

Fake it Till you Make It: How Acting Powerful Leads to Feeling Empowered

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The relationship between physical and psychological states, or what is called embodiment is a growing focus of research in the behavioral sciences. Embodiment refers to a broad range of phenomena in which bodily states or postures seem to produce thoughts, feelings and beliefs, directly, in the absence of situational factors that might warrant such reactions (Niedenthal, Barsalou, Winkielman, Krauth-Gruber and Francois Ric, 2005). For example, Strack, Martin & Stepper found that when people were led to contract the zygomaticous (smiling) muscle of their faces by holding a pen in their mouth they evaluated cartoons as more funny (1988). People liked Chinese ideographs more when they viewed them while enacting the approach behavior of pushing upward on a table from underneath as opposed to when they took part in the avoidance behavior of pushing downward and away from the body (Caciopo, Priester & Berntson, 1993). Wells and Petty found that people were more persuaded by messages they heard while nodding their head as if in agreement than they were with messages they heard while shaking their head as if in dissent (1980). Researchers have studied the role of embodiment in shaping our attitudes, emotions and self-perceptions.

Work on the relationship among body postures, facial expressions and the experience of emotions (Strack, Martin & Stepper, 1988; Schnall & Laird 2003), is perhaps the most widely known embodiment literature. Particular postures and expressions activate emotions in the absence of situational factors that might warrant such feelings. People's understanding of emotional content is reduced when they are unable to engage in the facial expressions associated with emotions. In a recent study people were hindered in their processing of sad and angry sentences when they had been given botox injections that kept them from moving their corrugator supercilli, the muscle necessary for producing frowns (Havas & Glenberg in prep). In addition to influencing emotions, postures and expressions affect non-emotional experiences

(Forster & Stack, 1996; Strack & Neumann 2000; Briñol, Petty, & Wagner, 2009). When people evaluated the fame of another person while furrowing their brow they felt that determining how famous the person was took greater effort. As a result, people made to furrow their brow thought the individuals they were evaluating were less famous than those they saw while making neutral expressions (Strack et al., 2002). Feedback from the body may also serve to reinforce or intensify the emotions associated with particular experiences when the posture and experiences are matched. Success at an achievement task led to greater feelings of pride if people learned of the success while sitting in an upright rather than a slumped position (Steeper & Strack 1993).

Recently, researchers have begun to explore the relationships among the physical and psychological manifestations of power. The effects of holding power on physical expression of power have been widely demonstrated (Hall, Coast & LeBeau 2005). In a recent meta-analysis of the relationship between various manifestations of objective power and non-verbal behavior researchers found that power holders were more likely to adopt expansive postures. Additionally, third party observers associated higher levels of power with increased direct gaze, a greater propensity for touching others, increased gesticulation (Carney, Hall & Smith LeBeau, 2005) and decreased smiling (Hall et al., 2005). Yet the possibility of a reverse causality – that is, embodiment -- in this relationship has only recently been considered. The only published work in this area is a set of studies by Shubert and colleagues (e.g., Shubert & Koole, 2009). They showed that making a fist led to feeling powerful, but only for men. In women, making a fist led to decreased hope of power (Schubert, 2004). Thus, whether these studies amount to evidence of embodied power is unclear.

A number of more recent studies have drawn on power-approach theory (Keltner, Gruenfeld & Anderson, 2003) as a basis for their predictions, and some of these have provided

clearer results. Power-approach theory is not a theory of embodiment; rather, it is an attempt to account for how the objective condition of power transforms people psychologically.

Specifically, the theory suggests that objective conditions of power activate the Behavioral Approach System (BAS), which is a psychophysiological system within the body that when activated increases approach behavior and positive emotions such as happiness, excitement and hope. Low power, in contrast, activates the Behavioral Inhibition System (BIS), a psychophysiological system that when activated increases inhibition of social action and promotes negative emotions such as anxiety, fear and sadness (Carver & White, 1994).

Galinsky, Gruenfeld and Magee, 2003 and Magee & Galinsky, 2008 argued that when objective power activates the BAS, it creates a power mind set, characterized by increased approach (Smith & Bargh, 2008; Anderson & Berdahl, 2002) and risk taking (Anderson & Galinsky 2006) as well as decreased perspective taking abilities (Galinsky, Magee, Inesi & Gruenfeld, 2006). As evidence for these assertions, studies have shown that power leads participants to desire to flip a coin for themselves rather than have an objective third party flip for them. Power increases one's likelihood of taking an additional card in a game where the mathematical odds of success are equal whether one chooses a course of action (taking another card) or inaction (passing) (Galinsky, Gruenfeld & Magee, 2003). Power increases the likelihood that people will think others will take their perspective without sufficient information (Galinsky, Magee, Inesi & Gruenfeld, 2006)

Carney, Cuddy, & Yap (in press) were the first to draw on this conception as a basis for their embodiment predictions. They argued that if powerful people often employed expansive postures these postures might also lead to feeling more powerful. They predicted that open postures would prompt higher testosterone levels (a hormone associated with expressing

dominance) lower cortisol levels (a stress hormone that powerless people often produce in excess) and greater tolerance for risk. They found that more open physical states led to greater feelings of power as well as higher levels of testosterone and lower levels of cortisol. People were also more likely to take a gamble when the mathematical chances of success associated with taking a gamble were equal to those associated with passing on the gamble. In addition, Huang, Galinsky, Gruenfeld & Guillory (in prep) reasoned that adopting a powerful physical posture might be more influential than a powerful role in predicting how powerful people felt. They predicted that high power positions rather than roles would lead to greater feelings of power, and the behavioral manifestations of power such as more approach orientation, less perspective taking and higher construal levels. Their hypotheses were confirmed in that high power postures predicted powerful behaviors however, contrary to their predictions, they found that roles were more influential in predicting the sense of power than were postures. Note that both of these studies used the same physical manifestation of power, physical expansiveness. So it is not known whether these effects generalize to other physical manifestations of power. Moreover, although these studies used power-approach theory as a basis, neither attempted to test the effect of physical posture on approach activation per se.

The research reported here was designed to contribute to these lines of work in a number of ways. We noted that there is little direct evidence that speaks to how objective power activates the BAS and creates a power mind set. Keltner et al theorized that it is something about the psychological experience of power that leads to the power mindset. Power-approach theory suggests that more access to rewards and less exposure to obstacles increases approach tendencies and facilitates the power mindset among power holders (2003). Similarly, Anderson & Berdahl found that it was the subjective experience of power that accounted for the effects

commonly associated with objective power (2002). Building on prior work, we predict that something about the physical experience of power helps to produce the power mindset. Specifically, we predict that physical postures associated with power, status and dominance will activate the BAS, leading to the subjective experience of power.

Overview of Studies

We conducted three studies in our effort to examine the relationship between acting powerful and feeling powerful. In these studies we derived our operationalizations of powerful acts from literature on the relationship between differences in power and nonverbal behavior (Hall et al., 2005) and work on how to demonstrate power when acting in the theater (Johnstone, 1987). In our first study we examine the effects of open lower body postures on feelings of power and approach oriented tendencies. We conjectured that if individuals expand their bodies as a means of expressing dominance, and doing so elicits submission (Tiedens & Fragale, 2003), body expansion might also cause feelings of greater power within the actor. In study 2 we examine the effect of direct eye gaze on feelings of power and activation of the BAS system. We conjecture that if others consistently recognized specific patterns of eye gaze as indicators of power (Hall, Coast & Smith Le Beau, 2005), this behavior may elicit feelings of power in participants. In our third study we examine the effect of speech speed on feelings of power and suggest that more or less open speech patterns influence behavioral inhibition and perceived power.

Study 1: Lower Body Postures

Open postures lead third party evaluators to perceive power in others. Physical openness is also a quality that is often observed among high power actors (Hall, et al., 2005). Openness is a common dominance display among human and non-human primates. Chimpanzees adopt expansive postures to appear bigger and more powerful (de Waal 1982). This evolutionary tie between body openness and power suggests that there may be strong and possibly functional linkages between power and the body. Increasing one's size through opening the body and extending the limbs is often met with complementary, submissive body postures (Tiedens & Fragale, 2003). In this way opening the body may reinforce positions of power in existing hierarchies or assist in claiming power if they provoke complementary responses. Since observing physical openness in others is associated with greater perceptions of their power, we predicted that physical openness in the self might also be associated with greater feelings of power in the self (Cuddy, Carney, & Yap in prep). Furthermore, we predicted that the effects of physical openness on feelings of power would be associated with activation of the Behavioral Approach System.

Methods

Participants

Ninety students took part in this study. Four participants were dropped for failing to comply with the study directions. This left us eighty-six participants, 59 women, 25 men and 2 unreported took part in this survey based lab study as part of a mass survey session held at a large West Coast university. Participants were compensated with \$20 in cash for taking a number of unrelated surveys at once.

Procedure

The participants took part in a study that had been described as an examination of the relationship between chakras, thinking and imagination. In the survey, participants were told that different centers of energy throughout the body influenced imagination and that in order to release the energy from specific chakras they would need to modify their sitting positions slightly. Approximately half of the participants were asked to get into an open posture where their toes and knees were facing outward (high power position) where as the other half of the participants were asked to make sure that their knees were touching and the tips of their toes were facing one another (low power position). Participants were then asked to hold this position while they wrote about a past social interaction. After the writing task participants answered items from the sense of power scale (Anderson, et al., 2006) as well as a separate measure of approach derived from the BIS/BAS scale (Carver et al., 1994). They also answered questions about their height, weightlifting ability and the distance that they could run. These items were included in order to explore whether dominance and submissiveness postures affect perceptions of physical, as well as psychological, power.

Measures

In this 5-minute SIM study we used a shortened version of the scales due to time constraints. The 8-item power scale was shortened to 2 items on the survey ($M= 4.6$, $SD=1.14$, $\alpha =.802$). An example item from the power scale used in this study is “If I want to, I get to make the decisions. The scale range is from 1-7 with 1 indicating total disagreement and 7 indicating total agreement.

The approach scale in this study is a 3-item measure derived from Carver & White's BAS activation scale ($M= 4.8$, $SD=1.05$, $\alpha =.75$). The scale items range from 1 to 7 with 1 indicating that you totally disagree with the statement and 7 indicating that you totally agree with the statement. A sample item from the scale is "If I see a chance to get something I want I move on it right away."

The items that pertained to physical power were straight forward in that they simply asked participants to report the numeric values associated with their height in inches, weight lifting ability in pounds and distance run in miles. An example of one of these 3 items is "How far can you run in miles?"

Results

We used univariate analysis of variance to examine differences in sense of power and behavioral approach activation among participants who were told to sit in an open versus a constricted posture. We examined the influence of the factor postural openness on approach, perceived power, and perceived physical power. We found that open lower body positions were significantly predictive of both approach orientation $F(1, 85) = 8.799$, $p = .004$ and perceived power $F(1, 85) = 4.99$, $p = .028$. When people sat in more open postures they reported being more approach oriented ($M= 5.10$, $SD= .841$) while people who sat in more closed postures felt less approach oriented ($M= 4.45$, $SD= 1.21$). People in open postures perceived that they were more powerful ($M= 4.61$, $SD= 1.03$) while people in closed postures felt significantly less powerful ($M= 4.21$, $SD= 1.15$). A one-way ANOVA indicated a marginal effect of posture on participants' perceptions of their strength. Participants who sat in an open posture reported that they could lift slightly more weight ($M=94.583$, $SD=67.42$) than their closed posture

counterparts ($M=70.446$, $SD= 45.91$), $F(1, 70) = 2.42$, $p = .124$. This question came at the end of our survey measure and many participants decided not to answer. Due to the high levels of non-response we encountered with this item we must look to further studies to clarify the possible relationship we found between powerful physical states and perceived physical power. We found no significant difference in the responses of low power posture and high power posture participants' responses to questions about the distance they could run $F(1, 80) = .00$, $p = .989$, or their heights $F(1, 85) = .833$, $p = .364$.

Discussion

As predicted, open body postures led to reports of greater behavioral approach system activation. In line with our assumptions about the relationship among physical openness, approach orientation, and the high power mindset, we also found that open body postures were associated with a greater sense of power. The role of open body postures in predicting both heightened perceived power and increased behavioral activation suggest that open postures may be influencing perceived power through activating systems that are associated with objective power. Although we did not predict it, we also found that open postures tended to increase perceptions of physical power (i.e., strength), but not significantly so. It is possible that the lower number of participants who answered this question may have influenced the relationship we detected. Further examination of the relationship between openness and physical power is necessary to better understand how high power postures influence how people think of their physical abilities. In addition to further examining how other manifestations of physical openness influence approach tendencies and feelings of power, we look for evidence of a relationship between openness and physical power in the following two studies.

Study 2: Eye Gaze

Looking directly at a person rather than away from them is typically perceived as an act of dominance (Hall, et al., 2005; Kleinke 1986; Mazur, Rosa, Faupel, Heller, Leen & Thurman). However, evaluations of a person's dominance increase the more they look at others while speaking and decrease the more they look at others while listening (Dovidio & Ellyson 1982). In our study of gaze we are mindful of this distinction and test the impact of looking directly at someone when they are not addressing you, an act of dominance. Eye gaze may influence the development of hierarchies even in the absence of status characteristics and without the benefit of speech (Kalma, 2006). This pattern of action is also one of the common behavioral stereotypes people have of power holders (Carney, et al., 2005). Direct eye gaze may be likened to postural expansion in that it reflects movement into the personal space of other entities. In gazing directly at another individual people are opening themselves up to others, rather than closing themselves off. Direct gaze patterns as opposed to indirect or darting gaze patterns are seen as a sign of greater engagement with other social actors (Burgoon, Manusov, Mineo, & Hale, 2005). Avoiding eye contact, while looking at power holders in search of approval, is a pattern more associated with expressing deference and avoiding embarrassment (Hall et. al., 2005).

This study was designed to replicate the results of study 1 using a different operationalization of physical dominance and openness. We predicted that the open physical state of direct gaze would activate the behavioral approach system, and lead to feelings of power.

Method

Participants

We recruited 130 participants (68 women, 61 men, 1 unreported) from a national online pool of individuals interested in taking part in online studies. These participants, ranging in age from 20 to 64, completed our study in exchange for a chance to win one of two \$25 Amazon.com gift cards.

Procedure

Upon entering the study site, we asked participants to watch a short video of a target person. Before being shown the video participants were told to pay attention to the target as they would be asked to evaluate him or her later. In the video targets sat quietly looking toward the camera and remained generally motionless, except for breathing and blinking. Participants were also told to watch for a red dot to appear on the screen, and to count the number of dots they saw.

In the direct-gaze condition, a red dot appeared near the face and eyes of the target. Thus, the participants eyes were trained directly on the target's face during the entire experiment; participants looked directly into the eyes of the target as the dot they counted was on or around the targets face. In the glance-away condition, the red dot appeared near the left shoulder. This led participants to watch the target, but to move their eyes down and away from the target's face each time a dot appeared, glancing back at the face again as they attempted to assess the target and count the dots at once. Participants took part in these behaviors under the assumption that we were studying the accuracy of evaluating others under conditions of divided attention.

After watching the video, participants evaluated the target person they'd seen on a variety of qualities from attractiveness to personality. Then they responded to questions about their interest in interacting with the target before completing the sense of power scale, approach measures and the self-efficacy scale.

Measures

In this study our 3-item approach measure came from the behavioral approach scale (Carver & White 1994) ($M= 5.28$, $SD=.755$, $\alpha =.811$). An example item is “ If I saw something I wanted right now I’d take action to get it.” This scale also ranges from 1-7, strongly disagree to strongly agree.

The measure of perceived power we use is the 8-item sense of power scale (Anderson, John, Keltner, 2006) ($M= 4.09$, $SD=.625$, $\alpha =.854$). An example item from this scale is “I feel like even if I voice them, my views have little sway.” This scale ranges from 1-7 strongly disagree to strongly agree.

To explore the meaning of “perceived power,” we also measured participants’ self-efficacy. Self-efficacy is a person’s belief about their ability to influence the events in their lives in a way that facilitates the achievement of their goals (Bandura, 1994). People with higher levels of self-efficacy believe that their actions can positively influence their lives while people with lower levels of self efficacy are more likely to believe that despite their efforts they may be unable to affect their lives for the better. Heightened self-efficacy may be another manifestation of the power mindset. When people experience power they perceive that they have more control of their environments and outcomes (Fast, Gruenfeld, Sivanathan, & Galinsky, 2009). The self-efficacy scale we used consisted of 7-items (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982) ($M= 5.3$, $SD=.588$, $\alpha =.859$). An example item is “ I can solve most problems if I invest the necessary effort.” Responses to the scale range from 1, strongly disagree to 7, strongly agree.

Results

The data were analyzed using oneway ANOVA. The factor of interest here was eye gaze. This factor had only 2 levels, open direct eye gaze pattern and constrained averted eye gaze

pattern. We used ANOVA to test the effect of eye gaze on a number of dependent variables including power, approach and self-efficacy. Consistent with predictions, we found a main effect of eye gaze on participants' responses to the behavioral approach scale $F(1, 129) = 5.843, p = .008$, the sense of power $F(1, 129) = 5.505, p = .01$, and the self-efficacy scale $F(1, 129) = 3.823, p = .05$. Participants in the direct gaze condition reported feeling greater levels of approach ($M = 5.54, SD = .83$) while participants in the low power averted gaze condition felt less approach oriented ($M = 5.18, SD = .83$). Participants who enacted the direct eye gaze pattern felt more powerful ($M = 5.02, SD = .89$) than participants who took part in the averted eye gaze pattern ($M = 4.66, SD = .83$). Likewise, participants who looked directly at the target in the film felt greater levels of self-efficacy ($M = 5.62, SD = .67$) than participants who averted their gaze ($M = 5.38, SD = .72$).

Although we did not have any predictions about the effects of gender, we found a main effect of participant gender on self-efficacy $F(1, 128) = 3.772, p = .054$ and perceptions of power $F(1, 128) = 4.235, p = .042$. Women felt more powerful ($M = 5.61, SD = .68$) than men ($M = 5.37, SD = .71$) and women felt more self-efficacious (women ($M = 4.98, SD = .83$) than men ($M = 4.67, SD = .89$) irrespective of condition.

Discussion

Bodily feedback from the open physical state of looking directly at a target figure, rather than the closed state of glancing from the target's face to their shoulders, led to an increase in participants' sense of power and behavioral approach feelings. These power and approach findings provide further support for the role of the behavioral activation system in facilitating high power mindsets. Open gaze patterns, like open body postures, may help participants to access high power mindsets by inducing corollaries of power such as the behavioral activation

system. Additionally, we found that direct gaze led to greater feelings of self-efficacy. People may have felt more self-efficacious after adopting the open eye gaze pattern because as BAS activation promoted the power mindset participants felt more control over their environments and outcomes. Independent of the main effects of condition we found a main effect of gender on participants' perceptions of their self-efficacy and power. The main effects of gender we found in this study would have been difficult to predict with our current line of theorizing. Further studies are necessary to address the role of gender in the embodiment of power. This might be an interesting avenue for future research.

Thus far we have examined two manifestations of physical openness and their relationship to behavioral activation and the sense of power. In the following study we continue upon this trajectory with a test of the role of speech speed in predicting approach tendencies and perceived power.

Study 3: Speaking Slowly

In our third study we were interested in the impact of how fast people speak on how powerful they feel. This idea comes from training in communications and in the theater, where speaking quickly is viewed as a sign of trying to finish quickly (i.e., make oneself small, socially), whereas speaking slowly is viewed as a sign of taking as much time as necessary (i.e., making oneself larger socially), e.g., Johnstone (1987). More than 20 studies of non-verbal behavior have examined either the express or predicted relationship between rate of speech and some manifestation of power. However a recent meta-analysis of power, status, dominance and non-verbal behavior found no conclusive evidence that possessing power leads to slower speech (Hall et al., 2005). We sought to address the uncertainty in the literature about this nonverbal behavior's association with power. We reasoned that in the same way that expansive postures are

a way of claiming physical space, both direct gaze and slow speech are ways of claiming social space.

We hypothesized that slower speech would be associated with higher degrees of perceived power because of slower speech's link to openness. When people speak slowly they run the risk of being interrupted by others. In speaking slowly one indicates the he or she has no fear of interruption. People who speak more slowly have a higher chance of being heard clearly and understood. They also take up the time of those with whom they are communicating. We thought that slow speech might also contribute to the well-documented finding that high power actors spend more time talking than do their counterparts (Schmid Mast, 2002). We predict that when participants are led to speak more slowly they will feel more powerful and report higher levels of BAS activation.

Methods

Participants

Sixty-three participants from a national pool of people interested in taking part in online studies completed this experiment in exchange for one of two \$25 Amazon.com gift cards. Nine participants were excluded for reporting that they were unable to take part in the manipulation. One was removed for entering only the value 1 in response to all items. This left us with 53 participants (17 men, 35 women, 1 unreported). Participants ranged in age from 20 to 61. The average age of participants was 37 years old.

Procedure

Upon entering the study cite participants were told that they would be taking part in a study of the relationship between numerology and personality. Participants were told that an online application would use information about their birth date and birth order to make predictions about their personality. After participants entered their birth date and birth order they were shown 3 sentences that had been selected as indicative of their personalities. We provided participants with personality supposedly personalized items to choose from as a means of giving them a degree of ownership over the words they were saying. In actuality all participants were shown the same combination of personality qualities and given an opportunity to select from among them. The personality sentences were as follows: “I’m generally a passionate person but I rely upon reason when necessary.” “I enjoy weighing various alternatives however I sometimes go with my gut”. “I like using facts to understand situations yet intuitions are also important”. Following their selection participants were asked to call a toll free number and read the personality description they selected for themselves. During the phone call the text of the personality description appeared upon participants’ computer screens at either a faster or slower pace depending upon their condition. The faster pace text appeared at a rate of 1 word every .4 seconds while the slower pace (high power) text appeared at a rate of 1 word every 3 seconds. When the phone call had been completed participants responded to the sense of power scale, behavioral inhibition & behavioral activation scales, emotions scale and a number of measures of physical ability. At the end of the study we asked participant to enter their demographic information. This portion of the study included questions about participants’ age, race, gender, income and education level. Within the demographic section we also asked a number of questions that pertained to physical power. At the end of the study we asked participants to make

predictions about the study's hypotheses and to answer a yes no question about having taken part in the manipulation. None of the participants correctly predicted the hypothesis of the study.

Measures

The measure of perceived power we used in this study was the 8-item sense of power scale used in study two (Anderson, John, Keltner, 2006) ($M= 4.27$, $SD=.895$, $\alpha =.824$). An example item from this scale is "I feel like even if I voice them, my views have little sway." This scale ranges from 1-7 strongly disagree to strongly agree.

In this study our 9-item approach measure came from the behavioral activation scale (Carver et al., 1994) ($M= 4.59$, $SD=.832$, $\alpha =.928$). An example item is "If I saw something I wanted right now I'd take action to get it." This scale ranges from 1-6 (strongly disagree to strongly agree).

Our measure of inhibition was the 7 -item behavioral inhibition scale (Carver et al.,1994) ($M= 3.8$, $SD=.706$, $\alpha =.824$). A sample item from this scale is "If I think something unpleasant is going to happen I usually get pretty "worked up." This scale ranges from 1-6 strongly disagree to strongly agree (strongly disagree to strongly agree).

Our emotions measure asked participants to indicate the extent to which they felt happy, sad, proud, relaxed, guilty, angry, grateful and anxious at the time. These responses were entered on a scale from 1 to 7. On this scale a response of 1 indicated that the participant did not feel the emotion at all (not at all) while a response of 7 indicated that the participant felt the emotion "very much".

We asked participants 3 questions about their physical power. These questions were: "How tall are you?" "How far can you run?" and "How much weight can you lift?"

Anticipating that some participants might not be able to complete this study's manipulation due to lack of access to a phone or an inability to watch the video with their operating system, we asked participants about their ability to complete the study manipulation. We asked participants "Were you able to successfully make the phone call in this study?" Only participants who answered yes to this question were included in our analysis.

Results

We used one-way ANOVA to examine the effects of speech speed on our various dependent variables. Our factor of interest was speech speed. It had two levels, slower and faster speech rate. Our analysis was designed to examine the relationship between speech speed and the dependent variables of approach, perceived power, inhibition, various emotions and physical power. We found that participants who spoke more slowly ($M= 4.6, SD= .82$) felt more powerful than those who spoke at a faster ($M= 3.96, SD= .86$) speaking pace $F(1, 52) = 7.12, p = .007$. We also found that participants who spoke more slowly ($M= 3.75, SD= .66$) felt less behavioral inhibition than those that spoke more quickly ($M= 4.15, SD= .42$), $F(1, 52) = 7.902, p = .01$.

While we found that our manipulation influenced the behavioral inhibition system, counter to our assumptions we found no significant effect of slower ($M= 4.64, SD= .76$) as opposed to faster speech ($M= 4.67, SD= .58$) on the behavioral activation system $F(1, 52) = .05, p = .825$. With regards to the emotions scale, participants in the high power slower speech condition felt significantly less angry ($M= 1.37, SD= .74$) than participants in the low power faster speech condition ($M= 2.19, SD= 1.6$), $F(1, 52) = 5.826, p = .019$. Participants who spoke more slowly felt marginally less guilty ($M= 1.78, SD= 1.25$) than participants who spoke more

quickly ($M= 2.58$, $SD= 1.8$), $F(1, 52) = 3.507$, $p = .066$. Participants who spoke more slowly ($M= 2.07$, $SD= 1.41$) felt less sad than participants who spoke more quickly ($M= 2.96$, $SD= 1.71$), $F(1, 52) = 4.26$, $p = .044$. Participants who spoke more slowly felt less and anxious ($M= 2.46$, $SD= 1.56$) than participants who spoke more quickly ($M= 3.92$, $SD= 1.81$), $F(1, 52) = 9.75$, $p = .003$. We found no relationship between condition and how happy $F(1, 52) = .567$, $p = .455$, proud $F(1, 52) = .685$, $p = .412$, relaxed $F(1, 52) = .562$, $p = .457$ and grateful $F(1, 52) = .089$, $p = .767$ participants said they felt. We also found no relationship between condition and how much weight participants said they could lift $F(1, 52) = .056$, $p = .814$, how far participants said they could run $F(1, 52) = .268$, $p = .607$ or how tall they were in inches $F(1, 52) = .840$, $p = .364$.

Discussion

In line with our hypotheses about the role of slow speech in increasing feelings of power, we found that people who spoke more slowly reported higher levels of power than individuals who spoke more quickly. Contrary to our expectations we found that speech speed had no significant effect upon the behavioral activation system. Instead, we found that more open speech patterns led to a decrease in behavioral inhibition. This finding suggests that the relationship between openness and feelings of power may involve both the behavioral activation and inhibition systems. It may be the case that different manifestations of openness influence power through different systems. Keltner and colleagues' initial power theory argued that power influenced both approach and inhibition through the behavioral activation system and the behavioral inhibition system, two systems that worked and were activated independently of one another (2003). Though predictions about the inhibitions of low power actors were included in

their model, the approach orientation facet of the model has attracted greater interest in the literature while inhibitions' place in the models of power remains a controversial issue. At times the literature seems to support the conception that low power may lead to inhibited social behavior (Anderson & Berdahl, 2002; Lammers, Gordijn & Otten 2008) however, some empirical tests of the relationship between low power and inhibition produce null effects (Smith & Bargh, 2008).

Our data suggest that the behavioral inhibition system is at play in the experience of power. Specifically, it suggests that in accordance with the power approach theory, drives to inhibit one's social behavior may be associated with lower levels of power. Increasing one's openness through slow speech may decrease one's inhibitory drives and increase one's sense of power or ability to take on the high power mindset. The relationship between powerful non-verbal behaviors and decreased inhibition is also evident in the significant relationship we found between slow speech and decreased levels of the many negative emotions that are typically associated with the activation of the behavioral inhibition system. The influence of slower high power speaking rates as opposed to faster less powerful speaking rates lends further support to our hypotheses that open physical states may influence the mindsets of those who employ them. Whether these states are influential in activating the approach or inhibition system they may act through these systems in facilitating the power mindset.

General Discussion

In three studies we provide support for the assumption that open physical states influence one's sense of power. In our first study we demonstrate that open postures activate the BAS system and lead to increased perceptions of power. In our second and third studies we show that other operationalizations of physical openness also activate approach and inhibition systems

and lead to increased perceptions of power. Study two indicates that open eye gaze patterns as opposed to more constricted gaze patterns predict activation of the BAS system as well as an increased sense of power. Our third study suggests that open speech patterns activate the BIS system and heighten one's sense of power. In these studies we found strong relationships between more open and closed behaviors and the activation of the BIS or BAS systems. Our findings provide support for the assumption that the embodiment of power may be understood in terms of power-approach theory.

In our studies physical postures associated with power, activated either the BAS or BIS systems and led to the subjective experience of power. In addition to the effects of physical openness on perceived power and BAS or BIS activation we found evidence of the power mindset in different manifestations of perceived power. Open physical states led to increased self-efficacy and decreased negative emotions as well as increased perceptions of physical power (e.g. strength). Our affects are particularly compelling because they arose in the absence of any audience and without any intentional display of dominance on the part of participants.

In future studies we plan to further examine the relationship among power postures, BAS and BIS activation and perceived power. In line with our predictions about the role of approach orientation in facilitating the power mindset future studies will examine the possibility that approach activation acts as a mechanism through which open physical states increase perceptions of power. Extensions of this work will also focus upon the behavioral effects of approach orientation that are associated with the power mindset. Our findings suggest that power exists both in the mind and in the body. Future studies will aim to further parse the mind body connection as we attempt to learn more about how physical states drive the experience of power.

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