The executive mind: leader self-talk, effectiveness and strain

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Abstract

Purpose – The theoretical and practical criticality of self-talk for leader success receives extensive multidisciplinary discussion, without a great deal of empirical research given the challenge of assessing actual self-talk. The purpose of this paper is to advance research and theory on self-leadership by examining leader self-talk and its relationship to effectiveness and strain.

Design/methodology/approach – In total, 189 senior executives' self-addressed, future-oriented letters were collected. The executives wrote these letters to themselves for their own personal development; thus, the language used represented a form of naturally occurring self-talk. Two types of self-talk were coded: constructive and dysfunctional. Supervisor and direct report ratings of leadership of others and creativity and self-ratings of job strain were collected.

Findings – Extensive variability among leaders in constructive self-talk was found. Exemplars of constructive and dysfunctional self-talk are presented. Constructive self-talk positively related to effective leadership of others and creativity/originality as evaluated by subordinates and superiors and was negatively related to job strain. Dysfunctional self-talk related negatively to creativity/originality.

Originality/value – In addition to illustrating the types of self-talk used by leaders, research is extended by providing some of the first empirical evidence of how leaders' free-flowing thoughts are related to their effectiveness and their overall well-being, lending direct support to a principal proposition from the self-leadership framework.

Keywords Leaders, Motivation (psychology), Stress, Leadership, Leader performance, Self-leadership, Self-regulation, Self-talk

Paper type Research paper

Self-leadership, broadly defined by Manz (1986), is "a comprehensive self-influence perspective that concerns leading oneself toward performance of naturally motivating tasks as well as managing oneself to do work that must be done, but is not naturally motivating" (p. 589). The theory recognizes that effective self-leadership is a foundational element for effective leadership more broadly — that is, to lead others effectively, one must effectively lead himself or herself (Houghton *et al.*, 2003).

At the core of how individuals lead themselves is their internal or inner dialogue (Manz and Neck, 1991), which is a concept that has also been referred to as self-talk. Hackfort and Schwenkmezger (1993) defined self-talk as "dialogue through which the individual interprets feelings and perceptions, regulates and changes evaluations and convictions, and gives him/herself instructions and reinforcement" (p. 355). As Houghton and Neck (2002, p. 674) write, "self-dialogues usually take place at unobservable levels as individuals evaluate, instruct, and mentally react to themselves". Interestingly, despite self-talk's centrality to self-leadership (Locke and Latham, 2004), there is a lack of empirical attention on the topic in the organizational sciences. Scholars, therefore, know very little about leaders' self-talk and its work-related implications – the purpose of this study.

The theoretical rationale underlying self-leadership and the importance of one's thoughts in understanding behavior proposed by Manz and colleagues is social cognitive theory (SCT; Bandura, 1977, 1991). SCT is an agentic theoretical framework for understanding how human behavior can be comprehended, analyzed, and changed. SCT is based on the notion that human behavior involves an interaction of personal factors, behavior, and the environment (Bandura, 1991), with each of these three factors dynamically and reciprocally relating to one another.

The active influence of one's mind is strongly emphasized in SCT. Here, the power of one's cognitions is involved in constructing an individual's reality, encoding information in one's mind, and leading a person to behave in correspondence to his or her expectations of what consequences will follow from particular actions. In SCT, through actions such as thought self-regulation and self-reflection, a person can develop the agency and motivation to think and behave in ways that actively create positive future experiences. Therefore, there is a constant interaction between thoughts and the environment that leads to the creation of one's reality. The individual receives feedback from the environment, which he or she then cognitively interprets. Through self-reflection on experiences, an individual can gain knowledge on how his or her thoughts and corresponding behaviors lead to positive or negative experiences. Then, through the regulation of thoughts and the use of constructive self-talk to reflect on experiences, an individual can become motivated and develop the self-efficacy to act in ways that positively influence his or her future. In sum, how an individual constructs his or her reality is what enables behavior to be understood, predicted, and changed.

The concept of self-talk is not specific to the leadership literature; in fact, it has been embraced by multiple disciplines. Sports psychologists have discussed the implications of self-talk for athletic performance (e.g. Hatzigeorgiadis *et al.*, 2004). Clinical and counseling psychologists espouse the positive benefits of constructive self-talk to improve the psychological health and well-being of their clients (e.g. Burnett, 1994; Treadwell and Kendall, 1996). In education, there has been interest in self-talk training as a tool for enhancing academic performance (Swanson and Kozleski, 1985).

Most of the organizational research on self-talk is conceptual in nature (Neck and Houghton, 2006). There is a notable lack of empirical organizational research on actual leader self-talk likely due to the challenge of capturing the thoughts of leaders through verbal protocols and expressive writing (Englert *et al.*, 1991; Ericsson and Simon, 1993; Isenberg, 1986). There is organizational research that examines the self-talk construct indirectly. Several studies (Neck and Manz, 1996; Yanar *et al.*, 2009) implemented self-talk training interventions in hopes of increasing job performance or employment opportunities for individuals seeking work. For example, Neck and Manz (1996) found that training leaders in effective self-leadership and self-talk (e.g. learning how to replace cognitive distortions with more functional forms of thought) resulted in increased mental performance, positive affect, job satisfaction, and self-efficacy, and decreased nervousness in participants.

Another stream of research related to leader self-talk is work on self-leadership strategies (e.g. Houghton and Neck, 2002). In this research, participants report their cognitive approaches and strategies for dealing with organizationally relevant issues and events. The measures used are broad-based self-assessments akin to how personality and skills are assessed (e.g. participants indicate agreement with various statements, such as: "I think about my own beliefs and assumptions whenever I encounter a difficult situation").

The literature consistently demonstrates that self-leadership skills relate to a host of personal and organizational outcomes. The leaders reporting more effective self-leadership skills (e.g. self-reported engagement in constructive thinking) tended to be more innovative (Carmeli *et al.*, 2006) and have higher generalized self-efficacy (Prussia *et al.*, 1998). Self-reported self-leadership skills have also been related to more positive reports of health, stress, and spiritual fulfillment (Dolbier *et al.*, 2001; Lovelace *et al.*, 2007; Neck and Milliman, 1994). Constructive self-reported thought strategies have also been linked to job satisfaction (Judge and Locke, 1993; Houghton and Jinkerson, 2007). A longitudinal study found that the mental health and job-search efforts exerted by unemployed individuals were poorer in weeks when they reported self-defeating thoughts (Wanberg *et al.*, 2012). Finally, lower performing managers tended to report that their thoughts focused on personal deficiencies while higher performing managers tended to report that their thoughts centered on external factors such as hindrances to overcome (Manz *et al.*, 1988).

Despite the clear benefits of self-reported self-leadership skills, it is important to recognize that self-leadership skills are not synonymous with actual self-talk. Self-leadership scales do not assess actual internal dialogue directly. As Glass and Arnkoff (1997) discuss, "The obvious disadvantage of structured inventories is that the items contained in these questionnaires are prototypical statements and may not reflect an individual client's actual thoughts. Consequently, the idiosyncratic nature of the individual's thoughts is not fully captured" (p. 912). They go on to note that self-talk or inner speech standard self-reports "do not capture the ongoing flow of stream-of-consciousness thoughts" (p. 911). Glass and Arnkoff (1997) also discuss that the self-leadership skills types of measures have unique challenges around the accuracy of participants' memory recall as well as demand characteristics and cognitive dissonance given that self-talk is measured retrospectively rather than concurrently.

Leader self-talk and leader effectiveness and well-being
In this study, we first examine actual leader self-talk. Although the labels may slightly differ, self-talk research and theory consistently identify two principal types of self-talk: constructive and dysfunctional self-talk (e.g. Houghton and Jinkerson, 2007; Neck and Manz, 1992, 1996). Constructive self-talk is characterized by accurate self-analysis, well-grounded beliefs, and an encouraging orientation (e.g. Prussia *et al.*, 1998). Constructive self-talk has a depth to it in that it seeks more nuanced explanations to people's behavior, one's personal situation, and their responses to challenges, rather than surface-level or superstitious explanations (Epstein and Meier, 1989). Overall, constructive self-talk is thought to be thoughtful, substantive, motivational, insightful, and self-reflective. Dysfunctional self-talk is a tendency to focus on and perseverate about the negative aspects of challenging situations (Neck *et al.*, 1999). This type of thinking does not embrace change or challenge; instead, it shies away from it and focuses on the situation's obstacles.

RQ1. What is the base rate of constructive and dysfunctional self-talk in leaders? What are examples of these types of self-talk in a leader population?

Second, in this study, we examine self-talk and three work-related outcomes. Specifically, this study is the first one, based on our review of the literature, examining the relationships between actual self-talk and effective leadership of others (e.g. supportiveness, mentorship, helpfulness, and promoting collaboration), creativity/originality, and leader job strain. These outcomes were chosen for two primary reasons:

(1) each has been discussed extensively in the literature as being theoretically relevant to self-talk or self-leadership more broadly (e.g. Neck and Manz, 1996); and

(2) considering this is an introductory empirical examination of the importance of leader self-talk, we chose outcomes that are broad in nature to provide overall evidence regarding the importance of self-talk for both the effectiveness and well-being of leaders.

Self-talk and leadership of others
As mentioned earlier, effective self-leadership through constructive self-talk should help with the main job of leaders – that is, providing leadership to others. There are several reasons why constructive self-talk is postulated to result in more effective leadership of others. Leaders who are able to regulate their own emotions effectively through self-regulatory methods such as constructive self-talk should be better able to adapt to the needs of followers (Depape *et al.*, 2006). Morin (2005) supports this perspective by suggesting that constructive self-talk allows a leader to reproduce the perspectives of other people more effectively and take these perspectives into account when making decisions. Here, self-talk provides the individual with an expanded frame of reference from which to view a problem, be it task or interpersonally focused, which is critical for effective problem solving. At the same time, this nuanced understanding of behavior and situations allows the leader to more effectively address individual and team-level needs, problems, and challenges. Depape *et al.*'s (2006) work further demonstrates how constructive self-talk tendencies are associated with higher

emotional intelligence, which has direct implications for the effective leadership of others (Côté *et al.*, 2006):

H1. Constructive self-talk will be positively related to leadership of others.

Dysfunctional thinking patterns lead people to see challenges as irreversible or unchangeable (Beck, 1987). Therefore, challenges confronting the leader and his or her team may remain unresolved. This, in turn, can lead subordinates to experience frustration with the leader's supportiveness and helpfulness in dealing with work-related problems:

H2. Dysfunctional self-talk will be negatively related to leadership of others.

Self-talk and creativity/originality
Leaders using more constructive self-talk strategies should be more creative and original. From the self-leadership skills literature, constructive self-talk is inherently linked to optimistic or opportunity thinking. This, in turn, leads to not only greater persistence in the face of challenges, but also a greater propensity to recognize a challenge to be overcome (which is stage one of the innovation process) and trying a myriad of approaches to seek effective resolution (DiLiello and Houghton, 2006; Neck and Manz, 2010). Constructive self-talk is also linked to positive emotional states (Beck, 1987). These positive emotional states can in turn broaden a person's way of thinking about the world, which allows him or her to be more open to new people and experiences (Fredrickson, 1998; 2001; Fredrickson *et al.*, 2003). The self-leadership skills literature supports this connection. Constructive thoughts can increase the self-efficacy of leaders, allowing them to be more open to new approaches, risk taking, and innovative solutions (Neck *et al.*, 1999). Carmeli *et al.* (2006), for instance, found that self-leadership skills were related to higher self- and boss ratings of innovative behavior:

H3. Constructive self-talk will be positively related to creativity/originality.

Dysfunctional thinking can reduce a leader's ability to develop innovative solutions to organizational problems and to adapt to new challenges that arise. Neck and Manz (2010) suggested that perceiving problems as obstacles rather than as opportunities decreases a person's willingness to persist, which is a necessary component of developing creative ideas and adapting. Psychologists help to provide an explanation for why dysfunctional thinking can be so detrimental to creativity or adaptability. Beck (1987) discussed how dysfunctional thoughts lead to decreased cognitive capacity for ideas that require effortful processing. Dysfunctional thinkers develop negatively biased schemas characterized by chronic misconceptions, distorted attitudes, invalid premises, and unrealistic goals. The abstract thinking needed for innovation requires more sophisticated cognitive schemas that are free from these cognitive distortions (Beck, 1963). Additionally, dysfunctional thinking leads to "arbitrary inference" with a corresponding inability to accept alternative explanations, as well as "selective abstraction" (Beck, 1963) in which the person is fixated on negative aspects of the situation, leading them to ignore other features of the environment. This tendency towards fixating only on certain aspects of the situation suggests that the leader would be less likely to be flexible and adaptable to alternative solutions that can promote creative ideas:

H4. Dysfunctional self-talk will be negatively related to creativity/originality.

Self-talk and job strain
Constructive self-talk is likely able to reduce job strain by helping a person cope with anxiety-provoking situations on the job. While self-talk does not eliminate the source of stress *per se*, it can be an effective regulation strategy. Establishing constructive thought patterns through self-talk is an "approach" versus "avoidance" coping style that allows the individual to proactively mitigate demands and work to solve the source of the strain (Dolbier *et al.*, 2001). For instance, Voight (2009) examined the coping strategies of soccer officials for combating job stress and found that constructive self-talk was a frequently used strategy. Constructive self-leadership strategies and self-talk enable individuals to feel more in control and capable of coping with simultaneous demands (Frayne and Latham, 1987), which in turn allows them to gain greater control of their work environment through increased resources (Lovelace *et al.*, 2007):

H5. Constructive self-talk will be negatively related to job strain.

The link between dysfunctional self-talk and emotional challenges dates back to Ellis (1962), who was one of the first to broadly define self-talk. He described how patterns of irrational thinking produce emotional distress or strain, and these thinking patterns are heavily influenced by our self-talk. Ellis (1962, 1975, 1977) suggested that dysfunctional thoughts lead to emotional challenges and distress whereas constructive thoughts lead to positive emotional states. This perspective is consistent with Beck's (1963) classic work in which he discussed how beliefs influence our internal dialogue which in turn influences our emotional state. Self-talk that is obstacle-oriented ultimately does not promote a sense of self-efficacy, engender support from others, or work effectively to solve the sources of stress:

H6. Dysfunctional self-talk will be positively related to job strain.

Method
Participants and procedures
Data were collected from 189 senior executives who attended a five-day leadership development program at an organization with headquarters in the Southeastern USA. This particular leadership program is designed for senior executives (top three tiers of their organization) with 15 or more years of management experience and leadership responsibilities for 500 or more people. The sample was primarily male (83.7 percent), Caucasian (85.8 percent), middle-aged (M = 48 years, SD = 6.2), and represented a wide range of industries and organization sizes. Typical titles of executives in this sample included CEO, President, Managing Director, Vice President, and Senior Director.

Approximately six weeks prior to attending the leadership development program, 360-degree surveys were sent out to the executives' direct reports and supervisors and returned directly to the organization. Data from these surveys were used for the measures of leadership of others and creativity/originality. Participants chose between one and three supervisors (M = 1.34, SD = 0.54) and between one and 11 direct reports (M = 4.48, SD = 1.57). Participants were also asked to complete a general work environment survey prior to their participation in the program that included the measure of job strain. Self-talk was assessed through a letter that each executive wrote to himself or herself at the conclusion of the five-day program. See Table I for a listing of all items.

Leadership of others

Helps subordinates resolve their conflicts constructively	0.80
Delegates work that provides substantial responsibility and visibility	0.65
Identifies and removes barriers to effective teamwork	0.80
Publicly praises others for their performance	0.75
Acts as a mentor, helping others to develop and advance in their careers	0.84
Supports the decisions and actions of subordinates	0.81
Develops staff through constructive feedback and encouragement	0.87
Understands what motivates other people to perform at their best	0.79
Encourages direct and open discussions about important issues	0.68
Seeks common ground in an effort to resolve conflicts	0.71
Tailors communication based on others' needs, motivations, and agendas	0.74

Creativity/originality

Creative – produces many novel ideas, products, or methods	0.92
Imaginative – has a flair for seeing the world differently	0.85
Inventive – comes up with clever new products or ideas	0.90
Original – thinks and acts in fresh, unusual ways	0.95

Constructive self-talk

This letter seemed insightful	0.93
This letter seemed thoughtfully constructed	0.88
The letter writer seemed engaged in constructive self-talk	0.86
This letter writer seemed self-reflective	0.88
The letter writer seemed engaged in motivational self-talk	0.76

Dysfunctional self-talk

Sees challenges associated with change	0.51
Appears to shy away from challenges rather than embrace them	0.87
Focuses on the negative aspects associated with challenging situations, rather than the positive aspects	0.93
Has a pessimistic perspective about change	0.87

Notes: All factor loadings were statistically significant at $p < 0.001$. Given that job strain was measured with a single item, we constrained its factor loading to 1 and its residual (error) variance to 0

Table I.
Factor loadings from the confirmatory factor analysis

Measures

Leadership of others. All 11 items from Beck *et al.*'s (2010) leadership of others scale were used. This measure is designed to be a *Gestalt* measure that assesses the leader's ability to use interpersonal leadership skills to effectively lead others, and it focuses on the importance of leader support (e.g. Baran *et al.*, 2012), mentorship (e.g. Haggard, 2012), helpfulness (van Dierendonck and Nuijten, 2011), communication (e.g. de Vries *et al.*, 2010), and promoting collaboration (e.g. Naidoo *et al.*, 2011) among the leaders' direct reports. Ratings were made by leaders' supervisors and subordinates using a 1 ("deficient") to 5 ("exceptional") rating scale. Scale scores on this measure were created by aggregating ratings from both supervisors and subordinates. The scale's coefficient α was 0.96, and the median $r_{WG(J)}$ value across all leaders was .95.

Creativity/originality. Leader creativity/originality was assessed via a four-item scale taken from the Campbell Leadership Index (Campbell, 1991). Ratings were made using a 6 ("never") to 1 ("always") rating scale (the scale was reverse scored prior to analysis for ease of interpretation). Scale scores were again calculated by aggregating

across all raters. The α for this scale was 0.94, and the median $r_{WG(J)}$ value across all leaders was 0.87.

Job strain. To assess leader job strain, a single item self-rating from the Campbell Organizational Survey (Campbell and Hyne, 1995) ("job stress is affecting my health"). Participants completed this item using a 6 ("strongly disagree") to 1 ("strongly agree") rating scale.

Self-talk measures. Participants were asked to write letters addressed to themselves about issues related to their work and personal lives. In the letter, the participants were asked to remind their future selves of the goals and lessons that they had learned in the program and to discuss their hopes for future self-development. Participants were completely unaware that self-talk was being assessed. Participants were given up to 45 minutes to write the letters. No training around the topic of self-talk was provided. Because very few parameters were specified regarding what the letters should contain, these letters represent the free-flowing self-talk of leaders. Of note, we were not interested in the topics of the letters *per se* (as those were shaped by the leadership program in many ways) but rather how the leaders "spoke" to themselves about a topic. Overall, this method represents a natural and subtle method for assessing self-talk that lends itself well to a field setting such as ours and is less subject to distortion (Englert *et al.*, 1991).

Seventeen leadership researchers were provided with extensive training on self-talk and coding procedures. Coding was letter-based rather than utterance/sentence based. This was found to be necessary as context of the entire letter was essential to understand self-talk. This means that the judges provided general ratings of the leaders' self-talk after reading the entire letter. Each letter was randomly assigned to three judges for coding. In total, the judges rated 216 letters including 238 single-spaced pages of text and 75,560 words. However, we were only able to link performance data for 189 of these leaders.

Constructive self-talk was assessed by five items rated on a 1 ("to a little extent") to 4 ("to a great extent") scale (a "to no extent" value for constructive self-talk was found to not be applicable for this sample). Please see Table I. These items were consistent with definitions of constructive self-talk as being thoughtful, substantive, motivational, insightful, and self-reflective. The judges' ratings on each item were averaged, and the items were then averaged to create a scale score. There was a high degree of agreement between the judges, with the median $r_{WG(J)} = 0.94$ across letters, suggesting that it was acceptable to aggregate ratings across judges. Cronbach's α was 0.94.

Dysfunctional self-talk was captured by four items rated on a 1 ("to no extent") to 5 ("to a great extent") scale. Please see Table I for the items. These items were consistent with the literature indicating that dysfunctional self-talk is a tendency to focus on and perseverate about the negative aspects of challenging situations (Neck *et al.*, 1999). Ratings on the items were averaged across the judges and then averaged to create a composite score. There was a high degree of agreement between the judges, with the median $r_{WG(J)} = 0.95$ across letters. Cronbach's α was 0.72.

Results

Research question one asks about the base rates of constructive and dysfunctional self-talk in a leader population. The mean score for constructive self-talk was 2.71

(SD = .62) which was just above the scale midpoint. Fourteen percent of the scores were low ranging from 1 (to a little extent) to 2 (to some extent). Fifty-five percent of scores reflected moderately levels of constructive self-talk, between 2 and 3 (to a good extent). Thirty-one percent of scores were high in that they ranged between 3 (to a good extent) and 4 (to a great extent). The mean score for dysfunctional self-talk was very low at 1.38, with little variability (SD = 0.34). Scores ranged from 1 to 3.08. The largest majority of the scores (ninety-five percent) fell between 1 (to no extent) and 2 (to a little extent). As the sample contained mostly individuals who have risen to the highest levels of leadership in their organization, the low levels of dysfunctional self-talk are not surprising. Age, gender and race were not correlated with the propensity to engage in constructive or dysfunctional self-talk ($p > 0.05$).

Next, as part of research question one, we seek to illustrate the type of self-talk displayed by participants. Note again, themes were not coded in the letters. What was coded was how the participants talked to themselves about the topic – that is what made the assessment a measure of self-talk. Although self-talk coding was done at the overall letter level as it was helpful to understand the full context when rating letters on self-talk, we extrapolated sample statements for illustrative purposes.

For example, these next two leaders were both talking about work/life balance issues in their letters. However, how they talked to themselves about the topic was very different and provides insight into their self-leadership approach. Example one: "I find some areas are receiving too much attention. Adjustments must be made. Yes, change will occur and the proper balance will be achieved". This quote clearly reflects a leader who aspires for a goal, but the self-talk is not expressed in a highly constructive manner. Example two: "You have always known that you adored your son. You even cried this week for the first time in years when you talked about your son. This is because you realized you are not spending enough time with him. How are you doing? Are you spending at least 4 hours with him during the weekend? Did you write him a letter for him to open when he goes to college?". The latter was considered a better exemplar of constructive self-talk than the former given its supportiveness, guidance, self-insight, and multifaceted approach. Another example of constructive self-talk around a different topic is: "You are good at what you do, so you are going to start giving yourself some credit – publicly. And the next time someone compliments you on something, do not brush them off before they finish with a quick 'thank you' – take it all in. You've made it through the 2004 process and you 'done good'. CFO is happy".

Two examples, from two separate leaders, that do a nice job exemplifying dysfunctional self-talk are:

(1) "At this point, I am not sure what the end result will be. Retirement and free time is tempting. It would be the easy path. I am not used to going down the easy path. It may be time to take the easy journey"; and

(2) "And how's the mess at the office? Still cancelling appointments or showing up in wrong meetings? Hope you can handle your schedule a little better now. Say no to some stuff. Otherwise one day you're going to be the only one in the meetings. Don't say I didn't tell you".

Finally, in other letters, how the leader concluded their letter revealed some substantive differences among participants in self-talk. For example, one letter ended with: "P.S. How the hell are you going to find the time to do this, you have a career to worry

about". Another person writes, "In closing, I can't wait to get back to you with the full plan and details. You have been of great support". The latter leader used self-talk that is supportive and positive in nature, indicating constructive self-talk, whereas the first leader appears heavily career progress focused where addressing other life aspects is seen as a barrier. This is an example of dysfunctional self-talk.

Confirmatory factor analysis results
We conducted a confirmatory factor analysis (CFA) to examine the factor structure of all measures. This resulted in testing a 25-item, five-factor model in which all items were specified to load onto their respective factors, and latent factors (but not residuals) were allowed to freely correlate. We evaluated the fit of the model using several criteria. Specifically, "acceptable" model fit is indicated by a comparative fit index (CFI) value greater than 0.90 and a root mean square error of approximation (RMSEA) value less than 0.08 (Browne and Cudeck, 1992; Medsker *et al.*, 1994). For "good" fit, CFI values should approximate 0.95 or higher, RMSEA values should be approximately 0.06 or less, and the standardized root mean square residual (SRMR) should be less than 0.08 (Hu and Bentler, 1999).

The results of the CFA indicated that our 25-item, five-factor model provided a reasonably good fit to the data, as the fit indices ($\chi^2 = 517.39$, df = 266, $p < 0.001$; CFI = 0.93; RMSEA = 0.07; SRMR = 0.06) closely approximated or met their respective cutoffs. As shown in Table I, all standardized factor loadings were statistically significant and were relatively large in magnitude. These items are therefore reliable indicators of their respective latent factors. Moreover, the latent factor correlations ranged from -0.19 to .35, suggesting that these factors are related yet empirically distinguishable constructs. Overall, the CFA results provide strong evidence in support of the construct validity of this study's measures.

Self-talk and outcomes
As we were not testing a model, mediators, the existence of relationships across levels of analysis, and no empirical reason was identified to control for demographic variables (i.e. they were unrelated to self-talk), simple correlation coefficients were used to test this study's propositions. The correlations among self-talk measures and the outcome variables are presented in Table II.

Constructive self-talk was positively correlated with leadership of others ($r = 0.20$, $p < 0.05$) and negatively correlated with job strain ($r = -0.15$, $p < 0.05$) such that those leaders engaging in constructive self-talk reported less job strain and were

	M	SD	1	2	3	4	5	6
1. Gender	–	–						
2. Age	48	6.19	-0.10					
3. Constructive self-talk	2.71	0.62	-0.06	-0.08				
4. Dysfunctional self-talk	1.38	0.34	0.07	0.01	0.04			
5. Job strain	3.94	1.38	0.00	0.10	-0.15^*	0.04		
6. Leadership of others	3.45	0.53	-0.02	0.22^*	0.20^*	-0.03	-0.03	
7. Creativity/originality	4.48	0.61	-0.05	-0.02	0.11	-0.14^*	-0.09	0.26^*

Table II.
Descriptive statistics and intercorrelations for self-talk indices and leader outcomes

Notes: $n = 189$; $^*p < 0.05$ (two-tailed tests)

evaluated by others as being a more effective leader of others. Constructive self-talk was not correlated with creativity/originality. Despite its very low scores and variability, dysfunctional self-talk was negatively correlated with creativity/originality ($r = -0.14$, $p < 0.05$) such that those leaders reporting higher-levels of dysfunctional self-talk were also evaluated by others as being less creative/original. Dysfunctional self-talk was unrelated to job strain or leadership of others. No curvilinear relationships were found in any of the above analyses.

Discussion

In this study, we explored the nature of leader self-talk and whether it relates to his or her effectiveness as a leader as well as to the strain he or she experiences on the job. With regard to the former, considerable variability in constructive self-talk was found among participants. Although, on average, this leader sample was quite constructive in their self-talk, differences among leaders in the supportiveness, insightfulness and overall motivational quality of their self-talk were readily exemplified. This was not the case for dysfunctional self-talk, though some limited variability still existed.

With regard to work-related outcomes, what a leader says to him/herself does indeed seem relevant. Constructive self-talk was associated with an increased ability to lead others and less job strain. This is consistent with self-leadership theorists who emphasize that constructive self-talk reduces leaders' stress at work (Lovelace *et al.*, 2007), and enhances their ability to lead followers (Lovelace *et al.*, 2007; Neck and Houghton, 2006) as it allows them to manage and construct a productive environment more effectively. Dysfunctional self-talk was related to decreased leader creativity. Perhaps this exists because dysfunctional thinking can undermine a person's self-efficacy and lead a person to fixate on only one aspect of the environment, stifling his or her ability to think more broadly (Beck, 1963). Furthermore, seeing problems as obstacles, rather than opportunities, decreases a person's willingness to persist, which is often necessary for developing and implementing creative ideas (Neck and Manz, 2010). Surprisingly, dysfunctional self-talk was only related to one outcome. This could be due to a restriction in range in our sample. The variance was rather low and positively skewed, meaning that our leaders did not display dysfunctional self-talk as often as constructive self-talk through their letters, likely due to the fact that these are highly successful individuals. This is further discussed in the Limitations section.

Although the correlations observed were small for the quantitative portion of the study, but not at all atypical when studying senior leaders (Peterson *et al.*, 2012), we believe they are conservative low-end estimates of larger effects for a few reasons. First, we assessed self-talk at only one point in time. Second, six weeks of time separated the performance indicators (assessed quantitatively from different sources) from the assessment of self-talk (assessed qualitatively), which also mitigated against common method bias inflation (Conway and Lance, 2010). Third, our sample was composed of mostly senior leaders – highly successful individuals. These participants generally "live" in the right tail of the distribution. Overall, given all the factors that can impact senior leader performance and well-being, the fact that a single qualitative indicator of self-talk correlated with senior leaders' performance appears particularly noteworthy.

Regardless of the above caveats, even small correlations can have practical importance in real-life settings. For example, leadership researchers Eagly and Carli

(2003, p. 825) explain that small observed correlations provide an important example regarding a study examining the effects of aspirin: "the relation between taking aspirin and the prevention of heart attacks in a randomized double-blind experiment was only $r = .034$, yet this effect corresponded to 3.4 percent fewer people experiencing heart attacks, a drop meaningful enough to induce researchers to end the experiment prematurely because it was deemed unethical to deny the benefits of the treatment to the individuals in the control group" (Rosnow and Rosenthal, 1989). Rose (1992, p. 24) wrote about a fundamental finding in prevention science: "a large number of people exposed to a small risk may generate many more cases than a small number exposed to a high risk", Extending these findings to the current study, even if constructive self-talk by executives has small relations with job strain and leadership of others, since the participants in this study were the senior most leaders of large organizations, their behaviors, when repeated over individuals and occasions, can produce practically important benefits in terms of leaders' well-being and effectivenessm which in turn could well affect those with whom the leader works and influences. We should also note that this was a similar conclusion drawn from the sports psychology literature regarding self-talk. While meta-analyses involving athlete self-talk and athletic performance yield small correlations nearly identical to what was found here (Hatzigeorgiadis *et al.*, 2011), the practical value of self-talk is highly emphasized as a differentiator between very good and great athletic performance (Gee, 2010).

Practical and societal implications
The practical implications of this study are robust. Most notable is the opportunity for developing interventions to promote constructive self-talk. Sports psychologists and clinical psychologists have long used self-talk training interventions for enhancing sports success and personal well-being. Our results support the need for similar constructive self-talk training interventions in organizations. Self-leadership scholars have begun to address this need. For instance, a few scholars have highlighted how self-talk or verbal self-guidance training can increase an individual's likelihood of being hired (e.g. Latham and Budworth, 2006; Yanar *et al.*, 2009). See Appendix A for a proposed training program. Given the cognitive nature of the training, influencing learning states pre-training might be particularly important to pay attention to as well (e.g. Weissbein *et al.*, 2011).

Leaders can create situations conducive to more effective self-talk in themselves and in others. For instance, Oliver *et al.* (2008) found that individuals in more autonomous and supportive environments used more positive emotional and informational self-talk and less controlling or negative self-talk than participants in the control condition. Importantly, Yun *et al.* (2006) found that leaders who had good self-leadership skills tended to create more empowering versus directive work environments, which led in turn to greater self-leadership behaviors in followers. Members of an organization take cues and derive meaning from others to interpret their environment (Bandura, 2001), especially from their leader. Therefore, leaders who encourage self-leadership behaviors such as allowing participation in decision-making or allowing subordinates to control aspects of their work-role are likely to have followers who feel positive and empowered towards their jobs which can result in better self-talk.

From a societal perspective, our results speak to a pathway to success and well-being that is, in part, self-determined. Namely, constructive self-talk appears to be

a mechanism for navigating the challenges of life that when compounded across people and time, can propel organizations, communities, and society forward. Obviously, constructive self-talk alone is not the answer to all problems. However, through constructive self-talk, humans would appear better able to seek solutions, synergies, and answers in a psychologically healthy manner. Imparting the value of, and tools necessary to promote, constructive self-talk in society's youth and adults would appear to be of great value to our individual and collective success and well-being.

Limitations and future research
Despite extensive theoretical work that postulates that self-talk begets the outcomes studied here (e.g. DiLiello and Houghton, 2006) plus the experimental work on self-talk training interventions that led to changes in behaviors/attitudes (e.g. Neck and Manz, 1996), the nature of our design does not permit the identification of cause and effect. Furthermore, because self-talk is measured after leaders had completed a cognitively intense leadership development program, the type of self-talk shown through the letters may not be the same as an individual would use on a "typical" day. This may be one of the reasons for the low prevalence of dysfunctional self-talk we found. Future research would benefit from having multiple indicators of self-talk that are measured over time. This would also allow researchers to study self-talk across time, which is needed given that there may be considerable within-person variance in self-talk, which also allows for more causal analyses of the effects of self-talk on outcomes.

Furthermore, given that this was a naturally occurring field study as part of an actual leadership development program, we were limited in the range of theoretically meaningful variables to include in our models. Most notably, future research should include process variables necessary to explain why self-talk impacts outcomes. Self-efficacy is a prime candidate for inclusion. Much of Bandura's (1991, 2001) work focuses on how constructive thoughts can enhance one's self-efficacy.

We also recognize that future research will benefit from the study of self-talk antecedents, covariates and outcomes. The relationship of self-talk to personality stands out most in this regard. While some argue that self-leadership is a "repackaging" of personality (e.g. Markham and Markham, 1998), scholars have recently demonstrated self-leadership skill's distinction from personality (Furtner and Rauthmann, 2010). This work, however, has not looked at self-talk and thus is an area ripe for future research. In the same vein, examining self-talk in relation to other cognitive constructs such as rumination and self-leadership skills will further serve to establish the construct validity of self-talk. Additional outcomes of theoretical/conceptual interest could include work/family balance and time investment (Odle-Dusseau *et al.*, 2012) as well as leader turnover/derailment (Carson *et al.*, 2012).

Overall, self-leadership continues to show great promise for the organizational sciences with self-talk in particular being a wide-open area of inquiry. Practical implications abound given Seligman's (1991) optimistic assessment of humans: "one of the most significant findings in psychology in the last 20 years is that individuals can choose the way they think (p. 8)".

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Appendix. Example self-talk training protocol

Note: This example self-talk training protocol was adopted from Neck and Manz (1996) and Neck *et al.* (1999).

In this training, employees will receive detailed knowledge and instruction regarding ways that they can use cognitive strategies associated with self-talk to enhance their well-being and job performance. This training will focus on the following strategies:

- understanding the nature of self-talk and evaluating their own self-talk;
- how to manage and evaluate your beliefs and assumptions;
- examining and changing your thought patterns; and
- teaching good self-talk habits and preventing relapse.

Diverse instructional media and resources such as lectures, group work, videos, and online resources will be used to teach and reinforce the self-talk strategies learned in the training. This training is designed in four primary sections, but the training itself can range from four weeks in duration (one week each) to four days' duration (one day each) depending on the extensiveness of the training.

In the first section, a general overview of self-talk and specific instruction to highlight constructive self-talk strategies will be given. Also in this section, employees would be taught

how to replace their dysfunctional self-talk at work with more constructive self-talk. Butler's (1981) approach in this step will be adopted and utilized to reinforce good self-talk strategies.

In the second section, employees will be taught how to identify and change their cognitive distortions, which can lead them to have dysfunctional cognitive beliefs. Here the training will first describe what beliefs and assumptions are and explain how these beliefs lead to enduring negative thought patterns. The ten most common categories of dysfunctional thinking suggested by Burns (1980) will be used in this section.

Thirdly, employees would receive thought pattern training similar to the training used by Manz (1992), whereby employees would be taught to identify their own dysfunctional thinking habits such as obstacle-oriented patterns thinking, and replace these habits with more constructive ones such as opportunity-focused thinking. In this section, the instructor will explain how dysfunctional beliefs relate to the self-talk they use, and how these in turn lead to an enduring emotional state and habitual thought patterns. They will also emphasize how enduring thought patterns/ways of thinking are hard to change, and change needs to start with the way they talk to themselves and being able to be self-aware enough to identify dysfunctional beliefs.

Last, in the fourth section, instruction would be given on how to prevent relapse into dysfunctional self-talk habits. Employees will be told how important continual practice is to promote good self-talk habits. They will also be given a specific process to follow to apply the learned self-talk strategies whenever a threatening or negative situation occurs and be given tools to promote good self-talk on a continual basis. Marx (1982) proposes several principles regarding the prevention of relapse into bad habits, which will be primary basis of this section.

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