

Power motivation as an influence on reaction to an imagined feminist dating partner

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Abstract McClelland's (1976) power-stress theory proposes that persons high in need for power experience severe stress in the face of actual or anticipated social events that thwart their need to exert control or influence over others, or to achieve recognition for power-oriented behaviors. Guided by McClelland's theory, we conducted a simulated dating service experiment with college men who scored either high or low on the Picture Story Exercise (PSE) measure of power motivation and later observed a video displaying an interview with a hypothetical dating partner. From among the 203 men who completed the PSE, 96 took part in the experiment. The video presented an 8-min enactment by a young woman who came across either as an assertive feminist or as compliant and agreeable. Electromyographic responses from the corrugator supercilii (frown muscles) fit the premise of McClelland's power-stress theory, as did scores on the Reysen Likability Scale and the Affective Attitudes Scale.

Keywords Power motivation · Dating · Electromyography

Introduction

The prime focus of the present experiment is McClelland's (1976, 1982) theory of power stress. Persons high in power

motivation, McClelland theorizes, are highly prone to physiological and affective stress reactions arising from a failure to exercise power, often because someone has thwarted the high-power person's attempt to control others or achieve recognition. An important point that McClelland makes is that the mere *anticipation* of failure to exercise power, or even imagined failure, by the high-power person can cause power stress. We attempted to explore an implication of McClelland's power-stress theory not previously considered, specifically, the imagined prospect by a power-motivated, heterosexual, young man of dating an assertive, strong-willed, feminist young woman. An assertive feminist likely would thwart, on occasion, the man's need to exert influence over her.

The form of women's assertiveness that is the basis for the present investigation corresponds closely to what moral philosophers define as *analytic feminism* (cf. Cudd 2002; Superson and Brennan 2005). Analytic feminism is an emphatic form of feminism that recognizes and contests anthropocentrism, i.e., normative behaviors and life perspectives that exalt men to a status superior to that of women. The reasoning inherent in analytic feminism derives from past thinking in moral philosophy and seeks to formulate rational, objective grounds from which anthropocentrism can be seen as false and oppressive.

Research on power motivation derives from the theories and measuring techniques initially proposed by McClelland (1958, 1975) and further developed and refined by Winter (1973, 1996, 2006, 2009). The power motive is a need to influence, control, or impress others and in the process garner recognition or acclaim (Winter 1973, 1996). The established procedure by which researchers study power motivation is the Picture Story Exercise (PSE), which is a projective test (McClelland et al. 1989; Winter 1999). Winter (1973, 1992) developed the standardized

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coding system most widely in use. Research on the power motive has taken numerous directions and has cast added light on many behaviors for which earlier inquiries provided less complete explanation (cf. Fodor 2009, 2010; Winter 1996, 2006, 2009).

Motives, in McClelland's view (1958, 1976, 1987; McClelland et al. 1989), orient the individual toward cues in the social environment that pose an opportunity to satisfy a given need, be it need for achievement, need for affiliation/intimacy, or need for power. An opposite-sexed person, for example, may come across as compliant and deferent to the wishes of others, in a word, controllable. McClelland's reasoning suggests that such cues may constitute an *activity incentive* for the power motive. That is, a high-power person might perceive in these cues a likelihood that the opposite-sexed person may provide an opportunity to exercise power. The successful performance of an activity congruent with a given motive, the reasoning goes, is emotionally satisfying and results in pleasurable affect, what Woike (1994) terms as an emotional "kick." The pleasurable affect associated with activity that meets the power need entails feelings of strength, vigor, and energy. McClelland et al. (1989) obtained evidence to support the foregoing statement. The act of registering impact on others, they found, produces hormonal release of norepinephrine, a known concomitant of positive affect.

A recent line of investigation commands special interest because it links power motivation to physiology, specifically, cortisol secretion. McClelland (1989) saw cortisol as implicated in the general adaptation syndrome, i.e., the fight or flight reaction. Recognizing the role that the hypothalamic–pituitary–adrenal axis plays in the individual's response to psychological stressors, Wirth et al. (2006) examined salivary cortisol secretion. They manipulated the experience of social failure versus social victory in a competitive contest. High-power participants, they hypothesized, would be more stressed by social defeat than low-power individuals, because defeat in competition would thwart expression of the power motive. Persons high in power motivation indeed showed high levels of salivary cortisol in response to social defeat by comparison with persons scoring low in the power motive. These findings fit McClelland's power-stress theory.

A significant body of research lends credence to the power-stress concept (Fodor 1984, 1985, 2009, 2010; Fodor and Wick 2009; Fodor et al. 2006; McClelland 1979, 1982, 1987; McClelland et al. 1980; Wirth et al. 2006). In his search for more complete verification of the power-stress concept, McClelland (1979) saw a need for experiments that present "strong situational challenges" to the power motive (p. 189). Following McClelland's suggestion, Fodor (1984, 1985) designed two industrial simulation experiments. College men assumed the role of "company

president" in situations that seemingly involved hard-to-manage subordinates. One experiment simulated circumstances of unresolvable tensions within the "work group" and the other simulated irreconcilable conflict among subordinate "managers." Both forms of power stress aroused higher stress reactions in high-power than in low-power men placed in the president role and higher than all "presidents" in the non-stress condition. Scores on Thayer's (1978) Activation-Deactivation Check List comprised the dependent measure in one experiment and electromyographic (EMG) recordings from the forearm extensor muscle in the other.

Fodor and Wick (2009) presented undergraduate men and women with a simulated reaction by a two-person audience to an extraneous speech that was either negative or positive. Consistent with power-stress theory, high-power participants evinced higher negative affect than did low-power persons to the negative audience as evidenced by EMG readings from the brow supercillii (frown muscles) and by Anxiety scores on the Affect Balance Scale (Downey and Feldman 1996).

Fodor et al. (2006) found that high-power college men evinced greater affective arousal than did low-power men to an assertive than to a compliant candidate for managerial appointment. Measures of affective arousal consisted of electromyographic recordings from the brow supercillii and scores on the Affective Attitudes Scale (Crites et al. 1994). In a word, high-power students when imagining themselves as manager of the assertive candidate appeared to have conceptualized that person as a source of power stress. These findings suggest the possibility that a similar pattern of reactions may apply to a potential dating partner. One of the main contributions of the present experiment is that it extends power-stress theory into a new domain—that of heterosexual interpersonal relationships.

Winter (1973) and his students performed a study that disclosed a marked preference by high-power men for nonassertive, dependent wives. Some research, however, suggests that high-power men experience difficulties in relationships with women generally. Having conducted a longitudinal study of 63 dating couples, Stewart and Rubin (1976) found that power motivation in men correlated with greater dissatisfaction in the relationship by both parties. Fifty percent of the couples in which the men were high in power motivation dissolved the relationship 2 years later by contrast with only 15% for relationships in which the men were low in power motivation. Moreover, only 9% of the high-power men had married 2 years after Stewart and Rubin first contacted the dating couples. For low-power men, the figure was 52%. The picture that emerges from these findings is one of instability in romantic relationships among high-power men who appear to move from one relationship to another with relatively high frequency.

High-power men, other researchers have found, report a high divorce rate when compared against low-power men (McClelland et al. 1972) and greater marital dissatisfaction (Veroff and Feld 1970). Both Winter (1973, 1996) and McAdams (2009) interpret these data as possibly suggesting a latent fear among high-power men of the control that women may exert over their lives. The experiment we performed was designated to clarify a research question that these previous inquiries leave unanswered. Specifically, do high-power men have negative affective responses to *all* potential dating partners or just those who pose a threat to their exercise of power?

The current experiment

We conducted an experiment that simulated a dating service. Undergraduate men first completed the PSE which the first author scored for power motivation. Men scoring high and low then observed a playacted video featuring a young man asking questions of a potential woman dating partner. The actress was a student with significant acting experience. She had not performed in drama presentations at the university, however, so not many students would have recognized her. The young man was a student of the first author's acquaintance. He did not appear in the video, only his voice. There were two conditions, one portraying the young woman as a strong-willed and assertive feminist and the other showing her to be inclined toward compliance with the wishes of young men whom she might be dating. Instructions to the men participants were that they imagine as vividly as possible the prospect of dating and continuing a relationship with the young woman portrayed in the videotape. The portrayals were scripted in advance, and the same young actress portrayed enactments for both the "feminist" and "compliant" vignettes. Participants of course realized that this was a simulation. The experimenters both were women students who were unaware of the individual power motivation scores of the young men assuming the role of participants.

Three dependent measures determined participants' reactions to the potential dating partner: (1) electromyograph (EMG) recordings from the brow supercillii (the frown muscles), (2) ratings of the potential dating partner on the Reysen Likability Scale (Reysen 2005), and (3) scores on the Affective Attitudes Scale (Crites et al. 1994). We formulated three hypotheses.

H1 High-power men were expected to evince high EMG readings from the brow supercillii when viewing the imagined feminist dating partner, higher than low-power men, whereas high- and low-power men were expected to show little difference in their reactions to an imagined compliant dating partner.

H2 High-power men were expected to endorse the imagined feminist dating partner less favorably on the Reysen Likability Scale than were low-power men viewing the same portrayal, whereas high- and low-power men were expected to show little difference in their likings for an imagined compliant dating partner.

H3 Scores on the Affective Attitudes Scale were expected to assume the same pattern as specified in H2 for the Reysen Likability Scale.

Methods

Participants

Undergraduate men volunteered for a simulated-dating-service experiment whereby they would observe a video-taped, playacted interview of a young woman. It would be their task to imagine her as a potential dating partner and appraise her as to her desirability.

Two hundred and three men completed the PSE in groups of 5–20 students gathered together in a classroom on a specified evening. Students wrote stories in response to pictures flashed upon a screen. They understood that some of them would receive an invitation to return for a second phase of the study. In researching the relationship between personality and behavior, Carver and Scheier (2008) propose that one can best demonstrate the relationship, should it indeed exist, by comparing behavioral measures in persons who score high versus low on the personality dimension. Cox (1957) demonstrated mathematically that cutoff points at the top and bottom 27% of the personality measure best serve this function. These percentiles translated into PSE raw scores of 13 and 5, respectively. Participating students earned credit toward their grade in the introductory psychology course. Recruitment was via a descriptive poster announcement on the Psychology Department bulletin board. Persons who were homosexual presumably would not volunteer. Forty-eight participants experienced the assertive feminist video, half of them high and half low in power motivation. Likewise, 48 participants viewed the nonassertive, compliant video, again half high and half low in power motivation. The experiment assumed the form of a 2 (high- vs. low-power participants) \times 2 (feminist vs. compliant potential dating partner) factorial design. Random toss of a die determined placement in condition of the experiment.

The picture story exercise

The picture story exercise (PSE) is a projective test. That is, psychologists regard the stories people write as mostly a

reflection of motivational dynamics that reside below the level of conscious awareness. People write stories in response to pictures. These stories are subjected to a precise and detailed scoring system. The PSE evolved from the Thematic Apperception Test (TAT) as originally conceived by Henry Murray (1938). It differs from the TAT, however, in two fundamental ways: (1) It is grounded in a precise, empirically derived coding system, and (2) it has gone through a more thorough process of verification (Winter 1999). The TAT in its original form, by contrast, relies on individual clinical interpretation that can vary from one rater to another. There is an abundant research literature to support the reliability and validity of the PSE (cf. Fodor 2009, 2010; McAdams 2009; Winter 1996).

The PSE measure of power motivation

The PSE consisted of six pictures from among the set compiled by Smith (1992) and recommended as elicitive of power motivation. The pictures are identifiable by the following captions: (1) conference group: seven men around a table, (2) architect at desk, (3) man with cigarette behind woman, (4) ship captain, (5) two women in lab coats in laboratory, and (6) trapeze artists. The scoring system commonly in use owes its origins to Winter (1973). Included in his book is a manual that enables the investigator to achieve high interrater reliability calibrated against expert scoring. After learning to apply the coding system to a series of stories, the investigator then scores three final sets and computes two reliability coefficients between the investigator and the expert scoring. One of these is *category agreement*, which measures how closely the scorer matches the standard on whether power imagery is present or absent for each story. The second is a rank correlation between the researcher's scoring of these stories and the standard. This measure is expressed as a rank order coefficient. Winter recommends that as a requirement for conducting research, the investigator strive to achieve a coefficient of .85 for each measure. Following the recommended procedure, the first author achieved a figure of .94 for category agreement and a rank order coefficient of .88. Also, he and a research assistant independently rated a subset of 29 protocols and obtained a Pearson reliability coefficient of .89. The first author alone scored all PSE protocols for the present experiment. Raw scores ranged from 0 to 28. Need for power score showed a nonsignificant Pearson correlation of .09 when paired against length of PSE protocol, so we made no correction for word length.

Electromyograph recordings

Electromyograph (EMG) recordings figure importantly in the present experiment. EMG measurements are

noninvasive and detect electrical activity from facial muscles even when observers cannot visually detect movement in those muscles (Bradley 2000). The central nervous system mediates electrical impulses from the brain to various muscle groups throughout the body. Cacioppo and his colleagues (Cacioppo 1982; Cacioppo and Petty 1981a, b; Cacioppo et al. 1986) introduced the procedure by which EMG readings from facial muscles become a basis for tracing people's affective reactions to social stimuli. Electrical impulses from the brow supercillii (frown muscles) enable researchers to infer the degree of unpleasantness the individual feels when confronted by specific stimuli.

The validity of EMG recordings from the brow supercillii as an index of negative affect is well established (cf. Allen et al. 1996; Cacioppo et al. 1986; Fiorito and Simons 1994; Fodor and Wick 2009; Fodor et al. 2006, 2008; Larson et al. 2003; McHugo et al. 1985; Tassinary et al. 1989). Allen et al. (1996), for example, showed that EMG recordings from the brow supercillii reliably indexed the reactions of sociotropic individuals (i.e., need for affirmation from others) when they were instructed to imagine overhearing other persons speaking ill of them.

Previous research establishes convergent validity for recordings from the brow supercillii by showing predicted correlations between this measure and Downey and Feldman's (1996) Affect Balance Scale (Fodor and Wick 2009) and Crites et al. (1994) Affective Attitudes Scale (Fodor et al. 2006, 2008).

McHugo et al. (1985) demonstrated the discriminant validity of EMG recordings from the brow supercillii in an experiment featuring Ronald Reagan videotapes that showed him interacting with the press. When he displayed an anger reaction to a reporter's question, student participants who had described themselves as Reagan supporters nevertheless rated their reactions to the man as favorable. EMG recordings from the brow muscles, however, told an entirely different story by showing an aversive reaction, thereby illustrating a distinction between the nonconscious EMG recordings and the conscious adjectival ratings.

In the present experiment, electrical activity was measured in the expression muscles of the upper eyebrow region known as the corrugators/depressor supercillii complex that controls vertical frown lines.¹ A single 2 inch unit containing two active electrodes (one positive and one negative on either side of a ground electrode) was carefully positioned on the participant's brow. A standard conducting gel was applied to the electrode unit prior to attachment

¹ We did not take readings from the zygomatic major (smile muscle), thinking that adding another set of electrodes would further impair participants' sense of *experimental realism*, i.e. a feeling that the experiment bore some semblance to reality (Aronson and Carlsmith 1968).

to enhance signal quality and consistency. Prior to data recording, the acquired signal was identified and observed with a Tektronix oscilloscope to insure proper alignment and positioning of the electrodes.

EMG measurements were collected with a Coulbourn Instruments electrophysiological system. The acquired signal was initially processed with a high-performance bioamplifier (Model S75-03) using a gain of 100,000. After amplification, extraneous electrical noise was removed with a band pass filter (Model S75-76) using high and low frequency cut-offs of 1,000 and 100 Hz, respectively. The filtered analog signal was then converted into a series of digital pulses (one pulse per 0.1 μV s of area detected under the signal curve) using a cumulating-resetting integrator (Model S76-22). The frequency of pulses was thus proportional to the magnitude of the processed signal. The number of pulses observed during successive 1.0 min time intervals was recorded. Five 1.0 min time intervals were recorded during an initial progressive relaxation period and eight 1.0 min intervals during the time participants observed the playacted video.

Reysen Likability Scale

The Reysen Likability Scale (Reysen 2005), the second dependent measure we employed, determines the perceived likability of a target person and contains 11 7-point scales with adjectival descriptions ranging from “very strongly disagree” to “very strongly agree.” Each item comprises an affirmative statement: (1) This person is friendly, (2) This person is likable, (3) This person is warm, (4) This person is approachable, (5) I would ask this person for advice, (6) I would like this person as a coworker, (7) I would like this person as a roommate, (8) I would like to be friends with this person, (9) This person is physically attractive, (10) This person is similar to me, and (11) This person is knowledgeable. Reysen obtained figures for the internal consistency of the Likability Scale ranging from .90 to .91 as measures of Cronbach’s alpha. Our data yielded an alpha coefficient of .80.

To assess discriminant validity, Reysen administered both the likability scale and Goldberg’s (1992) 100-Adjective Big Five personality test to participants observing either the laughter or no laughter videotapes. The Goldberg scale measures the Big Five representation of personality: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. In an experiment conducted for the purpose, each subscale of the Goldberg test was correlated against the likability scale in a laughter and in a no laughter condition. The laughter condition featured voiced laughs that were harmonically rich, voice-like sounds. The no laughter condition consisted of grunt-, cackle-, and snort-like sounds that represent a common type

of laugh that is not attractive but is unlikely to be aversive. Discriminant validity, i.e., small correlations with the Reysen scale, were found for four of the Big Five subscales. Lack of significant correlation with these four scales suggests that score on the likability scale indeed measures something different than what these four subscales represent. The Agreeableness subscale yielded a positive correlation with the Reysen scale when the person on the videotape was laughing, which contributes some to the scale’s convergent validity, but the correlation was weak ($r = .18, p < .05$ for men; $r = .21, p < .05$ for women).

Affective Attitudes Scale

In an endeavor to measure the affective property of attitudes, Crites et al. (1994) created the Affective Attitudes Scale. Eight 7-point items define the scale. End-point labels designate the polar opposites: *love-hateful*, *delighted-sad*, *happy-annoyed*, *calm-tense*, *excited-bored*, *relaxed-angry*, *acceptance-disgusted*, and *joy-sorrow*. Total score is achieved through summation across the eight scale items. The scale is conceived as applicable to any person or group of persons toward whom one might likely maintain or develop affective attitudes. Whitley (1999) obtained internal consistency coefficients of .91 for African Americans as attitude objects and .94 for homosexuals. As a measure of internal consistency, we obtained a Cronbach alpha coefficient of .82.

Considerations of convergent and discriminant validity were built into the Affective Attitudes Scale through the factor analytic procedure by which Crites et al. developed the final version of the scale. People’s attitudes about individuals or groups essentially divide between cognitive and affective components. The Affective Attitudes Scale, as it ultimately emerged, contained adjectives that loaded heavily on the affective but not the cognitive cluster. Also contributive to evidence favoring the scale’s convergent validity is the finding that positive affect as measured by the scale has been shown to correlate negatively with recordings from the brow supercillii (Fodor et al. 2006, 2008). In other words, high levels of electrical activity emanating from the frown muscles connote negative affect.

Procedure

When the participant entered the laboratory at the time he was scheduled, the experimenter first presented him with an informed consent form and offered to answer any questions. The experimenter then placed before him the following instructions:

You shall be participating in a dating service experiment in which you vividly try to imagine yourself

considering Jane as a prospective dating partner. You observe her in a videotaped interview. During the duration of the experiment, we shall be monitoring your facial reaction by means of electrodes attached to your brow muscles. Then you shall complete some rating scales.

The laboratory was a neatly kept room on the second floor of a university building experiencing limited use. There were only a few university business offices on this floor. It was necessary that the facility be free from outside noise as loud noise generates electromagnetic waves that affect the functioning of the electromyograph machine. The experimenter remained in a directly adjoining room except for brief occasions requiring contact with the participant.

In order to obtain EMG recordings, the experimenter first attached electrodes to the brow supercillii and then played a 5-min relaxation tape to determine base rate in EMG activity (Fridlund and Cacioppo 1986; Jacobson 1938; Woolfolk and Richardson 1978). Toss of a die determined whether the participant would view an 8-min interview either with an imagined dating partner who was an assertive feminist or a woman who was compliant and agreeable to men's expressed views. As best we could script the actress's performance, the two videos differed from one another only on the assertive feminist versus compliant distinction. Otherwise, she came across as affectively neutral, neither unpleasant nor noticeably pleasant, essentially matter-of-fact in her demeanor. The two videos closely paralleled each other, raising the same issue line for line. Selected excerpts from the videos are illustrative.

In the feminist interview, "Jane" describes herself in words that suggest that she is a feminist of strong convictions. If she disagrees with someone, she says so. She does not like a man to push her around. Jane speaks of having dated a man last week who said he thought a woman should respect and support her man and not disagree with him in public even if she had an opposing point of view. Jane told him she thought differently, that a woman should be her own person and speak forth in a polite but forceful way on issues that concerned her. "What kinds of issues?" the interviewer asks. "Women's rights," Jane answers and cites some examples.

Numerous examples of potential conflict emerge in the course of the interview. Suppose, for example, the man Jane planned to marry was a senior and she a junior, and the man had a job offer at a location where there was no college at which Jane could finish her education? Should his needs take precedence over

her's? If she merely "rolled over and played dead," Jane responds, that would become the pattern for the rest of their lives. Jane is not adamant and uncompromising, however, suggesting that the man might consider staying an extra year to earn a Master's degree. Sometimes the woman's needs should take precedence, she says, but not always.

The compliant video closely paralleled the feminist, assertive video, but now Jane presents herself as compliant and deferent to men in her relationships with them. She emphasizes that when differences of opinion occur, they should not be allowed to escalate. A woman needs to blend in with the views of a man, see and appreciate his point of view. The world does not come to an end if a woman just lets differences of opinion slide and backs off. When dating a man, Jane feels that a woman should accommodate herself to the man she is dating if differences of opinion arise. As in the assertive script, Jane speaks of a man she dated last week. Here, Jane says a woman should respect and support her man and not disagree with him in public. Jane says she can remain her own person by simply remaining silent.

Should the man Jane wants to marry be a senior and she a junior and he receives a fabulous offer far away, a place that does not have any colleges comparable to Clarkson University, Jane would compromise her goals for a higher education and go with him. The relationship would be worth it. Maybe she could complete her education someplace else should her husband make a career move. Should he not make a career move, so be it.

When participants finished viewing the video, they first completed an adjective check list as a manipulation check. It contained the adjectives *scholarly*, *funny*, *assertive*, *clever*, *agreeable*, and *ambitious*. The participant simply checked the adjectives that signified his appraisal of Jane. Then, in order, he filled out the Reysen Likability Scale and the Affective Attitudes Scale. Lastly, the experimenter provided the participant with a complete explanation of the rationale for the experiment and urgently requested that the participant not discuss the experiment with other students.

Results

The results of the manipulation check supported the validity of the experimental manipulation. All but two of the participants who observed the imagined feminist, assertive dating partner (Jane Feminist) checked the *assertive* and not the *agreeable* designation on the

adjective check list. The two participants who did not check *assertive* were immediately excluded from further consideration and did not figure among the 48 participants whose data we ultimately examined. We replaced them from among remaining potential participants from the subject pool. None endorsed the adjective *agreeable*. Among participants exposed to the nonassertive, compliant potential dating partner (Jane Compliant), two participants checked both *agreeable* and *assertive* (perhaps because they perceived her as coming across well), and one participant checked neither *agreeable* nor *assertive*. Those three participants did not remain part of the final data set which numbered 48 participants. We immediately rejected the aforementioned participants from further consideration and telephoned persons from the remaining subject pool to take their place. The remaining participants in the Jane Compliant condition all checked *agreeable*.

The EMG measure

The EMG measure showed a Pearson correlation of $-.49$ with the Reysen Likability Scale and $-.45$ with the Affective Attitudes Scale. The Reysen Likability Scale correlated $.52$ with the Affective Attitudes Scale. These figures are all significant at the $.01$ level and further support the convergent validity of each measure.

To analyze the EMG data, we first subtracted the last three 1.0 min readings taken during the 5.0 min relaxation period from the last three 1.0 min readings that occurred during the video presentation (which presumably allowed sufficient time for the 8.0 min video presentation to register its full effect). Due to the positive skewness and high variance among scores so computed, we converted those figures to logarithmic transformations. This method conforms to recommended procedure for treating psychophysiological data (Allen et al. 1996; Bradley 2000; Jennings and Stine 2000).

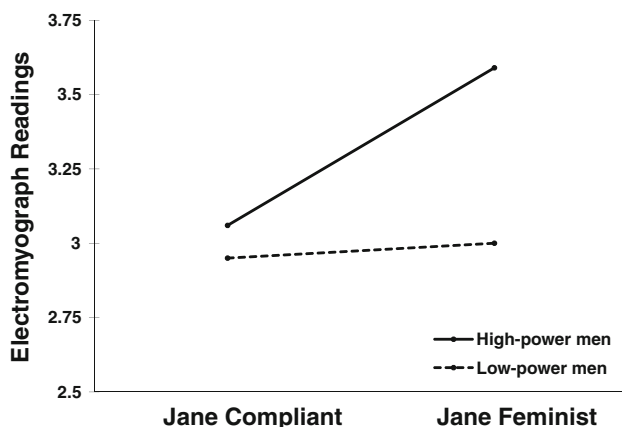


Fig. 1 Need for power as related to mean EMG measures from the brow supercilii muscles expressed as logarithmic transformations

Inspection of the line graph displayed in Fig. 1 suggests that high-power men responded with a more pronounced corrugator brow (frown) reaction to Jane Feminist than did low-power men, whereas high- and low-power men reacted to Jane Compliant about the same. The EMG data underwent a 2 (high vs. low need for power) \times 2 (Jane Feminist vs. Jane Compliant) ANOVA. There was a main effect for the power motivation (high vs. low) variable ($F = 9.50$; $df = 1, 92$; $p < .01$), a main effect for condition of the experiment ($F = 8.72$; $df = 1, 92$; $p < .01$) and most importantly an interaction effect ($F = 4.28$; $df = 1, 92$; $p < .05$). The main effect for power motivation, it should be noted, was due entirely to the interaction effect. That is, high-power men who observed Jane Compliant, by comparison with low-power men, did not show any effect. Pairwise comparisons were by means of Tukey's honestly significance differences (HSD) test. The mean EMG for high-power males who viewed Jane Feminist was higher than the figure for low-power males observing Jane Feminist ($M = 3.59$, $SD = .47$ vs. 3.04 , $SD = .51$; $p < .01$), and higher than all males witnessing the interview with Jane Compliant ($M = 3.59$, $SD = .47$ vs. 3.06 , $SD = .50$ and 2.95 , $SD = .55$; $p < .01$). The data therefore confirmed H1.

Reysen Likability Scale

Figure 2 displays participants' responses to the Reysen Likability Scale, again as a line graph. High-power males appear to have liked Jane Feminist less than they liked Jane Compliant to a pronounced degree. Low-power males showed roughly equal liking for the two Janes and intermediate between the low (Jane Feminist) and high ratings (Jane Compliant) that high-power men gave the two Janes. An ANOVA revealed no main effect for the power motivation variable ($F < 1$). The main effect for condition of the experiment (Jane Feminist vs. Jane Compliant) was highly significant ($F = 14.44$; $df = 1, 92$; $p < .001$), and the interaction effect was significant as well ($F = 8.47$; $df = 1, 92$; $p < .01$). The HSD test disclosed significant pairwise comparisons between high-power men who observed Jane Feminist ($M = 44.625$, $SD = 6.38$) versus high-power men who observed the Jane Compliant video ($M = 53.42$, $SD = 6.16$, $p < .01$). No other meaningful pairwise comparisons were significant.

Affective Attitudes Scale

Figure 3 shows the data for participants' reactions to Jane via the Affective Attitudes Scale. The pattern resembles Fig. 2 for the Reysen Likability Scale. High-power men appear to have felt uncomfortable with Jane Feminist but distinctly comfortable with Jane Compliant. An ANOVA

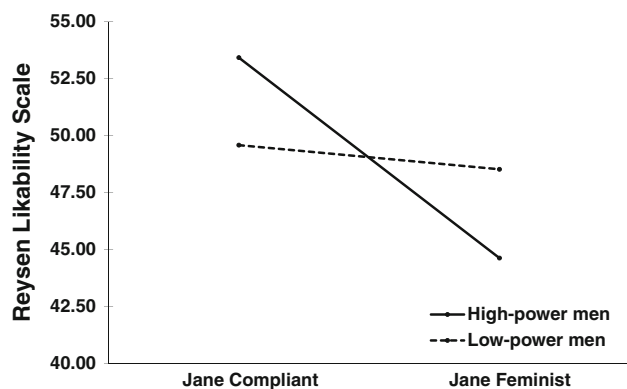


Fig. 2 Need for power as related to mean scores on the Reysen Likability Scale

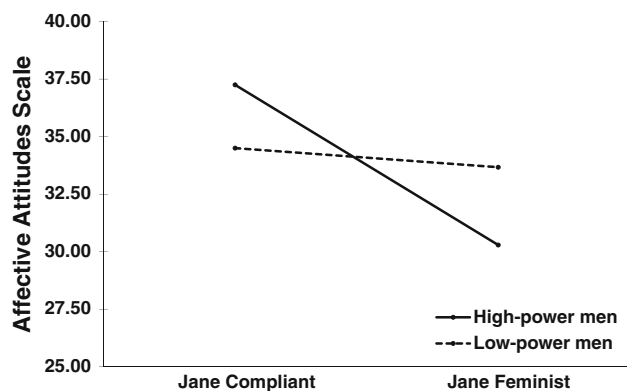


Fig. 3 Need for power as related to mean scores on the Affective Attitudes Scale

applied to these data showed no main effect for the power variable ($F < 1$), but did show a main effect for condition of the experiment ($F = 12.57$; $df = 1, 92$; $p < .01$), and a strong interaction effect ($F = 7.76$; $df = 1, 92$; $p < .01$). Tukey's HSD test confirmed the visual impression that Fig. 3 conveys. High-power participants were more negative in their affective responses toward Jane Feminist than toward Jane Compliant ($M = 30.29$, $SD = 5.33$ vs. $M = 37.25$, $SD = 4.88$, $p < .01$). None of the other comparisons were significant.

Discussion

The data obtained from the present experiment speak directly to McClelland's power-stress theory. The EMG analysis exactly parallels the visual impression that one gleaned from Fig. 1 and provides support for Hypothesis 1. High-power men showed distinctly more negative EMG responses from the brow supercillii when viewing Jane Feminist than did low-power men, and more negative than

all men who observed Jane Compliant. Imagined anticipation of repeated interaction with an assertive, feminist woman surely qualifies as a power stress in the mind of high-power men.

Our findings with the EMG measure build upon the aforementioned thesis that McClelland (1987) first proposed and Wirth et al. (2006) later demonstrated, namely, that there is a link between power motivation and aspects of physiology that are implicated in the flight or fight reaction. The aversive (i.e., flight) reaction via the EMG measure that high-power men exhibited toward Jane Feminist, like the salivary cortisol measure Wirth et al. employed, would appear to substantiate the thesis that when thwarted, power motivation expresses itself at the level of physiology.

The interaction effects we obtained express empirical support for Hypotheses 2 and 3. What stands out as one looks at the line graphs is that for both the Reysen scale and the Affective Attitudes Scale there was a wide discrepancy in scale score between high- versus low-power participants in how they reported their reactions to Jane Feminist and Jane Compliant. For the Reysen scale, the mean difference in high-power men was 8.795 scale points; for the Affective Attitudes Scale, the mean difference between how participants viewed the two Janes was 6.96 scale points. For low-power participants, by contrast, the corresponding differences were 1.16 and 0.83 scale points. High-power men clearly made a sharper distinction between the two Janes than did low-power men. They expressed less liking and less comfort when viewing Jane Feminist than when viewing Jane Compliant, showing a greater contrast than did low-power males. This is what the obtained interaction effects demonstrate.

The significant interaction, coupled with the post-hoc tests, showed a significant difference in ratings (across condition) for the high-power men. The interaction suggests that low-power (heterosexual) men do not care about assertive feminism in a potential partner as measured by any of the three dependent variables but high-power men do. That is what McClelland's theory predicts. Power and the ability to wield it is not salient for the low-power men; hence the lack of an effect for the Jane Compliant condition.

Our data did not yield strong support for the proposition that high-power men, by contrast with low-power men, exhibit an especially strong attraction to a compliant, agreeable woman. As stated at the outset, both Winter (1973, 1996) and McAdams (2009) interpret prior data as suggesting a fear among high-power men that women may pose a threat to their need to dominate. That fear may dampen to some extent attraction to *any* woman, even one whose compliant demeanor might logically be seen as fulfilling the power need.

The evidence we obtained suggests that high-power men do indeed find a feminist woman aversive. Assertiveness by a woman in dealing with a man, regardless of the issue, meets the definition of analytic feminism insofar as the assertiveness thereby expressed confronts the anthropocentric view that women should automatically submit to the views of men (cf. Cudd 2002; Superson and Brennan 2005).

Assortative mating theory (cf. Luo and Klohnen 2005) holds that degree of match in personality traits between a man and a woman correlates well with the quality of the relationship. This may depend on how one defines *quality of the relationship*. One thinks by analogy of how clinicians view the role archetypal dreams can play in our lives (cf. Cann and Dondri 1986; Jung 1961). The belief is that archetypal dreams enhance mental health by serving to redress an imbalance in one's personality, correcting blind spots and excesses. Close association by a high-power man with a feminist woman perhaps might serve a similar function.

The EMG data gave strong support for the thesis that high- more than low-power men felt comfort with the prospect of dating a compliant, agreeable woman (i.e., low EMG readings from the frown muscles), whereas the self-report data did not. The discrepancy is not totally surprising. EMG measures from the brow supercillii are largely nonconscious, giving off evidence that is discrepant from consciously reported attitudes (McHugo et al. 1985). It may well be that high-power men underreported their comfort reactions to Jane Compliant via the Reysen Likability Scale and the Affective Attitudes Scale. Widely shared social norms may rule against a man's regarding controllability in a woman as a basis for expressing positive sentiment.

A limitation to the present experiment is that it is a simulation. Although instructions to participants required that they vividly imagine themselves in a potential dating situation, we cannot be certain of the degree to which they did so. Coordination with an actual dating service would provide more compelling data, although our findings conform to the theoretical model from which they derive.

Future directions

Our data leave unanswered an important empirical question: Does pronounced assertiveness in a prospective mate actually deter further involvement by power-motivated men when the prospective mate possesses other traits that may enhance the power-motivated men's feelings of power just by being seen with that woman, i.e., physical attractiveness, high social status, fame, or intelligence? Does assertive feminism in a woman supersede these other considerations that may bear relevance to the power need?

Luo and Klohnen (2005) considered the broader question of match in overall profiles of personal characteristics as an influence on assortative mating and marital quality in newlyweds, but did not include dominance orientation in their overall profiles. It should be possible to include dominance orientation (need for power) as a variable in the sort of study Luo and Klohnen did. One could then determine mathematically how big a role the high versus low need for power combination plays in attraction by comparison with other factors that feed the power motive.

References

- Allen, N. B., de Horne, L., David, J., & Trinder, J. (1996). Sociotropy, autonomy, and dysphoric emotional responses to specific classes of stress: A psychophysiological evaluation. *Journal of Abnormal Psychology, 105*, 25–33.
- Aronson, E., & Carlsmith, J. M. (1968). Experimentation in social psychology. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (2nd ed., Vol. 2, pp. 1–79). Reading, MA: Addison-Wesley.
- Bradley, M. M. (2000). Emotion and motivation. In J. T. Cacioppo, L. G. Tassinary, & G. G. Berntson (Eds.), *Handbook of psychophysiology* (2nd ed., pp. 602–642). Cambridge, UK: Cambridge University Press.
- Cacioppo, J. T. (1982). Social psychophysiology: A classic perspective and contemporary approach. *Psychophysiology, 19*, 241–251.
- Cacioppo, J. T., & Petty, R. E. (1981a). Electromyograms as measures of extent and affectivity of information processing. *American Psychologist, 36*, 441–456.
- Cacioppo, J. T., & Petty, R. E. (1981b). Electromyographic specificity during covert information processing. *Psychophysiology, 18*, 518–523.
- Cacioppo, J. T., Petty, R. E., Losch, M. E., & Kim, H. S. (1986). Electromyographic activity over facial muscle regions can differentiate the valence and intensity of affective reactions. *Journal of Personality and Social Psychology, 50*, 260–268.
- Cann, D. R., & Dondri, D. C. (1986). Jungian personality typology and the recall of everyday and archetypal dreams. *Journal of Personality and Social Psychology, 50*, 1021–1030.
- Carver, C. S., & Scheier, M. F. (2008). *Perspectives on personality*. Boston: Allyn & Bacon.
- Cox, D. R. (1957). A note on grouping. *Journal of the American Statistical Association, 52*, 543–547.
- Crites, S. L., Jr., Fabrigar, L. R., & Petty, R. E. (1994). Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. *Personality and Social Psychology Bulletin, 20*, 619–634.
- Cudd, A. E. (2002). Rational choice theory and the lessons of feminism. In L. M. Antony & C. E. Witt (Eds.), *A mind of one's own* (2nd ed., pp. 398–417). Boulder, CO: Westview Press.
- Downey, G., & Feldman, S. J. (1996). Implications of rejection-sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*, 1327–1343.
- Fiorito, E. R., & Simons, R. F. (1994). Emotional imagery and physical anhedonia. *Psychophysiology, 31*, 513–521.
- Fodor, E. M. (1984). The power motive and reactivity to power stresses. *Journal of Personality and Social Psychology, 47*, 853–859.

- Fodor, E. M. (1985). The power motive, group conflict, and physiological arousal. *Journal of Personality and Social Psychology*, *49*, 1408–1415.
- Fodor, E. M. (2009). Power motivation. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences* (pp. 426–440). New York: Guilford Press.
- Fodor, E. M. (2010). Power motivation. In O. C. Schultheiss & J. C. Brunstein (Eds.), *Implicit motives* (pp. 3–29). Oxford, UK: Oxford University Press.
- Fodor, E. M., & Wick, D. P. (2009). Need for power and affective response to negative audience reaction to an extemporaneous speech. *Journal of Research in Personality*, *43*, 721–726.
- Fodor, E. M., Wick, D. P., & Hartsen, K. M. (2006). The power motive and affective response to assertiveness. *Journal of Research in Personality*, *40*, 598–610.
- Fodor, E. M., Wick, D. P., Hartsen, K. M., & Preve, R. M. (2008). Right-wing authoritarianism in relation to judicial action, electromyographic response, and affective attitudes toward a schizophrenic mother. *Journal of Applied Social Psychology*, *38*, 215–233.
- Fridlund, A. J., & Cacioppo, J. T. (1986). Guidelines for human electromyographic research. *Psychophysiology*, *23*, 567–589.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, *4*, 26–42.
- Jacobson, E. (1938). *Progressive relaxation*. Chicago: University of Chicago Press.
- Jennings, J. R., & Stine, L. A. (2000). Salient method, design, and analysis concerns. In J. T. Cacioppo, L. G. Tassinary, & G. G. Berntson (Eds.), *Handbook of psychophysiology* (2nd ed., pp. 870–899). Cambridge, UK: Cambridge University Press.
- Jung, C. G. (1961). *Memories, dreams, reflections*. New York: Vintage.
- Larson, J. T., Norris, C. J., & Cacioppo, J. T. (2003). Effects of positive and negative affect on electromyographic activity over *zygomaticus major* and *corrugator supercilii*. *Psychophysiology*, *40*, 776–785.
- Luo, S., & Klohnen, E. C. (2005). Assortative mating and marital quality in newlyweds: A couple-centered approach. *Journal of Personality and Social Psychology*, *88*, 304–326.
- McAdams, D. P. (2009). *The person: An introduction to the science of personality psychology*. Hoboken, NJ: Wiley.
- McClelland, D. C. (1958). Methods of measuring human motivation. In J. W. Atkinson (Ed.), *Motives in fantasy, action, and society* (pp. 7–42). Princeton, NJ: Van Nostrand.
- McClelland, D. C. (1975). *Power: The inner experience*. New York: Wiley.
- McClelland, D. C. (1976). Sources of stress in the drive for power. In G. Serban (Ed.), *Psychopathology and human adaptation* (pp. 247–270). New York: Plenum Press.
- McClelland, D. C. (1979). Inhibited power motivation and high blood pressure in men. *Journal of Abnormal Psychology*, *88*, 182–190.
- McClelland, D. C. (1982). The need for power, sympathetic activation, and illness. *Motivation and Emotion*, *6*, 31–41.
- McClelland, D. C. (1987). *Human motivation*. New York: Cambridge University Press.
- McClelland, D. C. (1989). Motivational factors in health and disease. *American Psychologist*, *44*, 675–683.
- McClelland, D. C., Davidson, R. J., Floor, E., & Saron, C. (1980). Stressed power motivation, sympathetic activation, immune function, and illness. *Journal of Human Stress*, *6*, 11–19.
- McClelland, D. C., Davis, W. N., Kalin, R., & Wanner, E. (1972). *The drinking man*. New York: Free Press.
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, *96*, 690–702.
- McHugo, A. J., Lanzetta, J. T., Sullivan, D. G., Masters, R. D., & Englis, B. G. (1985). Emotional reactions to a political leader's expressive displays. *Journal of Personality and Social Psychology*, *49*, 1513–1529.
- Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Reysen, S. (2005). Construction of a new scale: The Reysen Likability Scale. *Social Behavior and Personality*, *33*, 201–208.
- Smith, C. P. (Ed.). (1992). *Motivation and personality: Handbook of thematic content analysis*. Cambridge, UK: Cambridge University Press.
- Stewart, A. J., & Rubin, Z. (1976). Power motivation in the dating couple. *Journal of Personality and Social Psychology*, *34*, 305–309.
- Superson, A. M., & Brennan, S. J. (2005). Feminist philosophy in the analytic tradition. *Hypatica*, *20*, 109.
- Tassinary, L. G., Cacioppo, J. T., & Geen, T. R. (1989). A psychometric study of surface electrode placements for facial electromyographic recording: I. The brow and cheek muscle regions. *Psychophysiology*, *26*, 1–16.
- Thayer, R. E. (1978). Factor analytic and reliability studies on the Activation-Deactivation Adjective Check List. *Psychological Reports*, *42*, 747–756.
- Veroff, J., & Feld, S. C. (1970). *Marriage and work in America*. New York: Van Nostrand Reinhold.
- Whitley, B. E., Jr. (1999). Right-wing authoritarianism, social dominance orientation, and prejudice. *Journal of Personality and Social Psychology*, *77*, 126–134.
- Winter, D. G. (1973). *The power motive*. New York: Free Press.
- Winter, D. G. (1992). A revised scoring system for the power motive. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 311–324). New York: Cambridge University Press.
- Winter, D. G. (1996). *Personality: Analysis and interpretation of lives*. New York: McGraw-Hill.
- Winter, D. G. (1999). Linking personality and “scientific” psychology: The development of empirically derived Thematic Apperception Test measures. In L. Geiser & M. I. Stein (Eds.), *Evocative images: The Thematic Apperception Test and the art of projection* (pp. 107–124). Washington, D.C.: American Psychological Association.
- Winter, D. G. (2006). Taming power. In D. Rohde (Ed.), *Moral leadership: The theory and practice of power, judgment, and policy* (pp. 159–175). San Francisco: Jossey Bass.
- Winter, D. G. (2009). How can power be tamed? In D. Tjosvold & B. Wisse (Eds.), *Power and interdependence in organizations* (pp. 33–51). New York: Cambridge University Press.
- Wirth, M. M., Welsh, K. M., & Schultheiss, O. C. (2006). Salivary cortisol changes in humans after winning or losing a dominance contest depend on implicit power motivation. *Hormones and Behavior*, *49*, 346–352.
- Woike, B. A. (1994). Vivid recollection as a technique to arouse implicit motive-related affect. *Motivation and Emotion*, *18*, 335–349.
- Woolfolk, R., & Richardson, F. (1978). *Stress, sanity, and survival*. New York: Monarch Books.