

TRANSFORMATIONAL LEADERSHIP AND PROSODY: THE MELODY OF SPEECH

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Abstract

Transformational leaders possess an inimitable kind of authentic character. These leaders obtain impressive results and elicit the best of followers. It is theorized that aspects of their prosody in speech, their primary mode of communication with followers, makes this possible. The present study sought to expose a possible relationship between transformational leaders' speech and acoustic cues of prosody, namely spoken frequencies (F0), spoken volume (amplitude), intonation, voice quality (harmonics-to-noise ratio) and speech rate. The hypothesis is that leaders with similar transformational leadership scores on the MLQ-5X questionnaire would share similar speech characteristics. Given that speech prosody has been shown to evoke emotion, and emotion is shown to have a measurable effect on the brain's memories, motivation and thoughts, it is hypothesized that some characteristics of these leaders' speech is common, thus invoking suitable levels of respect, trust, and loyalty to enable transformational change.

Introduction

Transformational leaders possess an inimitable kind of authentic character (Sosik & Cameron, 2010). Transformational leaders engender trust and loyalty by demonstrating sincere caring for their followers, rather than rewarding behavior or exerting authoritative control (Bass, 1986, Bass, 1999; Kirkpatrick & Locke, 1996; Tucker & Russell, 2004). They are highly effective, provoking respect while achieving impressive results (Bass, 1999; Sosik and Cameron, 2010). They act morally, taking actions that resonate with followers. This moral behavior influences followers to believe, change, and act. Given the powerful influence transformational leaders can have on followers and on results, it seems worthy to invest in research to uncover ways to make more of them.

Salovey and Mayer defined the theory of Emotional Intelligence as an aptitude to observe and manage one's own feelings and emotions well enough to use this information to guide one's activities and thoughts (Salovey & Mayer, 1989). Daniel Goleman took the concept, expanded upon the theory and popularized it, publishing the best-selling book, "Emotional Intelligence: Why it can matter more than IQ" (Goleman & Sutherland, 1996). In 2002, Goleman wrote "Primal Leadership: Realizing the power of emotional intelligence" (Goleman, Boyatzis & McKee, 2002), to expand the theory's relevance to leadership effectiveness. In the same year, Caruso, Mayer and Salovey (2002) proposed that leaders use emotions to supervise followers, recognize emotional behavior in followers and develop leadership skills. These behaviors have a positive emotional response in followers, lending credibility to the benefit of proper emotional management in leadership (López-Zafra, Garcia-Retamero, & Landa, 2008; Palmer, Walls, Burgess & Stough, 2001).

Much research has been done on the relationship between transformational leadership and emotional intelligence (Batool, 2013; Harms & Credé, 2010; Hoffman & Frost, 2006; Hunt & Fitzgerald, 2013; López-Zafra, Garcia-Retamero, & Landa, 2008; Palmer, Walls, Burgess & Stough, 2001; Singh & Modassir, 2007; Weinberger, 2003). The correlational findings remain mixed,

speculation being that construct definition, measurement tools, or research design is the limitation, rather than the absence of a relationship. Research efforts continue, because the observations are just too compelling: effective leaders monitor and respond to followers' emotions, and construct their leadership efforts to maximize emotional bonds (Glasø, Notelaers & Skogstad, 2011, López-Zafra, Garcia-Retamero, & Landa, 2008).

Lopez-Zafra et al. reports transformational leaders and their followers develop a relationship that is very emotional (López-Zafra, Garcia-Retamero, & Landa, 2008, p. 38). Leaders use emotional expression and regulation to influence followers (Glasø, Notelaers & Skogstad, 2011). It is established that people respond well to positive emotional connections (Fredrickson, 2001; Tugade, Fredrickson, & Feldman, 2004). Transformational leaders elicit strong results and positive outcomes from followers (Jacobs, et al., 2013). Based on these findings, it can be concluded that transformational leaders utilize positive emotional connections to realize their influential results.

So now the question becomes, "How do they impart these powerful emotional connections?" One premise is through prosody. It has been stated that, "Transformational leaders present several nonverbal emotional cues that led them to be perceived as effective...leaders" (Weierter, 1997). Prosody is the melodic nature of speech, its pitch, speed, intonation and the variations in these attributes (Bänziger, Patel, & Scherer, 2014; Boutsen, (2003); Boutsen, & Christman, 2002; Hupp, & Jungers, 2013; Monrad-Krohn, 1963; Shriberg, Paul, McSweeny, Klin, Cohen, & Volkmar, 2001). Since leaders primarily communicate with followers using speech (Delvis, 2013), this premise has a strong foundation. It has been shown that emotions have predictable acoustic features and patterns. For example, anger can be transmitted by raising one's voice (Scherer, 2003). Asking the question about transformational leaders' speech takes this finding one step further. If there are specific emotional signatures for anger, sadness and joy, there may also be emotional signatures for sincerity and respect, the emotions transformational leaders use to engender trust (Sosik & Cameron, 2010). Investigating common prosodic features among transformational leaders' speech may expose these emotions.

The relationship between prosody and emotion is well established (Bänziger, Patel, & Scherer, 2014; Baum & Nowicki Jr., 1998; Bostanov & Kotchoubey, 2004; Burton, Bensimon, Allimant, Kinsman, Levin, Kovacs, L, ... Bahrami, 2013; Hupp, & Jungers, 2013; Mozziconacci, 2002; Pell, Jaywant, Monetta, & Kotz, 2011; Scherer, 2003; Scherer & Bänziger, 2004; Weninger, Eyben, Schuller, Mortillaro & Scherer, 2013). A person's ability to process language is not limited to the semantics or syntactic speech components, but also to the non-verbal messages embedded in speech (Mozziconacci, 2002; Pell, Jaywant, Monetta, & Kotz, 2011). Given this, it is possible that transformational leaders are emotionally connecting to followers using their speech.

The author conducted a literature review using the Rivier University Regina Library Integrated Search database. The author initially selected four database topics from which to obtain sources: Education, Music, Psychology and Sociology. A fifth database, Art, was later chosen, after the author learned about the importance of prosody in theatre training. The limiters, "Full text," "Scholarly (Peer Reviewed) Journals," and "References Available" were selected. Four Boolean search vectors were designed. The first was, "transformational leadership AND prosody AND emotion," which produced no hits. The second search vector was, "prosody AND speech AND emotion." This produced 137 sources. The author scanned the abstracts for relevance to the emotional and acoustic properties of prosody, or distinct methodologies for testing prosody. Forty-seven sources were culled for additional scrutiny. The abstract scan revealed that the sources were categorized by studies on normal individuals, or mentally compromised individuals. Upon reading these 47 sources, it was realized that the sources focused on distinct practices of prosody: aloud speech, reading aloud, or in eliciting or recognizing emotions. The

author was seeking sources that referred to prosody in normal adults for speech, reading or emotional recognition, and 15 sources met this requirement. Another 14 sources were retained because they referred to tools used to measure prosody, or they contained pertinent background information on the construct definition of prosody. The third vector was, “transformational leadership AND emotion,” using Art, Business & Economics, Education, Psychology and Sociology databases and the same journal settings as the first and second vector. This vector produced 36 sources. The author scanned the abstracts and retained 9 sources. The other 19 sources in this topic area were taken from the author’s previous research efforts. The final two sources were obtained using the original database settings and the search vector, “amygdala AND emotion.” With this vector, the author was looking for sources explaining the role the amygdala in experiencing affect (positive or negative emotions).

The prosody sources indicated a strong connection between emotion, speech and prosody. The transformational leadership sources indicated a strong connection between transformational leadership behaviors and emotion management. Transformational leaders use speech as a primary mechanism to communicate with followers (Delvis, 2013). These findings suggest that transformational leaders elicit their strong results through emotional bonds enabled by speech prosody. A naturally-precipitating theory is that transformational leaders emotionally connect to their followers using characteristics of their nonverbal communication, namely the melody of their speech.

This theory is further strengthened by recent discoveries in neuroscience. It is reported that the amygdala is responsible for producing emotional responses in humans (Morris, et al., 1996, Ochsner & Gross, 2008). Ledoux (1996) performed extensive mapping of audio signals in the brains of rats, and discovered that the amygdala plays a key role in transforming acoustic information into an emotional response. Audio signals are transmitted into the ear via the eardrum, the ossicles, and then to the cochlea (Rekart, 2013). The cochlea houses a fluid that is put into motion by the acoustic signal’s energy. The cochlea houses tiny hair cells that bend when the moving fluid passes over them (Rekart, 2013). These cells release neurotransmitter into the auditory nerve (Rekart, 2013). Using advanced die injection techniques, Ledoux (1996) discovered that this signal travels through the auditory nerve to the inferior colliculus of the midbrain, and then on to the auditory thalamus. Using the same die techniques, Ledoux discovered that the auditory thalamus has distinct sets of axons that connect to two parts of the brain: the amygdala and the auditory cortex (Ledoux, 1996). One set of neurons transmits the signal directly to the auditory cortex for higher processing. The other set of neurons transmits the signal directly to the amygdala. If the incoming signal is perceived as a threat, the amygdala will respond by redirecting blood away from the neocortex (Connell, 2012), and toward critical body functions such as heart rate and other body responses expressed during fear (Ledoux, 1996). It is possible that transformational leaders speak with tones and volume that suppresses the amygdala’s fear responses. This keeps blood and oxygen in the neocortex, thus enabling the acoustic information that was sent to the auditory cortex to be processed. One region of the auditory cortex, the bilateral STG, is tonotopically organized (Schirmer & Kotz, 2006). This means that a specific audio frequency will energize a specific group of neurons that is less sensitive to other frequencies. It is possible that transformational leaders speak with a frequency (or frequencies) that energize neurons proceeding to the nucleus accumbens, a pleasure center of the limbic system (Berridge, K. C., 2003).

The precipitating research question is, “Does prosody play a role in transformational leader effectiveness?” Obtaining samples of transformational leaders’ speech and analyzing them for common acoustic properties can begin to explore this research question. Suitable hypotheses to test are for a positive correlation between a leader’s transformational leadership score and acoustic characteristics of his or her speech. Both variables will be described in the next section, along with a notional method for

obtaining the data. A suitable statistical analysis is proposed to expose any correlation between relevant variables.

Methods

Prosody can be characterized by physical acoustic attributes or subjective acoustic descriptors. Both types have been used to characterize prosody in typical-speaking adults (Bänziger, Patel, & Scherer, 2014; Bänziger, Mortillaro & Scherer, 2012; Baum & Nowicki Jr., 1998; Cheang & Pell, 2008; Hausen, Torppa, Salmela, Vainio & Sarkamo, 2013; McSweeny, Shriberg, & Jane, 2001; Pell, Jaywant, Monetta, & Kotz, 2011; Scherer & Scherer, 2011; Shriberg, Paul, McSweeny, Klin, Cohen, & Volkmar, 2001). A valid subjective scale for typical speech remains elusive (Bänziger, Patel, & Scherer, 2014). An explanation of both types follows.

Physical acoustic signature of prosody

The acoustic signature of prosody is made up of several, measurable variables. Fundamental acoustic theory describes sound by its fundamental frequency, F0 (the mean of all frequencies spoken), the range of frequencies (highest and lowest, measured in Hz), the mean amplitude or volume of sound along with its range (measured in dB) and the rate of speech (measured in beats per unit time). These variables can be measured empirically, using recording software, such as Praat (Boersma, & Weenink, 2013). The recording tools available today are quite sophisticated, allowing a novice to record speech and later extract data for these variables for quantitative analysis.

Subjective acoustic attributes of prosody

Subjective acoustic characteristics used for typical speech are pitch (the highness or lowness of someone's voice), the loudness of a person's voice (e.g. whispering or screaming), intonation (the rise and fall of voice, similar to melody and frequency range) and the rhythm (fast or slow speech, marked by at what rate each word is pronounced, and pauses between words, phrases and paragraphs). Compelling research has been published suggesting that intonation is a strong characteristic for emotion in speech (Mozziconacci, 2002). Intonation can be measured subjectively, but is highly susceptible to inter- and intra-rater bias and context or situation influence. Sources that use subjective rating measures regulate these variables by training the raters or using professional raters.

Two types of people can record and/or evaluate prosody: professional raters, or laypersons. Given the impact of prosody is inherently emotional, a layperson's perceptions and subsequent evaluation of a leader's speech has merit in terms of rating the emotional content. Using a layperson to assess acoustic aspects of prosody affects internal validity and calls for control (i.e., training).

Participants

A cadre of 75 military commanders at the nearby military base will be solicited to participate in this research study. The proximity of the base and the author's affiliation with the military makes these leaders easy to reach and likely amenable to participate. In addition, the military is keenly interested in making better leaders, thus inspiring people to participate. These leaders will be invited to participate and asked to provide their consent. It is anticipated that at least 20% will respond favorably, and possibly as much as 40% or 50%. This would realize a preliminary sample size of 15 - 36 leaders. They will be between 35 – 55 years of age, both male and female. There will likely be more males than females. They will be strictly officers. Their ethnic roots are expected to be Caucasian, African American, Latino and Asian. They will have at least 12 years as a military officer, and as much as 35 years. They will have at least a bachelor's degree, and will have experienced some degree of formal leadership training. The intent is to collect a sample that

homogeneously represents the population of military leaders. In this vein, it is hoped that a suitable number of transformational leaders will emerge to participate in this study.

Stimuli

These 75 leaders will be mailed a personal, typewritten letter explaining the purpose of the study. The letter will advise the participating leaders that in approximately two weeks, they will receive a link to a questionnaire web site, inviting them to take the MLQ-5X Multifactor Leadership Questionnaire (Avolio & Bass, 2004, Appendix C), which is used to measure leadership type. The questionnaire calls for 360-degree feedback, so the leaders will need to consent not only for their own time, but the time of their manager, and at least two peers and/or subordinates. The web site will walk the leaders through the questionnaire process. The participants will receive their MLQ-5X scores after the study is over. The letter will explain that if their scores are of a certain value, they will be asked to join me for a 4-minute recording session on base. Approximately two weeks prior to the recording session, they will be primed with a question related to their most recent accomplishment of which they are proud. The question will be, "Please describe a recent accomplishment of which you are proud. Describe the vision you manifested, the employees you worked with and the results you obtained. Please speak your answer for four minutes. Your answer will be recorded for later acoustic analysis." They will be asked to answer this question autonomously while being recorded for four minutes. I will be present, and will indicate to them when they have 1 minute left, 30 seconds left, and 10 seconds left. This is to ensure a suitable closing sentence is captured on the recording. It is anticipated that a prime aspect of leaders' prosody is in the intonation of a closing statement.

Materials and Recording Procedure

The author will use the MLQ-5X Multifactor Leadership Questionnaire to identify participants who possess transformational leadership qualities. The MLQ-5X has been used in prior research to measure for transformational leadership effectiveness (López-Zafra, Garcia-Retamero, & Landa, 2008; Palmer, Walls, Burgess & Stough, 2001; Sivanathan & Fekken, 2002; Sosik & Megerian, 1999). The MLQ-5X is administered in a 360-degree format, generating a 5-I's score for self and a 5-I's score for peers. The self-form uses 20 questions to collect responses on a 5-point Likert scale from 0 (not at all) to 4 (frequently, if not always) to self-assess the behaviors, impressions and actions of the transformational leader. The rater form also uses 20 questions on a 5-point, 0-4 Likert scale to rate the transformational qualities of the leader as perceived by the rater. The questionnaires produce two overall transformational leadership effectiveness score (5-I's Composite scores), one for the self and one as an average of the rater's responses. Prior research (Atwater & Yammariono, 1992; Dubinsky, Yammaorino & Jolson, 1995; Sosik & Megerian, 1999) supports using the 5-I's composite score to assess transformational leadership. A 5-I's score (both self and peer) of greater than 3.0 indicates transformational behavior, according to this instrument. The MLQ-5X Manual (Avolio & Bass, 2004) has been shown to be reliable and valid for measuring transformational leadership qualities. Chronbach's alphas are reported for the 5-I's score to be 0.83 and 0.78 respectively, for the original set of samples (N=1,394) and a replication set of samples (N=1,498) (Avolio & Bass, 2004, p. 64). Discriminant validity is reported with intercorrelation coefficients between transformational factors and modeled higher-order factors to represent other styles of leadership (Avolio & Bass, 2004, p. 64).

The author will use Praat software (Boersma, & Weenink, 2013) to record the leaders' responses. Praat is a computer program that records a spoken passage using a laptop and displays it graphically, processing key acoustic attributes across time. Praat has been used comparably by researchers analyzing the link between prosody and emotion (Bänziger, Patel & Scherer, 2014; Cheang & Pell, 2008; Scherer & Bänziger, 2004). Praat does not require certification to operate, and its interface is sufficiently easy for a novice to operate and collect valid recordings.

The author will reserve a conference room on the military base and set up the laptop. Selected leaders will have an appointed time to come to the conference room to record their answer. The criteria

for selection are explained in the next section. Each leader will be sound checked prior to reciting their answer, to ensure signal quality is sufficient for later analysis.

Procedural integrity

An attempt will be made to complete all recordings in one day. This is to stabilize the settings for all of the leaders' recordings, such as the same room, and the position of the laptop and the chair. Furthermore, the recordings will be conducted in a separate room from the leaders' offices and work environments. Creating a neutral environment should minimize external influences such as colleague interruptions and phone/computer distractions. All recordings will be stored on the laptop and backed up for later analysis using Praat (Boersma, & Weenink, 2013).

Intra-rater reliability

Prior to engaging the leader participants, the author will run several tests using Praat (Boersma, & Weenink, 2013). She will record her own voice 5-7 times using the approximate same setup as the leader recordings. By doing this, she will optimize the distance and angle from the laptop's microphone to obtain sufficient signal quality for accurate analysis. She will analyze her own voice recordings to practice using the Praat tool and extracting key data for the acoustic variables.

Dependent variables

The participating leaders' raw MLQ-5X 5-I's Composite scores for self and peers will be examined and separated into four groups. Group 1 will contain all self-rated 5-I's scores below 3.0, Group 2 will contain all self-rated 5-I's scores above 3.0, Group 3 will contain the average of peer-rated 5-I's scores below 3.0, and Group 4 will contain the average of peer-rated 5-I's scores above 3.0. Leaders having both a self and average peer score above 3.0 (Groups 2 and 4) will be considered for this study. These leaders' scores will be averaged to obtain a mean value for 5-I's for *Self* and *Peers* respectively, which will serve as the first and second measured variables. Seven acoustic variables will serve as the other measured variables:

- (a) Mean F0 (in Hz): computed as the sum of all frequencies spoken by males and females and divided by the number of frequencies recorded (by males and females),
- (b) Standard deviation of F0 (in Hz): computed around the Mean F0 for males and females as an indication of the variation of F0,
- (c) Range of F0 (in Hz): computed by taking the difference between the highest frequency spoken and the lowest frequency spoken for males and females,
- (d) Mean Amplitude (in dB): computed as the sum of all measured volumes divided by the number of measured volumes for males and females as an indication of varying loudness of speech,
- (e) Amplitude Range (in dB): computed as the highest volume spoken minus the lowest volume spoken to indicate variation in volume or intensity of speech,
- (f) Speech rate: computed as the number of words per minute for a 4-minute recitation as an indication of how fast these leaders speak, and,
- (g) Harmonic-to-noise Ratio (HNR, in dB): computed as the ratio of audible word signal to non-word signal to serve as an indicator of voice quality. HNR measures for features such as breathiness, non-word utterances such as um, uh, laryngeal clearing and word articulation.

Voice quality is reported to be a strong enabler for emotional connection in speech (Cheang & Pell, 2008; Mozziconacci, 2002; Pell, Jaywant, Monetta, & Kotz, 2011). Harmonic-to-noise Ratio is used primarily to objectively measure voice quality (Cheang & Pell, 2008). Particular attention will be paid to the Harmonic-to-noise Ratio, to see if more conclusions can be reached about the characteristics of transformational leader speech that influence emotion.

Statistical Plans

Any leader scoring greater than 3.0 on the MLQ-5X 5-I's composite score (both self-rating and average peer-rating) will be asked to record his or her voice. A mean score for all participants will be calculated for the 5-I's composite score for the self and for the peers, and will be tabulated in Table 1. These leaders' voice recordings will be analyzed using Praat to extract the seven acoustic variables. These values will be recorded in Table 1.

Table 1

Mean scores for MLQ-5X and recorded acoustic variables

	Female	Male
Mean 5-I's Score (Self)		
Mean 5-I's Score (Peers)		
Mean F0		
SD F0		
Range F0		
Mean Amplitude		
Amplitude Range		
Speech Rate		
HNR		

The leaders' scores will be separated by gender. It is known that women have a higher F0 Mean than men (Re, O'Connor, Bennett & Feinberg, 2012). This is not a condition of being a transformational leader, but rather being specific to gender.

A correlational matrix will be populated with the correlation coefficients of the MLQ-5X 5-I's score to each of the acoustic variables. The 5-I's self-score will be correlated to the 5-I's peer score, to evaluate self-other agreement (Sosik & Megerian, 1999). In addition, the acoustic variables will be cross-correlated to see if any two acoustic features are highly correlated, indicating a possible pattern in transformational leaders' speech. Table 2 indicates the format of the correlational matrix.

Limitations of the Study

This research design represents an elementary beginning to expose a possible relationship between transformational leaders' speech and prosody. The author's proximity to the military base offered a fruitful sample of competent leaders, but limits the generalizability of this study. Transformational leaders from governmental leadership, education, and commercial industry should also be consulted for acoustic analysis. The 4-minute free-form recitation served as a good first recording sample. It was designed to elicit passion, good feelings and positive thoughts in the transformational leader to attempt to bring those emotions into the leader's speech. However, as with other prosodic studies, varying the utterances to include identical passages, one-on-one speech and public speech is warranted. There are two other recording instruments for prosody in typical-speaking adults: PSVP (McSweeney, Shriberg, & Jane, 2001; Shriberg, Paul, McSweeney, Klin, Cohen, & Volkmar, 2001), and DANVA-AP (Baum & Nowicki, 1998; Burton, Bensimon, Allimant, J. M., Kinsman, Levin, Kovacs, . . . Bahrami, 2013). Both

require certification to be administered. Obtaining acoustic measurements using this tool would establish convergent validity and further corroborate the results. Consideration should be given to recorded utterances (either video or audio-only) versus live evaluation. It is prudent to augment objective measures with subjective ratings of transformational leaders' speech. The Geneva Voice Perception Scale (Bänziger, 2014; Bänziger, Patel, & Scherer, 2014; Scherer, 2003; Scherer & Bänziger, 2004; Scherer & Scherer, 2011) is up and coming as a valid instrument for subjectively measuring normal speech characteristics. Voice quality is one variable that can be measured both objectively and subjectively. Subjective evaluation of this measure is meaningful, since it is reputed to play a particular role in transmitting emotion in prosody. Subjective scale rating coupled with documenting impressions and feelings will capture the deeply personal impact of prosody that the physical qualities cannot provide. Combining results from both subjective and objective measures would triangulate the data and provide a solid basis to reject the null hypothesis.

Table 2*Correlational matrix for transformational leader recordings*

Female									
Test	1	2	3	4	5	6	7	8	9
Mean 5-I's Score (self)	1								
Mean 5-I's Score (peers)	*	1							
Mean F0	*	*	1						
SD F0	*	*	*	1					
Range F0	*	*	*	*	1				
Mean Amplitude	*	*	*	*	*	1			
Amplitude Range	*	*	*	*	*	*	1		
Speech Rate	*	*	*	*	*	*	*	1	
HNR	*	*	*	*	*	*	*	*	1
Male									
Test	1	2	3	4	5	6	7	8	9
Mean 5-I's Score(self)	1								
Mean 5-I's Score(peers)	*	1							
Mean F0	*	*	1						
SD F0	*	*	*	1					
Range F0	*	*	*	*	1				
Mean Amplitude	*	*	*	*	*	1			
Amplitude Range	*	*	*	*	*	*	1		
Speech Rate	*	*	*	*	*	*	*	1	
HNR	*	*	*	*	*	*	*	*	1

* = To be populated

Areas for Future Research

A reasonable next step is to compare objective acoustic measurements from transformational leaders to catalogued acoustic signatures for emotions. Relevant emotions to examine include trust, respect, loyalty, inspiration, and desire to excel. Perhaps these emotions can be mapped in the brain. Then, subjects can be exposed to transformational leaders' speech while their brains are being imaged to see if there is a similar effect. Also, there is a preponderance of research on the importance of facial

recognition that accompanies prosodic perception. It may turn out there is no pure acoustic impact of speech, but perhaps when combined with transformational leaders' facades it would expose a relationship.

Conclusion

The research design of the current study can provide preliminary evidence of a relationship between transformational leaders' speech and prosody. Given the number research articles seeking to find a relationship between emotional intelligence and transformational leadership, this evidence may spawn a new way to study this relationship. If a relationship does exist, then understanding transformational leaders' acoustic speech characteristics may have several implications for defining ways to make more of them. Voice training is readily available at most academic and theatrical institutions. These voice-training curriculums could be transferred to leadership effectiveness training programs. If leaders can learn to use their voices to align with proven acoustic sounds for positive affect, they can be more effective. Prosodic aptitude may raise self-awareness, a key attribute of emotional intelligence. Awareness and use of prosody may enable transformational leaders to further hone their skills in emotionally connecting with followers. It is here where the power of indelible change truly lies. ■

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