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BEYOND THE ISSUES: NONVERBAL VOCAL COMMUNICATION, POWER RITUALS, AND "ROPE-A-DOPES" IN THE 2008 PRESIDENTIAL DEBATES

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ABSTRACT

We view political debates as social encounters where "power rituals" unfold as candidates vie for support. We argue that a candidate's ability to dominate others in political contests is evinced in his or her nonconsciously controlled command over nonverbal vocalizations during debates. In application to the three recent presidential debates between Senators John McCain and Barack Obama, an established measure of nonverbal vocal dominance related poorly to Gallup Poll data concerning support for presidential candidates around the time of debates as well as debate viewers' perceptions of who did a better job. Upon closer examination of the data we found that Senator McCain wielded more nonverbal vocal dominance than Senator Obama during the beginning and middle parts of each debate, while Senator Obama wielded more nonverbal vocal dominance than Senator McCain toward the end of each debate. Through a recency effect, Senator Obama's "rope-a-dope" exhibition of nonverbal vocal dominance may help explain Gallup trends indicating greater support for his candidacy and superior debate performance. Further research is needed to clarify how time-varying aspects of paralanguage relate with social attitudes and behavior, including vote preferences and choices.

INTRODUCTION

With the 2008 presidential election closing in, political analysts, pundits, and many voters have turned much of their attention to watching, analyzing, and discussing the debates. One conventional view of the political significance of general election debates is that they help voters compare the candidates and make rational judgments about their vote choices However, in a recent explication of *The Political Mind*, Lakoff (2008) calls for more attention to be paid to the role of the "cognitive unconscious," where an estimated 98 percent of thought takes place (p. 9). Drawing on findings from cognitive science and neuroscience, Lakoff points out that the way the brain makes makes sense of reality is not "rational" in the Enlightenment sense of the word. We agree with Lakoff that to advance explanations of politics and other social phenomena, more attention is owed to what the brain is comprehending "behind the scenes."

In this paper we advance a view of debates as social encounters where "power rituals" are enacted, and a candidate's ability to dominate another is evinced in a nonconsciously controlled command over nonverbal vocalizations. This subtle yet important aspect of performance during debates may (*i*) reveal clues as to how candidates actually believe they are perceived in the eyes of the electorate; and, (*ii*) contribute to creating or reinforcing a trend among the electorate concerning candidates' standing vis-a-vis their opponents.

BACKGROUND

Nonverbal Vocal Communication

One important dimension of nonverbal behavior is “paralanguage,” which refers to the nonverbal aspects of speech (e.g., speaking tempo, intensity/volume, pitch, intonation) that communicate social meaning and emotion. Collectively, these particular features of speech are termed “prosody.” Work begun by Giles and his colleagues in the 70s has shown a tendency for people to accommodate one another during conversation by converging prosodic aspects of speech, in effect becoming more prosodically alike as the interaction unfolds (Giles 1973; Giles and Smith 1979). This phenomenon occurs naturally and reflects people’s basic need for social integration (Giles and Coupland 1991).

In a related line of research, Gregory (1983) performed Fast Fourier Transform (FFT) analysis on secondary data consisting of audio recordings of dyadic conversations between 11 United States Air Force airmen and a research interviewer. He discovered a unique form of paralinguistic convergence wherein conversation partners *nonconsciously* adapt frequencies of their voices to one another over time. Subsequent research by Gregory (1990, 1994) revealed that this acoustic phenomenon occurs beneath 500 Hz. When aired alone, this fundamental frequency range sounds as if one were listening to someone speaking on the other side of a wall.

Gregory and Webster (1996) elaborated Gregory’s (1983) earlier work by showing that convergence in the fundamental frequency range reflects accommodation, whereby the amount of "work" that conservation partners contribute to convergence reflects social perceptions of status and power. They concluded that analysis of convergence in the nonverbal signal (i.e., who

accommodates to whom) provides a valid measure of perceptions of social standing, particularly because conversation partners do not exert conscious control over such adaptation. We discuss this measure below.

Interaction Rituals

We see clear theoretical connections between research on acoustic adaptation and Collins' (2004) Interaction Ritual Theory (hereafter IRT). At its core, IRT is a microsocial theory about the emotional energy that is created, mainly nonconsciously, during face-to-face interaction. The central concept in IRT, rituals, is defined as the "mechanism of mutually focused emotion and attention producing a momentarily shared reality, which thereby generates solidarity and symbols of group membership" (Collins 2004:7). Building on Erving Goffman's contributions to the understanding of interaction rituals, IRT recognizes that some individuals can dominate situations, thus carrying more weight in the process by which interactants develop a mutual focus and become "entrained" to one another. While the unfolding of such rituals of power is often subtle in the sense that it is usually not the product of a rational, conscious negotiation, the consequences can be quite significant. As Collins states, "The person who dominates the microsituation has the possibility...of gaining recognition in the larger group context" (2004:122). In other words, power rituals can be a mechanism of social influence and mobility. And while humans may rely on conversation as the primary means of signaling and competing for status (Mazur 2005:108), nonverbal rather than the verbal aspects of such communication are likely most important to ritual presentations of power (Goffman 1969; Rössel and Collins 2002).

Rituals of Power in Political Debates

Seen through the lens of IRT, we view political debates as social encounters where rituals of power are enacted as candidates vie for support from the electorate. Among the elements displayed in such rituals, we focus on patterns concerning the nonconsciously processed nonverbal aspects of speech. In our view, a candidate's ability to dominate another (or others) is evinced in his or her nonconsciously controlled command over nonverbal vocalizations during debates. This raises two important questions. First, how do we determine who has command over whom in such settings? And second, what is the potential practical significance of nonverbal vocal dominance in debate and election politics?

Detecting Dominance in Nonverbal Vocal Communication

As reviewed above, earlier studies by Gregory and his colleagues revealed a general tendency for conversation partners to nonconsciously converge the lower frequencies of their voices to one another during social interaction. However, as we also discussed above, past research has shown that "deferent partners accommodate their dominant partner" (Gregory and Webster 1996:238), such that convergence among unequals occurs *because* the less dominant interactant nonconsciously modulates the lower voice frequencies toward the more dominant partner. A key insight from this research is that *less dominant interactants will tend to show more variability in the fundamental frequency range during social interaction; and conversely, more dominant interactants will tend to show less variability in the fundamental frequency range during social interaction.* In statistical terms, when data from FFT analyses of two interactants' voices are

subject to factor analysis, the data for the more dominant interactant produces stronger loadings on the first principal factor, while the data for the less dominant partner produces stronger loadings on the second principal factor. As Gregory and Webster (1996) explain, "Factor 1 loadings...[designate] what can be termed a Dominance factor, whereas Factor 2 loadings [designate] what can be termed a Deference factor" (p. 236).

Building on this line or work, Gregory and Gallagher (2002) explored spectral analysis of nonverbal vocal communication and dominance in application to U.S. presidential general election debates. They performed FFT analysis of the fundamental frequency range of candidates' voices in 19 nationally televised general election debates preceding eight U.S. presidential elections. Following Gregory and Webster (1996), the FFT results for each candidate were first factor analyzed. To derive a metric of relative dominance that could be compared with poll data and election outcomes, Gregory and Gallagher (2002) averaged each candidate's factor loadings on the first principal factor, the Dominance factor (Gregory and Webster 1996). Interestingly, the metric was strongly correlated with candidates' *popular vote* percentages in all eight elections with nationally televised debates from 1960 to 2000.

Political Significance

The provocative finding reported by Gregory and Gallagher (2002) brings us to the second question: What is the potential practical significance of nonverbal vocal dominance in debate and election politics? Two possibilities have been raised. On the one hand, spectral analysis of nonverbal vocal communication in a general election debate might reveal candidates' (privately held) perceptions about the relative success of their campaigns around the time of the debate. Thus a spectral metric of candidates' relative control over nonverbal vocalizations in debates may reflect current trends in the polls.

On the other hand, candidates' relative control over nonverbal vocalizations, while carried out on a nonconscious level, might play a more significant *causal* role in determining election outcomes, especially in close races involving large numbers of undecided voters. As Gregory and Gallagher (2002) speculate, in such elections the "signal in debaters' voices may be detected and decoded without conscious intervention [by the audience]" (p. 306), which could have an impact on audience members' vote choices. While Gregory and Gallagher do not provide direct evidence that this occurs, other research suggests how it is well within the realm of possibility.

Drawing on psychological research on social influence processes, Lee and Ofshe (1981) provide experimental evidence showing that variation in demeanor, or dominance behavior, is a direct cause of differential social influence. Furthermore, Lee and Ofshe emphasize that the effect of dominance on influence occurs "beyond conscious awareness" (1981:76). In essence, the argument put forth by Lee and Ofshe falls directly into line with Collins' (2004) Interaction Ritual Theory (reviewed above), in particular his point that power rituals involve nonconsciously carried out mechanisms of social influence and mobility. Furthermore, as Forsyth (1990) points out, Lee and Ofshe's study is testimony to the notion that "in some cases *how* something is said may be more important than *who* is saying it" (p. 125; emphasis in original).

While the research reported below cannot provide definitive answers to questions concerning the political significance of nonverbal vocal dominance in debates (i.e., whether such behavior plays a causal role in election outcomes), we hope to shed greater light on these questions and advance our understanding of nonverbal vocal communication at both the basic and applied levels.

METHOD

In this study we analyze all three nationally televised debates between Senators John McCain and Barack Obama that took place during the 2008 U.S. presidential election race. The procedures that we used are as follows.

We first captured each debate onto computer using Pinnacle Studio 10, a PC software application for video editing and DVD authoring. We then edited the video and created separate McCain-only and Obama-only DVDs for each debate. The DVDs contain only the continuous, uninterrupted speech of a given candidate during a given debate.

Following established procedures, we processed the audio signal on each DVD using a dual-channel Fast Fourier Transform analyzer. Specifically, we used the FFT analyzer to extract nine, equally distributed voice samples from each candidate during each debate.

The spectral samples produced by FFT analysis are referred to as "long-term averaged spectra" (LTAS). LTAS, as analyzed in this report, indicate the characteristic distribution of energy across the 500 Hz band of frequencies present in a speaker's voice for a given segment of speech. While vocal spectra can vary significantly from one moment to the next during a particular utterance, LTAS represent an overall average of the energy levels in the speaker's voice over the entirety of the utterance within the 500 Hz band.

The nine LTAS samples for each candidate in each debate were transferred from the FFT analyzer to a personal computer for statistical analysis using SPSS. Following previous research (e.g., Gregory and Gallagher 2002), we simplified the analysis by averaging the first three, second three, and last three LTAS samples for each candidate to create three new samples representing the beginning, middle, and end of the debate for a candidate.

Next, separately for each debate, we conducted a principal components factor analysis on the six LTAS samples. This analysis provides two important pieces of information. First, following Gregory and Webster (1996), each candidate's factor loadings for the three averaged samples representing the beginning, middle, and end of the debate can be examined to determine which candidate has the highest loadings on the first factor (the Dominance factor), and which candidate has the highest loadings on the second factor (the deference factor).

To obtain the second important piece of information, following Gregory and Gallagher (2002), each candidate's loadings on the first factor (the Dominance factor) can be averaged to compute a single metric representing dominance. This metric is referred to as the acoustic analysis result, or AAR. In this research we will examine whether and how the AAR metrics derived from our FFT and statistical analyses correspond to Gallup poll data concerning (*i*) candidate support for the days surrounding each debate; and, (*ii*) who won each debate.

RESULTS

Following our two-stage analytic strategy, we first conducted principal components factor analyses on the six (averaged) LTAS samples for McCain and Obama, separately for each debate. The results are shown in Table 1, and the correlation matrices for these analyses are presented in the Appendix. Interestingly, the factor analyses that we conducted produced a one-factor solution for each debate. This means that neither McCain nor Obama emerged as the deferent candidate in any of the three debates. Furthermore, both candidates have strong loadings (>.9) on the first Dominance factor for all three samples (time periods) across all of the debates. This further suggests that neither candidate emerged as the clear winner (dominant candidate) or loser (deferent candidate) in any of the debates.

Table 1. Results of Factor Analyses on McCain and Obama LTAS Samples from Each Debate

	Factor 1 Loading (Dominance)		Factor 2 Loading (Deference)	
Debate and Time Period	McCain	Obama	McCain	Obama
First Debate				
Beginning	.943	.910		
Middle	.922	.903	Not Extracted	
End	.924	.944		
	Eigenvalue = 5.128; % Variance = 85.471			
Second Debate				
Beginning	.971	.977		
Middle	.979	.948	Not Extracted	
End	.981	.987		
	Eigenvalue = 5.693; % Variance = 94.877			
Third Debate				
Beginning	.937	.919		
Middle	.942	.930	Not Extracted	
End	.841	.886		
	Eigenvalue = 4.969; % Variance = 82.815			

In the second stage of our analysis, following Gregory and Gallagher (2002), we average each candidate's loadings on the first factor (i.e., the Dominance factor) within each debate using the values in Table 1. Again, this metric is referred to as the acoustic analysis result (AAR). The candidate with the highest AAR is deemed the more dominant candidate in a given debate. Furthermore, for elections that involve multiple debates, as is the case here, the grand mean of each candidate's AAR values can be computed. We refer to this as the "Overall AAR."

Table 2 reports the AAR values for McCain and Obama, separately for each debate, along with each candidate's Overall AAR and Gallup Poll data concerning (*i*) each candidate's support among registered voters shortly before (Support 1) and shortly after (Support 2) each debate; and, (*ii*) perceptions of who won each debate among adult respondents who watched the debates.

Table 2. Acoustic Analysis Results (AARs) and Gallup Poll Data for Each Debate

Debate	Candidate	AAR	Support 1 (before debate)	Support 2 (after debate)	Who Won?
First Debate			(9/23-9/25)	(9/27-9/29)	(9/27)
	McCain	.930	45%	43%	34%
	Obama	.919	48%	49%	46%
	Difference (McCain - Obama)	+.011	-3%	-6%	-12%
Second Debate			(10/4-10/6)	(10/8-10/10)	(10/8)
	McCain	.977	42%	42%	23%
	Obama	.971	51%	51%	56%
	Difference (McCain - Obama)	+.006	-9%	-9%	-33%
Third Debate			(10/12-10/14)	(10/16-10/18)	(10/16)
	McCain	.907	43%	42%	30%
	Obama	.912	50%	52%	56%
	Difference (McCain - Obama)	-.005	-7%	-10%	-26%
Overall (Grand Mean)					
	McCain	.938			
	Obama	.934			
	Difference (McCain - Obama)	+.004			

Notes: Positive "difference" values indicate an advantage for McCain; negative difference values indicate a disadvantage for McCain. The Overall AAR is the grand mean of each candidate's AAR values. Gallup poll data were retrieved from http://www.gallup.com. The Gallup poll results for Support 1 and 2 refer to the percentage of registered voters who said they would support each candidate "if the election were held today." The Gallup poll results for "Who Won?" are based on adults' (18+) responses to the question, "Regardless of which candidate you happen to support, who do you think did the better job in last night's debate?"

Altogether, the numbers shown in Table 2 reveal an irregular pattern concerning the relationship between nonverbal vocal dominance and the public opinion measures. With respect to the *first debate*, while the AAR values suggest that McCain exerted slightly more nonverbal vocal dominance in the debate as a whole, he had less public support going into the debate, and public support for Obama increased after the debate. Furthermore, adult Americans who watched the debate said that Obama did a better job than John McCain by 46% to 34%.

For the *second debate*, even though the difference between McCain's and Obama's AARs gave a *smaller* advantage to McCain compared to the first debate, a comparatively *greater* percentage of adult Americans who watched the second debate said that Barack Obama did a better job (56% to 23%). Furthermore, even though McCain's AAR was slightly greater than Obama's for the second debate, Obama maintained a consistent nine-point advantage over McCain before and after the second debate.

Finally, for the *third debate*, the AARs suggest that Obama for the first time exerted slightly more nonverbal vocal dominance in the debate as a whole, which may reflect increasing confidence as a result of publicly disseminated poll results suggesting that he emerged the victor in the earlier debates. While the AAR result for the third debate is also consistent with the increase in support for Obama immediately following the debate and with Gallup Poll data suggesting that most viewers thought he did a better job once again, the lack of correspondence between the AAR and public opinion in the first two debates prevents any clear conclusions. We also note that the Overall AAR (averaging across all three debates) gives a slight advantage to McCain. This result is also not consistent with Obama's relatively stable lead in the polls.

The fact that the AAR results in Table 2 seem to be "off base" as a whole when it comes to relevant public opinion data leads us to question the general usefulness of the AAR metric when it comes to understanding the role and significance of nonverbal vocal communication in political contests such as debates. While previous research has emphasized the fact that the AAR is highly correlated with popular vote percentages in presidential elections (Gregory and Gallager 2002), this measure of nonverbal vocal dominance does not bear any kind of clear, consistent relationship in our data to the selected Gallup Poll results.

Yet if we return to Table 1 and examine the *unaggregated* loadings on the Dominance factor within each debate, we are struck by one consistent pattern. On the one hand, with respect to the beginning and middle of each debate, the loadings for McCain are greater than the loadings for Obama except for the beginning of the second debate. On the other hand, with respect to the end of the each debate, the loadings for Obama are in all cases greater than the loadings for McCain. We return to this interesting, unexpected finding in the discussion that follows.

DISCUSSION

In application to the three presidential debates between Senators John McCain and Barack Obama, an established measure of nonverbal vocal dominance (the AAR) related poorly to Gallup Poll data concerning support for presidential candidates around the time of debates as well as debate viewers' perceptions of who did a better job. This leads us to question the general

usefulness of the traditional AAR metric for understanding the role and significance of nonverbal vocal communication in debate and election politics.

As the present research has made clear to us, one limitation of the AAR is that by aggregating over time, this metric can conceal patterns of nonverbal vocal dominance that occur between candidates *as a debate unfolds over time*. In reexamining the unaggregated statistical results in Table 1, we noticed a very interesting pattern: While Barack Obama consistently exerted less nonverbal vocal dominance than John McCain during the beginning and middle of each debate, he always exerted more nonverbal vocal dominance than McCain toward the end of each debate. A "recency effect" (Luchins 1957) may help explain why those who watched the debates consistently felt that Obama did a better job.[2] Overall, this suggests to us that *how much* dominance is exercised overall may be less important than *when* it is exercised.

The fact that Obama consistently exerted more nonverbal vocal dominance than McCain toward the end of each debate may also reveal his use of a particular debate strategy. Some members of the popular media have suggested that Barack Obama's campaign against John McCain has made use of the classic "rope-a-dope" strategy (Lambro 2008; Sullivan 2008). The term "rope-a-dope" originated as a description of a boxing style used by former World Heavyweight Champion Muhammad Ali. In his successful use of this strategy, Ali would feign being weaker than he really was by taking a protective stance and lying against the ropes of the boxing ring during the *early* rounds of a fight. In doing so he allowed his opponent to tire himself and become vulnerable to making mistakes that Ali could then take advantage of in gaining the upper hand. In a similar fashion, Obama may have used a type of “rope-a-dope” strategy during the three debates with John McCain, and our analyses may have picked up on this strategy insofar as it came to be manifested as a nonconsciously controlled command over nonverbal vocalizations in the closing stages of each debate.

The general conclusion that we arrive at is that advancing our understanding of the role and significance of nonverbal vocal communication in debate and election politics and other areas of social life would seem to require more attention to the more time-varying aspects of paralanguage -- complexities that are masked by the traditional AAR metric. Further research will be needed to ascertain how these processes unfold and how they relate with social attitudes and patterns of behavior, including vote preferences and choices. It would be interesting to compare our results to data from television network focus groups, the members of which watched the debates and provided real-time personal reactions in response to each candidate’s rhetoric. Based on our results, we would expect positive reactions to favor Obama toward the end of each debate, and positive reactions to favor McCain toward the beginning and middle of each debate. The presence of this pattern in each of the three debates would provide cross-validating evidence for the “rope-a-dope” interpretation of our own findings.

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ENDNOTES

1. More specific details on the FFT analyzer settings used in the present research are available upon request from the authors.
2. We thank Dr. Alison Bianchi for this suggestion.

APPENDIX

A. Correlation Matrix - First Debate (N=401)

	McCain (beginning)	McCain (middle)	McCain (end)	Obama (beginning)	Obama (middle)	Obama (end)
McCain (beginning)	1.00					
McCain (middle)	.977	1.00				
McCain (end)	.961	.964	1.00			
Obama (beginning)	.753	.693	.727	1.00		
Obama (middle)	.739	.700	.692	.935	1.00	
Obama (end)	.798	.773	.775	.944	.950	1.00

B. Correlation Matrix - Second Debate (N=401)

	McCain (beginning)	McCain (middle)	McCain (end)	Obama (beginning)	Obama (middle)	Obama (end)
McCain (beginning)	1.00					
McCain (middle)	.977	1.00				
McCain (end)	.972	.960	1.00			
Obama (beginning)	.923	.925	.952	1.00		
Obama (middle)	.854	.894	.897	.951	1.00	
Obama (end)	.949	.963	.954	.956	.947	1.00

C. Correlation Matrix - Third Debate (N=401)

	McCain (beginning)	McCain (middle)	McCain (end)	Obama (beginning)	Obama (middle)	Obama (end)
McCain (beginning)	1.00					
McCain (middle)	.969	1.00				
McCain (end)	.913	.899	1.00			
Obama (beginning)	.763	.775	.603	1.00		
Obama (middle)	.767	.777	.626	.961	1.00	
Obama (end)	.703	.723	.563	.904	.938	1.00

AUTHORS' NOTE

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