaviors intended to re-establish that one is sufficiently dominant and/or masculine, such as by

displaying aggression (Bosson, Vandello, Burnaford, Weaver, & Wasti, 2009). Of particular

relevance, prior theory and research from our laboratory suggests that masculinity can be

threatened by competent women (Vescio, Schlenker, & Lenes, 2010). Consistent with these ideas,

when outperformed by a woman in a masculine domain, men attempt to subtlety dominate

women and appease threats by subtly sexualizing and subordinating these women (Dahl et al.,

2014).

The purpose of this research is to examine whether low power men, more than low power

women, undermine powerful women more than powerful men because powerful women threaten

low power men's masculinity. To consider this possibility, we review the literature of relevance

to our hypothesis in four sections. First we review social psychological definitions of power.

Second, we consider, why powerful women threaten low power men's masculinity, and review

the research on masculinity. Third, we suggest that people undermine those who they perceive as

not worthy of power, but that people's threatened emotions may be misattributed to perceptions

of power worthiness. Then we discuss what it means to undermine power. Fourth and finally, we

argue that because powerful women may threaten low power men, low power men may be more

motivated to undermine the power of powerful women more than they undermine the power of

powerful men.

Power

Bases of Power

Powerful people have the ability to influence others' behaviors, thoughts, or feelings, and often have several bases for this ability (French and Raven, 1959). First, powerful people can control valued outcomes (Fiske, 1963). Control over valued outcomes includes having the potential to give or withhold rewards and punishments (French and Raven, 1959). For example, a supervisor may have the potential to reward or punish an employee, and therefore the employee may change his or her behavior in accordance with the supervisor's desires so that the employee receives rewards or avoids punishments. Second, powerful people can be experts—a person who has expertise has power over those in need of that expertise (French and Raven, 1959). An expert can influence other people's behaviors or thoughts because an expert is thought to possess more knowledge and can therefore offer a superior way to proceed (e.g., the doctor over the patient, the mechanic over the stranded motorist). Third, powerful people can have legitimacy—legitimacy is a source of power in which a person holds a position or role that gives that person the perceived authority to influence others (e.g., police officers) (French and Raven, 1959).

Demonstrations of Power

Power differences are ubiquitous, but not always salient. Power differences can go unnoticed as long as the powerful person exerts power in a way that is consistent with (or could be made consistent with) the subordinate's desires. For example, a boss may ask an employee to do something that they want to do or do not mind doing, like attend a meeting that provides the employee with skills that benefit a project or skills that the employee would like to develop. In such instances, everyone advances toward group and individual goals and there is no resistance to

this request; therefore, power differences are not felt. By contrast, power differences should become salient to low power people when a powerful person make requests or decisions contrary to the desires or goals of a subordinate—when power is exerted despite resistance (Emerson, 1962). For example, an employee may not want to attend a meeting, but must attend given the boss requested it and has the ability to give and withhold rewards and punishments (e.g., raises, promotions, firing). When power difference becomes salient due to an exertion of power that runs counter to the less powerful person's desires, we call this a demonstration of power. Stated differently, a demonstration of power occurs when a subordinate's desires clearly run in opposition to a request or decision by a powerful person and, given the power difference, the request or decision of the powerful person stands.

Why Would Powerful Women Threaten Masculinity?

What is Masculinity and Masculinity Threat?

Masculinity is a social identity that is earned through consistent behavioral displays and that is "precarious," or easily lost (Vandello, Bosson, Cohen, Burnaford & Weaver, 2008; Bosson & Vandello, 2011). Cross-culturally, men must prove their masculinity, or "manhood," and earn it from others, whereas femininity, or "womanhood," is achieved through physical maturation (Gilmore, 1990; Kimmel, 2008). Some cultures submit men and boys to "tests" of masculinity requiring demonstrations of toughness as evidenced by boy's ability to tolerate pain (e.g., Masai boys who must have circumcisions without evidencing signs of pain) or demonstrate bravery via risk taking (e.g., when the men of Kaymnos engage in deep-sea diving without protective equipment) (Gilmore, 1990). In the United States, men can prove masculinity by displaying their power over others (e.g., physical aggression and dominance; Bosson, Vandello, Burnaford,

Weaver, & Wasti, 2009), and their power over women (e.g., sexual control over women and objectification of women's bodies, Kimmel, 2008) and stereotypically effeminate men (e.g., aggression toward gay men; Bosson, Weaver, Caswell, & Burnaford, 2012; Pascoe, 2007).

Because failures to be masculine may result in loss of manhood status, failures to be masculine lead to threat, as evidenced by threatened emotions, and behaviors that try to compensate for these failures. Consistent with this suggestion, when men imagine failures of masculinity, such as an inability to hold a job or enactment of a stereotypically feminine behavior, they report feelings of discomfort and concern about others' perceptions of their masculinity (Vandello et al., 2008). The feelings of public discomfort that follow from experiences of threats to masculinity (Vandello et al., 2008), in turn, produce feelings of anger (Dahl, Vescio, Schlenker & Dicicco, 2012; Vescio & Dahl, 2013; Dahl, Vescio, & Weaver, 2014). Feelings of public discomfort inspire anger because anger is the one appropriately masculine negative emotion (Shields, 2002) and anger preceedes aggressive and dominant behaviors, which are documented consequences of masculinity threat (for a review see, Bosson & Vandello, 2011). That is, following threats to masculinity, men often engage in compensatory behaviors that are intended to reestablish masculinity (Bosson et al., 2009; Bosson & Vandello, 2011), and aggressive, or risky behaviors have been suggested to be efficient ways to reestablish masculinity because they demonstrate masculine attributes of power and toughness (Bosson & Vandello, 2011; Gilmore, 1990). After performing a feminine task (e.g., "hairstyling"), for instance, men had an increased preference for engaging in stereotypically masculine behaviors (playing basketball or punching a punching bag vs. playing a gender neutral board game; Bosson et al., 2009).

Masculinity and Power Relative to Women

In addition to being tough and independent, being masculine means having power, especially relative to women. Men are expected to have traits that maximize their ability to fulfill their traditional social role of family provider (Eagly, 1987) – to be competent, agentic, and well suited to lead others (Fiske, Cuddy, Glick, & Xu, 2002; Eagly & Karau, 2002). By contrast women are expected to have traits that maximize their ability to fulfill their traditional social role of family caretaker (Eagly, 1987); women should be supportive, communal, and nurturing (Cuddy et al, 2002; Eagly & Karau, 2002). Given these stereotypic prescriptions of men and women as complementary opposites, masculinity is associated with power, particularly power relative to women. In fact, masculinity researchers identify power and distinction from women as core components of masculinity (Thompson & Pleck, 1986; Brannon, 1976; Kimmel, 2008). Because of the association between masculinity and power, if all else appears equal between men and women (e.g., age, skills), then men are perceived as having greater power and status than are women (e.g., expectancy states theory; Ridgeway, 2001). Additionally, the masculinity-power association can be identified by the derogatory language used to characterize the non-normative situation of powerful women and subordinate men. Men who are subordinate to women are characterized in ways that impute femininity (e.g., sissy, he was "made a bitch" when someone tells him what to do), whereas powerful women are characterized as masculine or emasculating (e.g., "the only man in the room", "she is a 'ballbuster'/battleaxe").

Given the foregoing points, we suggest that low power men may experience threats to masculinity when they feel subordinate to a powerful woman, and previous findings from four prior studies in our laboratory, which are summarized in Figure 1, support this notion. Consistent with the idea that powerful women threaten masculinity, our findings show that when men work with a woman who outperforms them (i.e., demonstrates more competence, a basis of power),

men respond with the same emotions associated with masculinity threat—they feel more public discomfort and anger (see Figure 1. Studies 1, 2, 3, 4). In two studies (2 and 4) men were randomly assigned to be outperformed by a woman or by a man (Study 2) or they outperformed a woman (Study 4) on a "skills test" that used questions from the General Management Admissions Test (GMAT). Like men who were told that they performed like women (Study 1), a way to experimentally manipulate masculinity threat (e.g., Vandello, et al., 2008; Bosson, et al., 2012), men told that they were outperformed by a woman reported more anger. In a similar study (Study 3), we did not find a total effect of performance relative to a woman on anger; however, men who were outperformed by a woman (vs. outperforming her) reported more public discomfort. Importantly, in the two studies in which both public discomfort and anger were measured (Studies 3 and 4), we found that men who were outperformed by a woman, as compared to men who outperformed a woman, felt more public discomfort and, in turn felt more anger.

Power Worthiness and Undermining Power

We define power undermining as any act or thought that intends to reduce the powerful person's ability to influence the self or others. First we discuss our prediction for what thoughts precede power undermining and then identify various forms power undermining.

Although power differences are established in several ways (i.e., having control over outcomes, expertise, and legitimacy), a person typically maintains power without being undermined when group members agree that the person is worthy of power. We suggest that a powerful person's perceived worthiness of power reflects the degree to which group members consider the powerful person able and willing to advance group goals – including the individual goals of group members. Powerful people have competing motivations to advance the goals of the group and the self (Vescio & Guinote, 2010) and a person is perceived as able and willing to

accomplish group goals if he or she is both competent and collectivistically focused (Boehm, 1999; Boehm & Flack, 2010; Keltner, Gruenfeld, Galinsky, & Kraus, 2010; Vescio, Snyder, & Butz, 2003; Ratcliff & Vescio, 2013; Ratcliff, Vescio, & Dahl, 2014). If group members perceive the powerful person as competent and group-oriented, then group members will both perceive the powerful person as worthy of power and accept the powerful person's ability to influence their behaviors, thoughts, or feelings. By contrast, when someone is perceived as unworthy of power, group members may try to reduce the person's influence on themselves or others (Boehm, 1999; Boehm & Flack, 2010), or undermine that person's power.

However, we also suggest that perceptions of worthiness may be influenced by low power people's own emotions and biases. Specifically, when people feel threatened or uncomfortable with the powerful person, they may misattribute this negativity to evaluating the powerful person as less worthy of power. This is because the people may not want to admit what is making them feel threatened or uncomfortable, particularly if admitting what threatens them would reduce their ability to see themselves as having being moral, good, or competent. For example, if a powerful woman threatens men, men may not want to admit this – as it would be difficult to see oneself as a good or egalitarian person and be threatened by a powerful woman – and misattribute their discomfort and threat to the powerful women's unworthiness of power.

Perceptions that one is unworthy of power should lead to greater power undermining, or, as we define it, acts or thoughts that reduce the powerful person's ability to influence others. We suggest that power undermining can take various forms and we explore three forms. First, power undermining can manifest as unnecessary disagreement; that is, less agreement with a powerful person's decision. Second, power undermining can manifest as ignoring recommendations, or ignoring input. For example, if a powerful person suggests that a task should be completed in a certain way, by ignoring the way suggested by the powerful person, one would resist that person's influence, and thus, undermine that person's power. Third, power undermining can

manifest as "going over the powerful person's head" or appealing to someone more powerful to intervene. For example, if a powerful person makes a decision that a low power person cannot resist on their own, the low power person may try to get another powerful person to change the powerful person's decision for them.

Low Power Men and Undermining Powerful Women

If men feel threatened by powerful women and highly motivated to "get out from under," or undermine the power of, that woman, then the attempts to undermine power should be greater when the powerful person is a woman (vs. man) and the low power person is a man (vs. woman) . If low power men (vs. women) undermine powerful women more than powerful men, then two types of variables may mediate a low power person's tendency to undermine power. Because men should experience masculinity threat working with a powerful woman, their greater undermining may be mediated by greater public discomfort and in turn more anger, as in previous studies showing that threats to masculinity inspire these emotions and acts of compensatory masculinity (see Figure **1-1** and Dahl et al., 2014).
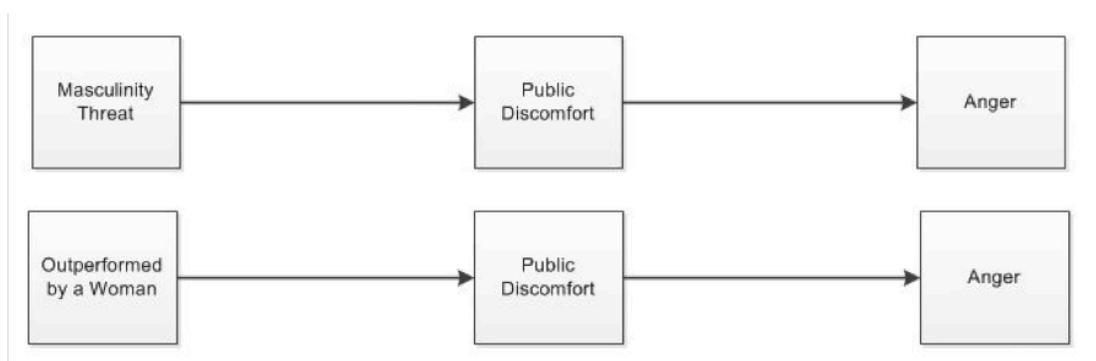
Panel	Manipulation	Discomfort	Anger	Indirect effect
Top *Study 1*	Men told they are more like women than men (threat condition) or more like men than women (no threat condition)	Men in the threat condition reported more discomfort	Men in threat condition reported more anger	Men in threat condition felt more public discomfort and, in turn, more anger
N/A *Study 2*	Men told they were outperformed by a woman (threat condition) or a man (no threat condition)	Not measured	Men in threat condition reported more anger	N/A
Bottom *Study 3*	Men told they were outperformed by a woman (threat condition) or that they outperformed a woman (no threat condition)	Men in the threat condition reported more discomfort	No total effect of threat condition on anger	Men in threat condition felt more public discomfort and, in turn, more anger
Bottom *Study 4*	Men told they were outperformed by a woman (threat condition) or that they outperformed a woman (no threat condition) and that others in the room could see their performance	Men in the threat condition reported more discomfort	Men in threat condition reported more anger	Men in threat condition felt more public discomfort and, in turn, more anger

Figure **1-1**: This figure displays previous findings. In the models, the indirect effects of a masculinity threat study (top panel) match the indirect effects of men being outperformed by a woman (bottom panel). In the table below, the description of experimental conditions and effects on public discomfort and anger are noted in the columns. All effects reported are significant at the $p < .05$ level.

However, men's greater undermining of powerful women may be mediated by men's lower perceptions powerful women's (vs. men's) power worthiness. As noted above, people may misattribute negative feelings because being aware of the cause of the negative feelings may challenge their self-view as an egalitarian person. Stated differently, most people see themselves to be fair, principled, and logical decision makers (Jost & Major, 2001), who cherish egalitarian values that prohibit most acts of open antipathy (Gaertner & Dovidio, 1986; Katz & Haass, 1988), and undermining a powerful woman who threatens you would challenge that self-view. More specifically, men may misattribute their threat to perceptions of the fact that the powerful person is unworthy of power. In this case, among low power men (vs. women), threat to masculinity may be greater when working with a powerful woman (vs. man) – as evidenced by greater public discomfort and in turn anger – that leads to less perceived power worthiness and, in turn, more undermining.

Current Research

Across 2 studies, men and women undergraduate students were led to believe they were interacting with another female or male student who had power over them and we measured perceptions of power worthiness and three forms of undermining behaviors. Study 2, was exactly the same as Study 1, but we also measured potential mediators including masculinity-threat-related emotions (public discomfort and anger) and various other exploratory variables. We tested three hypotheses and explored several effects. First, we tested whether low power men more than low power women, undermine powerful women more than powerful men. Second, we tested whether this effect was explained by masculinity threat (i.e., mediated by emotions – public discomfort and anger – associated with masculinity threat). Third, we tested whether public discomfort and anger predict perceptions of power worthiness, which in turn predicts

undermining behavior. In addition, we explored relationships between leader gender, participant gender, and several exploratory variables.

Chapter 2.

STUDY 1

Study 1 was designed to examine whether people, particularly men, were more likely to undermine female leaders compared with male leaders. To test this idea, we created a scenario in the lab and a cover story that allowed us to a) convince participants that they were working with a leader, b) manipulate the leader's gender, c) control the leader's behaviors, and d) examine participant's undermining behaviors. We measured four forms of undermining behaviors. First, we measured contrariness, or unnecessary disagreement, with the leader. Second, the leader delegated tasks to the participant, noting the order of the tasks importance, and we determined the degree to which participants attended to vs. ignored the leader's stated order of importance by recording participants' a) order for completing tasks and b) time allocated to each task. Third, as an additional measure of undermining power, we measured whether or not the participants attempted to appeal to someone more powerful than the leader to take power away from the leader. We asked participants to discuss the leader with the researchers, which gave participants an opportunity to appeal to the researchers to intervene on the participants' behalf. We also measured participants' perceptions of power worthiness, or how much the leader deserves to have power. We expected that men, more than women, especially men working with female leaders, would be more likely to engage in the undermining behaviors: 1) less agreement with the leader, 2) more changes to the order tasks are done, 3) more changes to the time allotted for tasks, 4) more appeals over the leader's head, and 5) lower ratings of power worthiness.

Method

Participants

Two hundred and fifteen undergraduates at The Pennsylvania State University who were enrolled in an introductory psychology class participated in the study for course credit. Five participants were suspicious that they were not interacting with an actual person; their responses were removed from the working data set. Of the remaining 210 participants, 135 were female (75 male). The average participant age was 19 (SD=1.37) with the eldest participant being 27 and the youngest being 18. Seventy-one percent of participants were White/Caucasian, 3.8 percent were Black/African American/of African decent, 4.3 percent were Latina/o, 16.2 percent were Asian, 4.8 percent identified as other.

Procedure

An experimenter greeted participants at a computer lab in groups of 2-6 and told each participant to sit at a different computer station. The experimenter told participants that they were participating in a study examining how teams perform in strategic business environments and that they would be working in teams of two people to solve a business problem via computer-mediated interactions. The experimenter told participants that teams with the best performances at the end of the study would win $50. Finally, to create an audience and enhance the likelihood of masculinity threats, the experimenter told participants that all performances, team interactions, and team activities would be recorded and viewed by business fraternity members as part of another study. In reality, participants were not actually interacting with another student—the ostensible other student's activities were all pre-scripted and controlled.

Participants then began the study on the computer, starting by entering demographic information and being randomly assigned the name of their experimental partner—"Jessica" or "Michael." Participants learned that each member of their team would be assigned the role of either leader or employee on the basis of their scores on a skills test and that leaders would make all final decisions. Because leaders make all final decisions and have the greatest responsibility for the team's success or failure, participants were further told that leaders of winning teams would be given the ability to divide the prize money. By contrast, employees would complete the tasks delegated to them and receive the amount of money determined by the leader.

Participants then completed the skills test to presumably determine team roles. Participants had 5 minutes to complete 5 questions taken from the General Management Aptitude Test (see Appendix). After the apparent calculation of scores, participants were told that their teammate correctly answered 4/5 problems and they correctly answered 3/5 problems. As a result, all participants were assigned to the low power employee role.

Next, participants read that the leader would make the first team decision and indicate how they would split the prize money should their team win the $50.00. Participants saw that the leader had several choices for how to divide the prize money (50/50, 60/40, 70/30, 80/20, 90/10). It was in this context that leaders demonstrated power over the participants. In particular, participants then learned that the leader chose to split the potential prize money 70/30 – taking 70% of the reward for one's self and giving 30% of the reward to the participant. Pilot testing (Pilot 1) indicated that a 70/30 split ran counter to participants' preferences and made participants feel subjectively less powerful than an equal 50/50 split. Importantly, this split also reasonably reflects the actual differences in leader and employee salaries, as can often be attributed to leaders' greater expertise and responsibility.

Teams then began the strategic business problem-solving simulation. Participants read the following instructions:

During this simulation, your team will try to improve a business. There are many ways to improve a business. These ways of improving businesses, or business strategies, can be versatile and involve anything from how employees and customers are treated to how the business is perceived by society, to how much it costs to make a product. Your team will be presented with a series of business strategies. The team may choose to implement as many of the strategies as they want, but not all of the strategies will be good choices. Only the team leader will be able to select which strategies the team will implement.

Within the context of this business simulation, we measured each of the undermining behaviors. After participants completed each of these measures, they were probed for suspicion, debriefed, and thanked.

Measures

Disagreement with the Leader

After reading the instructions for the business simulation, the participants then saw a list of business strategies from which they believed the leader would choose. Participants were asked to carefully consider the strategies, but were reminded that they could not choose the strategies and that they would wait to see the strategies the leader selected. Previously, in a separate sample (Pilot 2), students indicated their agreement on whether or not each business strategy improves a business. These students on average agreed that the following strategies would improve a business: *"Improving customer satisfaction," "Increasing number of sales made," "Investing in improving the product."*[1] Additionally, students on average disagreed that the following strategies would improve a business: "Use cheap marketing and advertising," "Reduce investment in development and production of products." Participants in the current study saw the pilot-tested strategies in random order and then saw that the leader chose to implement the business strategies

that students on average agreed with and chose not to implement the strategies that students on average disagreed with.

In private, and presumably unbeknownst to the leader, participants indicated the degree to which they agreed/disagreed with each of the leader's choices. Participants used a 1 to 7 scale to indicate agreement (1= "Strongly Disagree", 2= "Disagree", 3= "Slightly Disagree", 4= "Neither Disagree Nor Agree", 5= "Slightly Agree", 6= "Agree", 7= "Strongly Agree"). Recall that we knew in advance that students on average agreed with these choices (from pilot testing); therefore, *any disagreement with the leader's decisions presumably provided a measure of unnecessary disagreement.* Therefore, we averaged the agreement responses to create a single *agreement* score (α= .85). Note that higher numbers actually mean more agreement, not more disagreement. Agreement scores were highly skewed left (skewness =-2.4) so they were transformed by exponentiating agreement scores. To transform agreement scores, for each score, we used *e* and raised it to the original agreement score (e^x). We analyzed exponentiated agreement scores, which were much less skewed (skewness=-.122).

Power Worthiness

Participants were then told that "While the leader is reading specific information about the business simulation," they were being asked to "indicate agreement with the following statements (the leader will not see your answers)." Using a 7-point scale (1= "Strongly Disagree", 2= "Disagree", 3= "Slightly Disagree", 4= "Neither Disagree Nor Agree", 5= "Slightly Agree", 6= "Agree", 7= "Strongly Agree"), participants then completed nine items about the leader as competent ("I believe the leader is a capable leader") and behaving with the team's best interest in mind (i.e., group-oriented; "I believe the leader has the team's best interest in mind") (see Power Worthiness Scale, Table **2-1**.). Because this was a scale generated by the researchers and

has never been used before, we performed a principal axis factor analysis. We used a direct

oblimin rotation because we expected that if there were 2 factors, they would be tapping the same

power worthiness construct and be correlated. The scree plot indicated a 1 factor solution.

Therefore, after reverse scored appropriate items, we averaged across items to create a *power*

worthiness variable (α=.86).

Table **2-1**: This table displays the items intended to measure participants' perceptions of the leader's worthiness of power. Worthiness of power is determined by the powerful person's perceived leadership ability (measured with 5 items) and motivation to advance group goals (measured by 4 items).

Perceived Worthiness of Leader
Leadership Ability
I believe the leader is a capable leader.
I believe the leader is going to perform well.
I believe the leader will help our team win.
I believe the leader lacks the skills to effectively lead the team. *
I believe in the leader's abilities in this competition.
Group-Orientation Motivation
I believe the leader has the team's best interest in mind.
I believe the leader is going make all decisions thinking of the welfare of the group.
I believe the leader is motivated for each member of the group to succeed.
I believe the leader is more concerned with what benefits him/her than the group. *

*Indicates a reverse-coded item

Ignoring Input

Participants received a message that said that the leader was ready to begin implementing

the business strategies and that to execute the selected strategies, the leader had delegated a

number of tasks to the participant. The message always said (errors in typing added to enhance

the cover story that participants were interacting with another undergraduate student):

> hey. I'll be working on other tasks, but here are the tasks for you to do ranking
> from most important to least important **…** 1)   improving customer satisfaction
> by giving customers surveys about their experience with the business,
> 2)   improving customer satisfaction by guaranteeing satisfaction or customers
> get full refund, 3)   increasing the number of sales made by rewarding employees
> who sell the most products.

After receiving the tasks in the leader's stated order of importance, participants were asked about how they wanted to carry out these tasks in two ways.

Changing Task Order. Participants were asked what they wanted to do first (i.e., "Which task do you want to do first? 1) improve customer satisfaction by giving customers surveys about their experience with the business, 2) improve customer satisfaction by guaranteeing satisfaction or customers get full refund, 3) increase the number of sales made by rewarding employees who sell the most products?")**.** They then reconsidered the remaining tasks and indicated which task they wanted to do second. We created a measure of participants' resistance to recommendations by *changing the task order*. To do so we categorized the deviation from the recommended order of tasks into one of three levels. First, the order could be the same as the order recommended by the leader, and so the *order* was categorized as "follow" and coded as 1 (35.7% of participants). Second, the order could deviate only slightly from the order recommended by the leader, by switching the order of any two tasks, which were categorized as "slightly resist" and coded as 2 (40.5% of participants). Third, the order could deviate completely; none of the tasks were in the recommended order, which was categorized as "resist" and coded as 3 (23.8%).

Changing the Time Allotted. Participants were then asked what percentage of time they wanted to allocate to each task. They were asked to put the percentage of time they wanted to allocate to each task next to each task, and they were told that the total percentage of time must equal 100 percent. To create a measure of resistance of the leaders influence by *changing time allotted*, for each participant we listed which tasks the greatest to least allotted amount of time and then determined how much this deviated from the leader's order of importance. If the participants' allotted time for each task completely matched the leader's "order of importance", then *change in time allotted* was coded 1 (16.7% of participants). If it deviated only slightly (i.e., there was only one pair of tasks that was switched) then it was coded 2 (42.9% of participants).

And if the allotted time for each task was completely different from the priorities recommended by the leader (i.e., none of the tasks were allotted time in the leader's order of importance) then it was coded 3 (40.5% participants).

Appeals to Someone More Powerful than the Leader

After receiving a message stating that the participants did not have to complete the task because this was a simulation, participants were asked to send the researchers a message containing any recommendations the employees had for the leader: "Please enter a message for the researchers if you have any recommendations concerning the leaders' behavior." These open-ended responses were coded for participants' attempts to get the researcher to intervene and/or change the leader's decision about the prize money. None of the participants attempted to appeal to the researchers to intervene or change the leader's decision about the prize money, therefore, this variable will not be further mentioned.

Results

We first performed analyses to test the predictions that men more than women (coded 1 and 0, respectively) would undermine female leaders (coded 0) more than male leaders (coded 1). Toward that end, we submitted each of the measures of undermining behavior (*disagreement, changing order of tasks, changing time allotted, and power worthiness*) to separate leader gender by participant gender full factorial analyses of variance (ANOVAS)[2]. The only effect to approach significance was a marginally significant interactive effect of participant gender by leader gender on agreement, $F(1,206)=2.65$, $p=.10$, $\eta_p^2=.013$[3]. To interpret this interaction, we analyzed agreement scores for female and male leaders separately in one-way participant gender

ANOVAs. When the leader was female, men and women did not differ in their agreement with

the leader ($F(1,206)=.16$, $p=.70$, $\eta_p^2<.001$). However, when the leader was male, women

significantly agreed with the leader more ($M=718.00$, $se=46.02$; $M=6.58^4$) than men ($M=572.39$,

$se=68.54$; $M=6.35$). Likewise, we also analyzed the effect of leader gender on agreement scores

for women and men separately. For women, there was a significant effect of leader gender on

agreement ($F(1,133)=4.89$, $p=.03$, $\eta_p^2=.04$) such that women agreed with male leaders

($M=718.00$, $se=43.16$; $M=6.58$) more than female leaders ($M=579.43$, $se=45.46$; $M=6.36$).

However, for men, there was no significant effect of leader gender on agreement, $F(1,73)=.15$,

$p=.70$, $\eta_p^2=.002$. Men agreed with male ($M=572.39$, $se=64.65$; $M=6.35$) and female ($M=605.94$,

$se=55.77$; $M=6.41$) leaders equally.

No other significant or marginally significant effects of participant leader, leader gender,

or their interaction emerged on any other variables (all $Fs<1$, $ps>.44$, $\eta_p^2<.004$). In other words,

none of the predicted effects emerged as significant.

Next we calculated correlations among participant gender, leader gender, power

worthiness, agreement, change of task order, and change of time allotted. Two significant

correlations and one marginally significant correlation emerged. First, as expected, perceiving a

leader as more power worthy led to greater agreement with the leader's decisions, whereas

perceiving a leader as less power worthy led to less agreement with the leader's decisions ($r=.31$,

$p<.001$). Given the leader's decisions were selected so that undergraduates would perceive them

as good decisions and agree with them (through pilot testing), any variability in agreement (i.e.,

less agreement) can be attributed to something other than perceived quality of the decisions. In

other words, less agreement does not reflect less agreement with the actual decisions, but rather

unnecessary disagreement and undermining the leader. Second, the two forms of ignoring input,

changing the task order and *changing time allotted,* were significantly positively correlated

($r=.53$, $p<.001$). In other words, greater changing of task order predicted greater changing of the

time allotted. This is logical because if people ignored the leader's input and changed which tasks

that they thought were most important, this would be likely reflected in both measures. Finally,

people marginally agreed more with male leaders than female ($r=.11$, $p<.10$); however, from the

two way ANOVA above, we know that this effect is driven by women, rather than men. That is,

women, not men, agree more with male leaders than female leaders.

Discussion

Consistent with predictions, the findings of Study 1 revealed that perceptions of less

power worthiness predict less agreement, or more unnecessary disagreement. We also found a

marginally significant interactive effect of leader and participant gender on agreement; contrary

to prediction, however, this effect was driven by women agreeing more with male leaders than

female leaders rather than men agreeing less with female leaders than male leaders. In fact, we

found no evidence that low power men, more than low power women, undermine female leaders

more than they undermine male leaders. Prior to rejecting this hypothesis, however, we

considered an alternative possible explanation for the lack of predicted effects.

In our past research (Dahl et al., 2014) we found that threats to masculinity produced the

predicted dominant and compensatory outcomes not directly, but rather indirectly via their effects

on public discomfort and anger. In fact, our prior research documented competing, or

suppressing, indirect effects of masculinity threat conditions on outcomes. These competing

effects led to a lack of overall (or total) effect (for reviews of suppressed or competing effects

diminishing total effects see Cohen & Cohen, 1983; Tzelgov & Henik, 1991; Shrout & Bolger,

2002).

More specifically, our prior research (Dahl et al., 2014) finds that threats to masculinity

threat inspired opposing effects that canceled out the total effect of the independent variable on

the dependent variable. For example, men felt public discomfort, or negative affect when thinking about others observing failures of masculinity (e.g., learning one performed more like a woman than a man). Public discomfort, in turn, led to anger that, subsequently predicted more compensatory behavior (i.e., endorsement of dominance ideology, benevolent sexism, and the sexualization of threatening women). Conversely, when controlling for the effect of anger on compensatory behavior, the effect of condition on compensatory behavior was eliminated and sometimes reversed. That is, looking only at the pathway from the experimental condition to the compensatory behavior through public discomfort—rather than through public discomfort *and* anger—the effect had a different sign, or opposite effect, on the outcome. To the extent that a masculinity-threatening situation led to greater feelings of public discomfort, *controlling for when this threat lead to greater anger*, men engaged in less compensatory behavior. Consequently, there were not total effects of threats to masculinity on men's subsequent compensatory/dominant behavior. Stated differently, if we had only looked at the effect of the masculinity threat condition on the outcome variable (e.g., sexualization) in our prior work, we would have failed to document and consistent, replicable, and important outcome.

To address the possibility that threats to masculinity inspire opposing effects that, in turn, drive undermining behavior, in Study 2 we measured mediators that could lead to opposing, competing effects as shown in Figure **2-1**. Because prior findings show that threats to masculinity led to greater *public discomfort* and subsequently greater *anger* (Dahl et al., 2014) that, in turn, inspires acts of dominance and compensatory masculinity, in Study 2 we added measures of public discomfort and anger. If men experience threats to masculinity when working with a powerful woman, then men should experience greater public discomfort and subsequently more anger, and the anger should predict undermining behaviors. This effect is represented in the top pathway of Figure **2-1**.
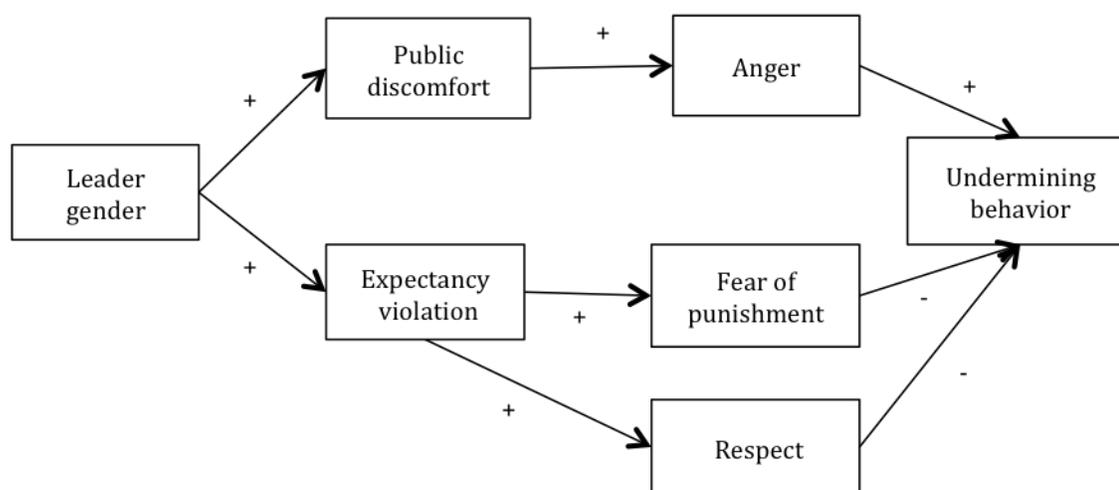
Figure **2-1**: Figure 2 provides a presentation of hypothesized competing, opposing effects. Specifically, via the top pathway, female leaders compared with male leaders should elicit more public discomfort, in turn more anger, and subsequently, more undermining. In contrast, via the lower pathways, female leaders compared with male leaders should also elicit more expectancy violation, in turn more fear of punishment (or greater respect), and subsequently less undermining. As a result of the two competing sets of pathways, the total effect would be non-significant and effects would only be detectable by measuring these mediators.

In Study 2, we also explored two additional research questions. First, Study 2 also examined what competing effects might suppress the effects of masculinity threat on undermining behaviors? That is, what might lead to *less undermining* of powerful women compared with powerful men? We explored two possible processes. First, research suggests that because people expect women to be communal, when a woman behaves in leader-like ways, such as demonstrating power, people perceive her as less collegial, lacking warmth, and as more selfish (Eagly & Karau, 2002; Schein, 1973; Heilman et. al, 1989, 1995). If people perceive women who demonstrate power to be more hostile than similarly acting men, then they might be more likely to fear powerful women than powerful men. More specifically, to the extent that people are surprised by women who demonstrate power, or experience *expectancy violations* in response to a woman's demonstration of power, they may also be more likely *fear punishment.* And if people are afraid the powerful woman will punish them, they may be less likely to try to undermine her.

Second, we also explored whether a demonstration of power by a women might actually lead to more *respect* for that woman. Some might argue that to get respect one needs to act with authority and demonstrate power. However, again, because people might not expect the power demonstration from a woman, they might be more likely to respect her because of it. We expected that to the extent that people experienced expectancy violations in response to a woman's demonstration of power, they might have greater *respect* for her, which in turn, may be associated with less undermining.

Second, because Study 1 revealed a marginally significant effect showing that women were particularly likely to agree with male leaders, Study 2 additionally examined why low power women (rather than men) might undermine powerful women more than powerful men. It could be that low power women *expect* powerful women more than powerful men to treat the low power women as equals. There is some evidence from a qualitative study that female students in the sciences expect that having a female advisor rather than a male advisor "would make life a bit easier" (Etzkowitz, Kemelgor, Neuschatz, Uzzi, & Alonzo, 1994). Similarly, female cadets in the military said they had greater expectations for more senior women to help them acclimate to the traditionally male environment (Yoder, Adams, Grove, & Priest, 1985). Why women entering these male-dominated domains of science and the military would have these expectations remains to be theoretically developed. However we first test this idea empirically in Study 2 by asking participants how surprised they were by the demonstration of power by the leader, or how unexpected it was. Additionally, because there is evidence that expectation violations leads to more sabotage of the person who violates expectations (Rudman & Fairchild, 2004), we predicted that this *expectancy violation* might explain why women might undermine powerful women more than powerful men. Specifically, women working with powerful women compared with powerful men could have greater expectancy violation, which in turn could lead to women's greater undermining of powerful women.

Chapter 3.

STUDY 2

The purpose of Study 2 was fourfold. First, Study 2 examined whether the masculinity threat effect was detectable if we measured important mediators (public discomfort and anger). Second, we tested whether men misattribute their threatened feelings to perceptions of less power worthiness by examining whether men's threatened feelings led to perceptions of less power worthiness, and in turn more undermining. Third, we explored possible competing, suppressing processes that might lead to less undermining of powerful women. Fourth, we explored whether and why low power women might undermine powerful women more than powerful men.

The procedure for Study 2 was identical to the procedure in Study 1 except that we also measured *public discomfort, anger, expectancy violations, fear of punishment,* and *respect for the leader*. As noted, we expected a participant gender by leader gender interaction such that men working with a female leader were expected to report greater public discomfort and more anger that, in turn, predicted *more* undermining behavior. We also examined whether greater public discomfort and anger, in turn predicted perceptions of less power worthiness, which in turn led to more undermining behavior. Additionally, we explored several other effects. First, we tested two possible competing, suppressing effects in which powerful women were undermined less than powerful men. First, we tested whether people working with a female leader would be more surprised when a female leader demonstrates power (i.e., have greater expectancy violations), which in turn would predict greater fear of punishment, and subsequently *less* undermining behavior. Second, we tested whether greater expectancy violations when working with a female leader, in turn, may also predict greater respect for the leader, and subsequently less undermining

behavior. Finally, we tested whether women working with female leaders experienced more

expectancy violations, which in turn lead to greater undermining.

Method

Participants

Two hundred and eighty undergraduates at The Pennsylvania State University who were

enrolled in an introductory psychology class participated in the study for course credit. Twelve

participants were removed for being suspicious that some part of the study was fake (e.g., the

leader or scores on the test were not real) or because they had already participated in a study with

a similar cover story. Also, another six participants were removed because of equipment

malfunction or for not following directions. Of the remaining 262 participants, 119 were female

(143 male). The average participant age was 19 (SD=1.28) with the eldest participant being 25

and the youngest being 18, and twelve participants not reporting their age. Seventy-six percent of

participants were White/Caucasian (n=199), 5.3 percent were Black/African American/of African

descent (n=14), 4.6 percent were Latina/o (n=12), 9.9 percent were Asian (n=26), .4 percent were

Native American (n=1), and 3.8 percent identified as other (n=10).

Procedure

As in Study 1, participants arrived in groups of 2-6 and were told the same cover story

that the purpose of the study was to see how teams perform in strategic business environments

and how teams problem solve. Participants were assigned a partner ("Jessica" or "Mike") and completed the fake skills test, which determined that participants would be the employees and their "partner" would be the leader. Then the leader demonstrated power and participants completed the dependent measures of undermining behaviors from Study 1 (i.e., *agreement[5],* *perceived power worthiness, resisting recommendations, and appeals to someone more powerful* *than the leader[6]*). Then participants completed measures of mediators. We measured these after measuring the dependent variables because the mediator items might rouse suspicions about the true purpose of the study and might affect participants' responses to the DVs. After completing the measures for mediators, participants were probed for suspicion in the survey, debriefed, and thanked.

Measures

Public Discomfort

Participants were asked to report their negative emotions and/or discomfort as they imagine their scores being made public. Specifically, using a 7-point scale (1="not at all: and 7= "Very"), participants answered the following question for each of eight emotions: "If we publish this study, then we will have to report the results. Imagine that we are going to publish your full name next to Jessica/Mike's name and we will publish your scores. With this in mind, answer the following questions. To what extent do you feel_____?" (anxious, nervous, defensive, depressed, calm, joyful, happy, and confident). After reverse scoring happy, confident, calm, and joyful, we averaged across participants' ratings to create a public discomfort variable (α=.84). Higher numbers reflected greater public discomfort.

Anger

Using 9-point scales (1="not at all" and 9="extremely"), participants reported the extent to which they felt ten emotions "at this moment." Embedded within this list were four emotions intended to tap anger (i.e., angry, frustrated, hostile, and mad; α=.93). We averaged across emotions to create an anger score (α=.93). The distribution of reported anger was skewed right (skewness = 1.22). To correct for the skew, we performed a logarithmic transformation (base 10) of anger scores, which improved the skewness (skewness = .379). Higher numbers indicate greater anger.

Respect for the Leader

Using a 7-point scale (1="Strongly Disagree", 2="Disagree", 3="Slightly Disagree", 4="Neither Disagree Nor Agree", 5="Slightly Agree", 6="Agree", 7="Strongly Agree"), participants indicated how much they agreed with the following statements: *I'm impressed with my leader*; *I respect my leader*; *I admire my leader*. We averaged across responses to create a single respect score (α=.87). Higher numbers indicate greater respect for the leader.

Expectancy Violation

Using a 7-point scale (1="Strongly Disagree", 2="Disagree", 3="Slightly Disagree", 4="Neither Disagree Nor Agree", 5="Slightly Agree", 6="Agree", 7="Strongly Agree"), participants indicated how much they agreed with the following statements: *I was surprised at how the leader divided the money; It was unexpected how the leader divided the money; I expected the leader to divide the money more equally.* We averaged across responses to create a

single expectancy violation score (α=.87).   Higher numbers indicate greater expectancy violations.

Fear of Punishment

Using a 7-point scale (1=”Strongly Disagree”, 2=”Disagree”, 3=”Slightly Disagree”, 4=”Neither Disagree Nor Agree”, 5=”Slightly Agree”, 6=”Agree”, 7=”Strongly Agree”), participants indicated how much they agreed with the following statements: *I'm worried that if I disagree with the leader, the leader will give me less money; I'm worried that if I ignore the leader's recommendations, the leader will give me less money; I'm worried that if I do not follow instructions the leader will give me less money; I'm worried that if I rate the leader more negatively, the leader will give me less money; I'm worried that if I question the leader's motives, the leader will give me less money; I'm worried that if I say something bad about the leader, the leader will give me less money.* We averaged across responses to create a single expectancy violation score (α=.95). Higher numbers indicate greater fear of punishment.

Results

Data were analyzed in stages. First, we tested the hypotheses by submitting each variable to a separate ANOVA. Second, as a hypothesis-generating rather than hypothesis-testing endeavor, we explored bivariate correlations to examine relations among variables and identify potential variables through which leader gender and/or participant gender may have indirect effects on undermining outcomes (as well as other outcomes, as will be explained below). Third, we performed exploratory analyses examining an array of potential indirect effects that remained

viable given significant findings from the ANOVA and correlations among critical dependent variables and undermining behaviors.

Hypotheses-Testing

Each undermining variable (agreement, power worthiness, changing order of tasks, and change in time allocated) and potential mediator (public discomfort, anger, respect for leader, expectancy violation, and fear of punishment) was submitted to separate participant gender (men vs. women) by leader gender (male vs. female) between-participants ANOVAs. All significant and marginally significant main effects and interactive effects are reported below.

Effects of leader gender emerged on three variables. A main effect of leader gender emerged on power worthiness ($F(1, 258) = 3.98$, $p=.047$, $\eta_p^2=.015$) indicating that people rated the female leader as less worthy of power ($M=4.86$, $se=.10$) than the male leader ($M=5.01$, $se=.09$). There were also marginally significant effects of leader gender on *respect for the leader* ($F(1, 258) = 3.50$, $p=.06$, $\eta_p^2=.013$), *expectancy violation* ($F(1, 257) = 3.71$, $p=.055$, $\eta_p^2=.014$), and *fear of punishment* ($F(1, 258) = 3.37$, $p=.068$, $\eta_p^2=.013$). Male leaders were more respected ($M=4.49$, $se=.12$), less feared ($M=3.12$, $se=.13$), and less expectancy violating ($M=4.84$, $se=.14$), than female leaders (respect: $M=4.18$, $se=.12$; fear: $M=3.28$, $se=.14$; $M=5.22$, $se=.14$).

Main effects of participant gender emerged on *public discomfort* ($F(1, 258) = 15.3$, $p<.001$, $\eta_p^2<.06$), *expectancy violation* ($F(1, 257) = 6.68$, $p=.01$, $\eta_p^2=.025$), and *changing the order of tasks* ($F(1, 258) = 9.55$, $p=.002$, $\eta_p^2=.036$). Women expressed more public discomfort ($M=3.38$, $se=.10$), expectancy violations ($M=5.28$, $se=.15$), and were less likely to change the order of the tasks ($M=1.75$, $se=.07$) than men (public discomfort: $M=2.87$, $se=.09$; expectancy violation: $M=4.77$, $se=.13$; change the order of tasks: $M=2.03$, $se=.06$).

Importantly, consistent with predictions, a significant participant gender by leader gender interaction emerged on *expectancy violation* ($F(1, 257) = 5.67$, $p=.018$, $\eta_p^2=.022$). To interpret the interaction, we split the data by participant gender and used one-way ANOVAs to determine whether leader gender significantly predicted expectancy violations for women and men separately. Consistent with expectations, women working with female leaders had greater expectancy violation ($M=5.70$, $se=.20$) than women working with male leaders ($M=4.86$, $se=.21$), $F(1, 117) = 8.75$, $p=.004$, $\eta_p^2=.07$. In contrast, men's expectancy violations did not vary as a function of leader gender, $F(1, 140) = .11$, $p=.74$, $\eta_p^2=.001$. We then tested whether women's greater expectancy violation working with a female compared with a male leader indirectly led to women's greater undermining of female leaders. To test this, we estimated conditional indirect effects of participant gender by leader gender on expectancy violations, and in turn, each undermining behavior (i.e., agreement, changing order of tasks, changing time allotted) separately. We tested whether there were significant indirect effects using a bias-corrected bootstrapping method (Model 7; Preacher & Hayes, 2008) and ninety-five percent confidence intervals for the effects were estimated using 5,000 samples. Participant gender was entered as the independent variable, leader gender as the moderator variable, expectancy violations as the mediator and each undermining behavior was entered separately as the outcome variable. Contrary to prediction, none of the conditional indirect effects were significant (all confidence intervals included 0). Therefore, the interaction between participant and leader gender did not predict women's greater undermining of female leaders through expectancy violations.

In sum, female leaders were perceived as less worthy of power than were male leaders. Paralleling these findings, female leaders were also less respected and more feared than were male leaders. Importantly, however, these effects were not qualified by participant gender. Recall, we predicted that low power men (vs. women) would be more likely to undermine powerful women (vs. men), but the documented effects of leader gender on power worthiness,

respect, and fear of punishment were not qualified by participant gender. In addition, women (but not men) found powerful women to be more expectancy violating than powerful men; however, this expectancy violation did not predict undermining behaviors. Additionally, we did not replicate the marginally significant effect from Study 1 that women (but not men) agree more with male leaders than female leaders. Given the lack of findings consistent with predictions, we turned attention to exploratory analyses that were performed as a hypothesis-generating, rather than a hypothesis-testing, endeavor.

We performed two sets of exploratory analyses. First we explored whether there were *any* indirect effects of leader gender, participant gender, or the interaction on undermining behaviors through *any* of the mediators. Second, in line with the notion that people may misattribute their biases or negative feelings to perceptions of power unworthiness, we explored whether there were any indirect effects of the leader gender, participant gender, or the interaction on power worthiness.

Hypothesis-Generating Analyses Set #1: Indirect Effects on Undermining

We adopted a three-step approach to examine whether there were any indirect effects of the independent variables (leader gender and/or participant gender) on undermining behavior. First, based on the above reported ANOVA results, we identified which mediators were significantly or marginally significantly predicted by leader gender, participant gender, or the interaction. These potential mediators on which significant effects emerged in the ANOVAs are listed in column 2 of the top panel of Table **3-1**.

Table **3-1**: This table presents exploratory tests. The top panel presents tests to explore indirect effects on undermining behaviors. Possible tests include cases in which there was a significant effect of the independent variables (column 1) on a mediator (column 2), and when that mediator significantly correlated with an undermining behavior (column 3). The bottom panel presents tests to explore indirect effects on power worthiness. Possible tests include cases in which there

was a significant effect of the independent variables (column 1) on a mediator (column 2), and when that mediator significantly correlated with power worthiness (column 3).

Table of Study 2 Exploratory Hypothesis-Generating Tests

IV	Mediator	Undermining Behavior	Effect	CI Lower Bound	CI Upper Bound
Leader gender	Power worthiness	Agreement	29.2	0.01	0.16
	Respect	Agreement	21.41	0.35	50.67
	Expectancy violation	(uncorrelated with undermining)	-	-	-
	Fear of punishment	Change task order	0.02	0	0.07
		Change time allotted	0.02	0.0007	0.07
Participant gender	Public discomfort	Agreement	27.39	7.78	56.03
Leader gender X Participant gender[a]	Expectancy violation	(uncorrelated with undermining)	-	-	-

IV	Mediator	Power Worthiness	Effect	CI Lower Bound	CI Upper Bound
Participant gender	Public discomfort	Power worthiness	0.19	0.1	0.31

Note. Non-significant indirect effects are not reported in the table, however, one test found a confidence interval that was bounded at 0, which we do report here.
[a]The test of an indirect effect of leader gender X participant gender on expectancy violations, and in turn on agreement was already tested above, however included it as a "possible test" here to be comprehensive in our list of possible tests.

Second, we estimated correlations among all potential mediators and undermining behaviors (agreement, changing order, changing time) (see Table **3-2**). Then we identified which undermining behaviors were significantly correlated with the mediators on which significant effects emerged in the ANOVAs—these undermining behaviors are listed in column 3 of Table **3-1**. For example, ANOVA results revealed a significant effect of leader gender on power worthiness, and power worthiness was also correlated with agreement ($r = .31$, $p<.001$). Third, we tested whether there was a significant indirect effect of the independent variables on undermining behaviors using a bias-corrected bootstrapping method (Preacher & Hayes, 2008).

Ninety-five percent confidence intervals for the effects were estimated using 5,000 samples. All of the possible tests of indirect effects are listed in top panel Table **3-1** in each row, across columns 1, 2, and 3.[7] As an example, we tested whether there was an indirect effect of leader gender on agreement through power worthiness. Below we report only the significant indirect effects that emerged as evidenced by a confidence interval that does not include 0 and the pathways are displayed in Figure **3-1**.

Table **3-2**: This table presents bivariate correlations between all variables in Study 2.

Correlations, Means, and Standard Deviations for All Variables

Measure	mean	sd	1	2	3	4	5	6	7	8	9	10
Participant Gender	-	-										
Leader Gender	-	-	0.03									
Public Discomfort	3.1	1.07	-.24**	-0.02								
Anger	0.32	0.28	-0.09	-0.06	.57**							
Respect for Leader	4.35	1.36	0.09	.11^m	-.46**	-.50**						
Expect. Violations	5.12	1.62	-.16**	-.11^m	.16*	0.12	-0.05					
Fear Punishment	3.2	1.52	-0.06	-.12^m	.19**	0.12	-0.08	.20**				
Power Worthiness	4.94	1.09	0.07	.12*	-.36**	-.39**	.73**	-0.1	0.02			
Agreement	589.47	376.89	-0.03	-0.05	-.14*	-.17**	.25**	0.03	-0.002	.31**		
Change task order	1.9	0.74	.19**	0.02	-0.03	0.06	-0.04	-0.04	-.13*	-0.04	-0.06	
Change time allot	2.23	0.76	0.1	0.05	0.03	0.08	-0.06	0.06	-.14*	-0.03	-0.09	.54**

Note: superscripts indicate significance level: ^{m} *p<.10,* * *p<.05,* ** *p<.01*
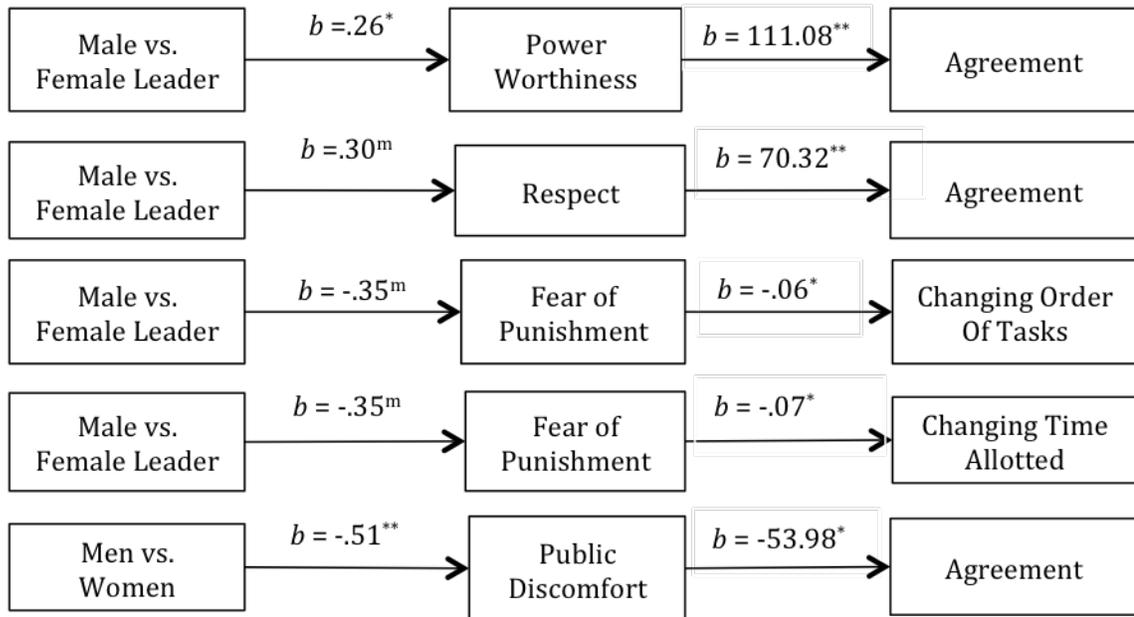
Figure **3-1**: This figure displays significant indirect effects from Study 2. Analyses revealed that female leaders are perceived as less power worthy and less respected and these effects, in turn, lead to greater disagreement with female leaders compared with male leaders (first two pathways). However, female leaders are also feared more than male leaders, which in turn led people to be less likely to change the order of tasks and change time allotted to each task (third and fourth pathways). Finally, women felt more public discomfort than men, which in turn led to less agreement with leaders (fifth pathway).

Leader Gender → Power Worthiness → Agreement

People perceived male leaders as more worthy of power than female leaders, and in turn, agreed more with male leaders than female leaders (effect=29.20, *SE* =15.22 [CI, .01, .16]). Male leaders compared to female leaders are rated as more power worthy (b=.26, *se* = .13, $t(260)$=1.96, p=.051), and in turn, greater perceptions of power worthiness, when controlling for leader gender, predict more agreement (b=111.08, *se* = 20.49, $t(259)$=5.42, $p<.001$). This means people

unnecessarily disagree with female leaders more than male leaders to the extent that they perceive female leaders as less worthy of power than male leaders.

Leader Gender → Respect → Agreement

People respected male leaders more than female leaders and, in turn, agreed with male leaders more than female leaders (effect=21.41, *SE* =12.82 [CI, .35, 50.67]). People marginally respected male leaders more than female leaders (*b*=.30, *se* = .17, *t*(260)=1.81, *p*=.07), and in turn, greater respect, when controlling for leader gender, predicts more agreement (*b*=70.32, *se* = 16.69, *t*(259)=4.21, *p*<.001). This means people unnecessarily disagree with female leaders more than male leaders to the extent that they respect female leaders less than male leaders.

Leader Gender → Fear of Punishment → Changing Order of Tasks

People feared more punishment from female leaders than male leaders, and in turn, were less likely to change the order of tasks with female leaders than male leaders (effect=.02, *SE* = .02 [CI, .0000, .07])[8]. People marginally feared punishment more from female leaders more than male leaders (*b*=-.35, *se* = .19, *t*(260)=-1.89, *p*=.06), and in turn, more fear of punishment, when controlling for leader gender, predicted less changing the order of tasks (*b*=-.06, *se* = .03, *t*(259)=-2.02, *p*=.04). This means people ignore male leader's input more than they ignore female leader's input (through changing the order of tasks) to the extent that they are less likely to fear punishment from male leaders compared with female leaders.

Leader Gender → Fear of Punishment → Changing Time Allotted

People feared more punishment from female leaders than male leaders, and in turn, were less likely to change the time allotted for tasks with female leaders than male leaders (effect=.02, *SE* = .02 [CI, .0007, .07]). People marginally feared punishment more from female leaders than male leaders (*b*=-.35, *se* = .19, *t*(260)=-1.89, *p*=.06), and in turn, more fear of punishment, when controlling for leader gender, predicted less changing the time allotted for tasks (*b*=-.07, *se* = .03, *t*(259)=-2.14, *p*=.03). This means people ignore male leader's input more than they ignore female leader's input (through changing the time allotted for tasks) to the extent that they are less likely to fear punishment from male leaders compared with female leaders.

Participant Gender → Public Discomfort → Agreement

Women felt more public discomfort than men and, in turn, agreed less with leaders (effect = 27.39, *SE* = 12.18 [CI, 7.78, 56.03]). Women felt more public discomfort than men (*b*=-.51, *se* = .13, *t*(260)=3.93, *p*<.001), and, when controlling for the effect of participant gender on agreement, more public discomfort predicted less agreement (*b*=-53.98, *se* = 22.29, *t*(260)=-2.42, *p*=.02). This means that women unnecessarily disagreed with leaders more than men to the extent that they felt more public discomfort than men. However, this indirect effect on agreement is explained by perceptions of less power worthiness (see the next section).

Hypothesis-Generating Analyses Set #2: Justifying One's Negative Feelings and Behavior

To examine whether there are any indirect effects of leader gender, participant gender, or their interaction on power worthiness, as would be expected if people misattributed their negative feelings to decreases in perceived power worthiness of a powerful women, we again adopted a

similar three-step approach. First, we identified negative feelings (public discomfort or anger) on which significant effects or marginally significantly effects emerged from the ANOVAs. These are summarized in columns 1 and 2 of the bottom panel of Table 2. Second, we identified whether these negative feelings were correlated with power worthiness. Significant correlations with power worthiness are listed column 3 of Table 2. Third, as we did above, we tested indirect effects by estimating ninety five percent confidence intervals using 5,000 bootstrapped samples (Model 7; Preacher & Hayes, 2008). All possible tests are listed in the bottom panel of Table 2 in each row across columns 1, 2, and 3. There was only one possible test and it reached significance (participant gender predicted public discomfort and, in turn, power worthiness). We then took this test one step further and tested whether this pathway to power worthiness predicted any undermining behavior that was correlated with power worthiness (i.e., only agreement) (this test is not represented in Table 2).

Participant Gender →Public Discomfort → Power Worthiness

Women felt more public discomfort than men, and in turn, women perceived leaders (both male and female) as less worthy of power (effect = .19, *SE* = .05 [CI, .10, .31]). Women felt more public discomfort than men (*b*=-.51, *se* = .13, *t*(260)=3.93, *p*<.001), and when controlling for the effect of participant gender on worthiness, more public discomfort predicted less perceived worthiness (*b*=-.37, *se* = .06, *t*(261)=-6.14, *p*<.001). This means that women, compared with men, perceive leaders as less worthy of power because women may misattribute their relatively greater feelings of public discomfort.

Participant Gender →Public Discomfort → Power Worthiness→Agreement

Taking this test one step further, we tested whether women's greater public discomfort compared with men's, and in turn, greater perceived worthiness of the leader serially predicted any of the undermining behaviors that were correlated with power worthiness. Only agreement was correlated with power worthiness, and so we tested whether participant gender indirectly affected agreement through serial mediation via public discomfort and power worthiness (this analysis is not represented in Table 2). This indirect effect was a significant: Women's greater public discomfort than men's, led to women's perceptions that the leader was less worthy of power, and in turn, women agreed less with leaders (effect = 19.63, *SE* = 6.92 [CI, 8.47, 36.44]). Controlling for participant gender and public discomfort's effects on agreement, greater worthiness still predicts more agreement (*b*=103.67, *se* = 21.91, *t*(261)=4.73, *p*<.001).

As reported above in the Set# 1 analyses, there was a significant indirect effect of participant gender on public discomfort and in turn on agreement; however, once controlling for the effect of power worthiness on agreement, the indirect effect of women's greater public discomfort alone on agreement disappeared (CI, -13.98, 33.71). That is, the effect of women's greater public discomfort on their *perceptions of power worthiness* explained women's agreeing less with leaders. This means that women, compared with men, unnecessarily disagree with leaders because women may misattribute the greater public discomfort that they feel relative to men to perceptions that the leader is unworthy of power.

Discussion

As in Study 1, greater perceived power worthiness was associated with more unnecessary disagreement. That is, the more worthy of power people perceived the leader to be, the more they

agreed with the leader or the less they unnecessarily disagreed with the leader. Importantly, through exploratory analyses, Study 2 also found that leader gender indirectly predicted this form of undermining. Specifically, male leaders were perceived as more worthy of power than female leaders and, in turn, participants agreed more with the male leader. Similarly, male leaders were marginally more respected than female leaders, and in turn participants agreed more with the male leader.

Importantly, as in Study 1, we found no evidence consistent with the notion that low power men, more than low power women, would undermine female leaders more than male leaders. Nor did we find support for our prediction that this effect may occur indirectly through men's increased public discomfort and in turn increased anger. In fact, we found that women reported more public discomfort than men, regardless of leader gender. One possible reason for why we may have failed to replicate the findings of our prior work is related to the order in which participants completed the dependent variables and mediators. In past experiments (Dahl et al., 2014; Weaver & Vescio, 2014), we measured public discomfort immediately after participants received their false feedback on the skills test and prior to the assessment of the outcome variable of interest. In the present experiment, we measured public discomfort after the participants "interacted" with the leader and completed the business simulation. Therefore, the public discomfort measure was open to multiple meanings here, whereas it was clearly about results on the skills test in prior work. More specifically, given the placement here, participants may have thought that the question about their discomfort related to others seeing the results of the business simulation, rather than their performance compared with their leader's on the skills test.

Despite the fact that we did not replicate or prior findings, several other interesting and potentially important findings emerged in the data of Study 2. Consistent with predictions, women, but not men, found that female leaders violated their expectations compared with male leaders; that is, female leaders who demonstrated power surprised women but not men. Contrary

to prediction, however, women's greater surprise at the female leader's power demonstrations did not predict any greater or less undermining. Additionally, both men and women undermined the leaders, but for different reasons. Consistent with the notion that people misattribute their negative emotions to perceptions of people's power unworthiness, and that this in turn leads to more undermining, women's greater public discomfort, predicted lesser perceptions of power worthiness, and in turn less agreement with leaders. That is, women felt more discomfort, but may have misattributed this discomfort to perceptions that leaders were unworthy of power, and in turn undermined the leader more.

By contrast, men were more likely than women to undermine the leader by ignoring the leader's input and changing the task order. We did not find any significant mediators for this effect. Finally, consistent with the idea that there are competing effects in which people sometimes undermine powerful women less than powerful men, people marginally feared more punishment from female leaders compared with male leaders. That is, people may be more afraid of a female leader than a male leader, and interestingly, this greater fear of female leaders compared with male leaders, in turn lead to less undermining of female leaders by less ignoring the leaders input (i.e., less changing of task order and time allotted). However, contrary to prediction, this greater fear of punishment from female leaders was not mediated by expectancy violations.

Chapter 4.

GENERAL DISCUSSION

Powerful Women and Masculinity Threat

We conducted two studies to test the notion that men, more than women, would undermine powerful women more than powerful men. Extending our prior findings (Dahl et al., 2014), we initially predicted that threats to masculinity – as evidenced by increases in public discomfort and anger – would mediate the leader gender by participant gender effect on undermining. Contrary to predictions, we found evidence consistent with neither the notion that men experienced threats to masculinity nor the notion that men undermined powerful women more than powerful men.

There are a few potential reasons we may have failed to identify a relation between low power men working with a powerful woman and threats to masculinity. We discuss each, below.

First, as mentioned above, it could be that we did not replicate our previous findings because we measured public discomfort at a different point in the study. In previous studies (Dahl et al., 2014; Weaver & Vescio, 2014) we measured public discomfort immediately following the skills test and asked participants how they would feel if others saw their scores. In the current study, we asked participants how they would feel if others saw their scores, but we asked them at the end of the study. Participants may have responded while reflecting on their scores on the skills test, or while reflecting in their team performance on the business simulation. If they were reflecting on their performance as a team rather than their individual performance compared to their teammate's, they may have responded differently.

Second, the present study also differed from previous studies given that there was a demonstration of power, which may have changed some critical part of the experience for men.

Because power differences may not have been felt in past studies (power was not demonstrated), we may not have previously tested whether powerful women threaten men's masculinity; rather we may have tested whether women *who are poised to exert power* over men threaten masculinity. More generally, we speculate whether the *potential* of loss of masculinity is worse than "losing" masculinity. People are poor affective forecasters and are loss-averse, so maybe for men, masculinity threat is an experience that is worst in anticipation rather than experience. Past studies show that for men, imagining being in a masculinity-threatening situation (e.g., doing ballet) leads to men's discomfort at the notion that others can see and evaluate them (Vandello, et al., 2008). However, there are many men who engage in behaviors that should threaten masculinity (e.g., many men do ballet). Similarly, the *potential* for others to view men as gay, not being gay, leads to men's compensatory behavior (Bosson et al., 2009). Given the different findings that emerged here compared to in our prior research, future work needs to attempt to more fully disentangle when and with consequences masculinity is threatened.

Gender Stereotypes and Power Worthiness, Respect, and Fear of Backlash

Elaborating on prior work showing that power is bestowed to sociable people (Keltner et al., 2010) and people who serve the group interest, as well as being competent (Ratcliff, Vescio, & Dahl, 2014), we predicted that the power of unworthy powerholders would be undermined. Consistent with this idea, we found that greater perceptions of power worthiness lead to less undermining. We also found that powerful women are perceived as less power worthy than powerful men.

Our finding that women are perceived as less worthy of power than are men is consistent with an array of findings on gender stereotypes. More specifically, to the degree that women are stereotypically perceived as lacking competence relative to men (Fiske, Cuddy, Glick, & Xu,

2002) or possessing attributes that are inconsistent with those required for success as a leader (Eagly & Karau, 2002), women may be readily seen as less worthy of power than are men. Our findings also showed that powerful women were less respected than powerful men, consistent with prior work showing that female leaders are subject to more prejudice than are male leaders (Eagly & Karau, 2002).

Additionally, because people expect women to be warm and communal, when female leaders demonstrate power, they may be evaluated as being more selfish and hostile than similarly behaving men, leading to the perception that women do not have the group's interest in mind. This suggestion is consistent with prior findings showing that assertive or agentic women are evaluated as more selfish than similar men (Schein, 1973; Heilman et. al, 1989, 1995). Findings also show that agentic women and powerful women are subject to more backlash, or social and economic punishments (Rudman & Fairchild, 2004; Rudman, Moss-Racusin, Phelan, & Nauts, 2012).

Similarly, powerful women were more feared than powerful men, which in turn led to less undermining of powerful women. This gives some evidence of competing, suppressing effects of undermining powerful women (see Figure 3); sometimes, powerful women are undermined more than powerful men, but sometimes they are undermined less. Importantly, both processes may be driven by stereotypic expectations about women's warmth and competence. However, we did not find that our measure of expectancy violations mediated this effect.

Another unexpected, but important finding in this work was that low power men and low power women both undermine leaders (both male and female) in different ways for different reasons. Women report more public discomfort than men, which, in turn, led to perceptions that leaders were less worthy of power, and in turn to less agreement with leaders (both male and female). Women's greater discomfort may have been related to stereotype threat activation in the domain we created. Some words used to describe the study and related tasks ("strategic" and

"competition") had been pilot tested and rated by undergraduates as stereotypically masculine. In a stereotypically masculine environment, or a domain in which having masculine attributes predict one's success, women may worry that they will confirm stereotypes about women not being as good as men in a these domains. And this worry may have led to women's greater discomfort at having others see their performance.

Originally, we expected that low power men working with a powerful woman would misattribute their threatened feelings to perceptions that the powerful woman was unworthy of power in order for the low power men to maintain self-views as good, egalitarian people. However, it may have been low power women who misattributed threatened feelings (albeit, threatened for another reason) to perceptions that leaders generally (i.e., both male and female) are unworthy of power. Assuming women experienced stereotype threat, women may have misattributed their threatened feelings because low power women may not have wanted to admit to themselves that the environment is threatening and that, as women, that they may be devalued. By perceiving the leader as a bad leader, low power women protect themselves by being able to blame or attribute any underperformance (or any other stereotype-reinforcing outcomes) to the leader. This misattribution may protect women's view of themselves as competent, despite the message of salient stereotypes that they are not. Additionally, consistent with the notion that power worthiness predicts undermining, women's greater public discomfort and, in turn, perceptions of less power worthiness led to more disagreement with the leader.

By contrast, men undermined leaders more by ignoring leader's input and changing the task order. This form of undermining behavior differs from others because it requires making a change or putting in effort. However, it is not clear why men were more likely to do this form of undermining (i.e., there were no significant mediators). Men may do this simply because stereotypes about men being independent (Thompson & Pleck, 1986) prescribe or compel them

men to be more independent. Men's greater independence may inspire men to impose their way of doing things onto a given task.

When Low Power Women Undermine Powerful Women

Two findings in the studies were driven by women participants and point to the ironic possibility that low power women, more so than low power men, undermine the power of women. Although it did not replicate, in Study 1, women, but not men, agreed more with male leaders than female leaders. However, in Study 2, women, but not men, had greater expectancy violation, or surprise, with female leaders compared with male leaders who demonstrate power. From these effects, it seems as though women may be relying more on stereotypic expectations than men. In Study 1, women may be relying more on stereotypes about male leader's greater competence compared to female leaders; in Study 2, women may be relying more on stereotypes that women ought to be communal and not to be "selfish." The question that arises is why would women rely more on stereotypes than men? Currently, there is no clear explanation for this. However, in reviewing the literature on when women (more than men) most rely on gender stereotypes, it seems that women rely more on stereotypes in stereotypically masculine environments to fit in and overcompensate for belonging to a devalued group. Specifically, "queen-bee" effects in which women, more than men, stereotype or discriminate against other women, occur when women recognize from personal experience that in the domain there are preferences for men and masculine attributes over women and feminine attributes (Derks, Van Laar, Ellemers, & de Groot, 2011; Derks, Ellemers, Van Laar, & de Groot, 2011). In the present study, it is possible that women associated this stereotypically masculine domain with past experiences, and in those past experiences, there was a norm that men were valued more than women. Therefore, women in these studies relied more on stereotypes than men.

Conclusions

What can be taken away from this work is that the experience of high and low power women must be complicated. Powerful women are not consistently undermined more than male leaders; however, powerful women are perceived by subordinates as less power worthy, and may be less respected, and perceived as more likely to retaliate and punish people who undermine them. Powerful women must have a sense of this, which must affect their relationships and trust with subordinates, and as a result affect their experience, performance, and desire to remain in positions of power. Similarly, perhaps due to stereotype threat, low power women feel more uncomfortable having others see their performance in a stereotypically masculine domain. Because of the salience of gender stereotypes that devalue women over men, women may do or think a variety of ways that are motivated by a desire to self-protect, but which may have ironic and adverse effects for other women in the environment. Prior to making any strong conclusions, however, emergent effects of Study 2 need to be replicated and further examined. This is particularly important given the hypothesis generating and exploratory nature of many of the analyses performed in Study 2. Thus, the present findings provide the basis for future theoretical development and provide an interesting method to test reactions to demonstrations of power.

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Appendix:

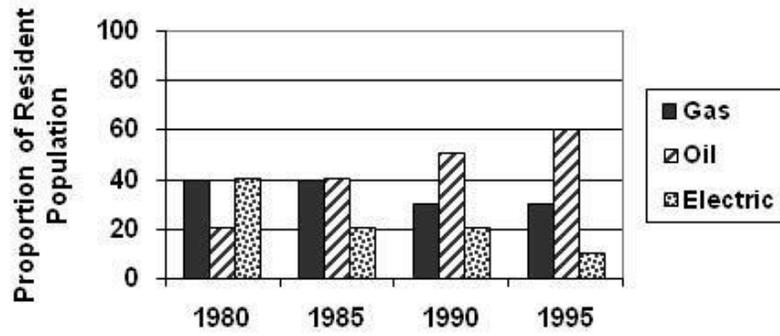# GENERAL MANAGEMENT APTITUDE TEST QUESTIONS

Heating methods utilized by residents of region X
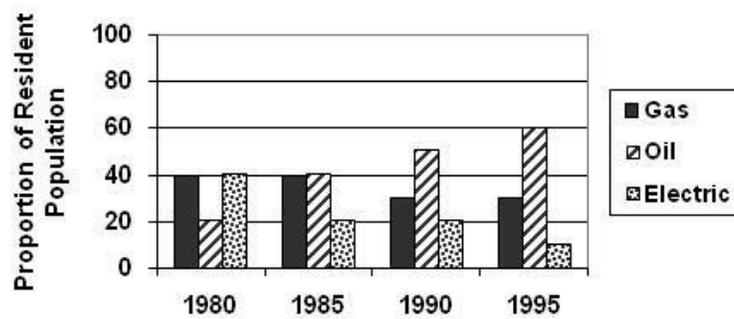
1. If 50,000 residents make up region x, how many more residents chose oil heat over electric heat in 1995?

◯ 5,000
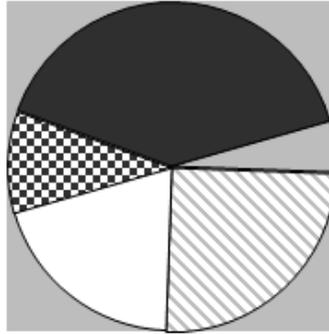
◯ 15,000

◯ 25,000

◯ 30,000

◯ 55,000

Heating methods utilized by residents of region X

2. What percent of gas consumers from 1985 switched to alternative heating methods in 1990?

○ 10%

○ 25%

○ 50%

○ 75%

○ 100%

Distribution (%) of earnings into a company's 401 K plan

- ■ Blue Chip Stocks 40%
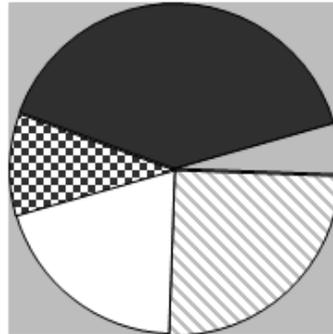- ▫ Municipal Bonds
- ▫ Annuities 25%
- □ OTC Stocks 20%
- ▨ Corporate Bonds 10%

3. What percent of earnings is not invested in bonds?

- ○ 5%
- ○ 10%
- ○ 15%
- ○ 25%
- ○ 85%

Distribution (%) of earnings into a company's 401 K plan

- ■ Blue Chip Stocks 40%
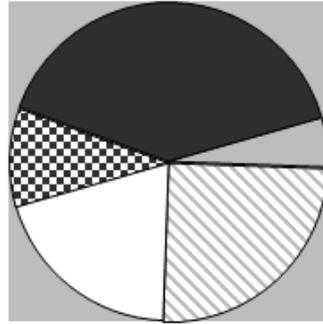- ▣ Municipal Bonds
- ▢ Annuities 25%
- □ OTC Stocks 20%
- ▨ Corporate Bonds 10%

4. If $3,000 was invested last month, what amount went into annuities?

- ○ $2,250
- ○ $1,500
- ○ $1,200
- ○ $750
- ○ $600

Distribution (%) of earnings into a company's 401 K plan

- ■ Blue Chip Stocks 40%
- ▫ Municipal Bonds
- ▫ Annuities 25%
- ▫ OTC Stocks 20%
- ▨ Corporate Bonds 10%

5. How much more money was invested in annuities than in corporate bonds if a total of $10,000 was invested?

- ○ $2,250
- ○ $1,500
- ○ $1,000
- ○ $8,500
- ○ $3,500

ENDNOTES

[1] Agreement was measured by asking participants to consider each business strategy and indicate how much they agreed that the business strategy improves a business. Participants indicated agreement using a 7 point scale. One-sample t-tests determined whether the mean agreement score for each strategy significantly differed from the mid-point of the scale (Neither agree nor disagree) in either direction (agree or disagree) and strategies that significantly difference from the midpoint were used.

[2] Because the *changes in order* and *changes in time allotted* variables had the characteristics of an interval variable; that is, one unit increase or decrease in the variable corresponded with the same degree of resistance and both variables are mostly normally distributed (skewness .21 and -.39, respectively), we treated them as normal linear variables. However, we also used ordered logistic regression to test the effects of leader gender and participant gender on these variables and the results were the same. The fit of the model was poor for both changes in order (-2 Log Likelihood = 33.12, $\chi^2(3)=1.53$, $p=.68$) and changes in time allotted (-2 Log Likelihood =34.66, $\chi^2(3)=1.43$, $p=.70$) and none of the parameter estimates were significant (all ps >.25).

[3] The interaction does not reach marginal significance if we use the untransformed agreement scores ($F(1,206)=.60$, $p=.45$, $\eta_p^2=.003$).

[4] Because agreement scores were transformed, to interpret the means, we present both transformed and un-transformed means (by taking the natural log of the transformed means), respectively.

[5] As in Study 1, this variable was exponentially transformed. The average agreement was *M*=5.94 (*SD*=1.28), which indicates that on average, participants agreed with the leader's decisions. However this was skewed negatively (skewness = -2.13) . Therefore I transformed the agreement scores by exponentiating them; this transformation reduced the skewness (skewness = .08).

[6] We measured appeals over the leaders head again because we thought, after Study 1, it was not clear to participants that leaders would not see their messages to the researchers. Therefore, we included a sentence stating that leaders would not see participants' messages to the researchers. However, this did not change the results.

[7] We recognize that the test of the indirect effects of the participant gender by leader gender interaction on expectancy violations, and in turn, on undermining behavior, is redundant because it was tested in the hypothesis-testing section of results. We included it in the table just to be clear and comprehensive about how exploratory analyses were done.

[8] We recognize that this confidence interval technically includes 0; however, because 0 is the lower bound, we report it as significant here.