



THE ABBREVIATED SELF-LEADERSHIP QUESTIONNAIRE (ASLQ): A MORE CONCISE MEASURE OF SELF-LEADERSHIP

Jeffery D. Houghton
West Virginia University, United States

David Dawley
West Virginia University, United States

Trudy C. DiLiello
Specialty Center Acquisition NAVFAC, United States

This research develops and validates an abbreviated version of the 35-item Revised Self-Leadership Questionnaire (RSLQ), as developed by Houghton & Neck (2002). Using six major dimensions from the RSLQ, and a sample of undergraduate students, we used an exploratory factor analysis (EFA) to identify three factors believed to embody the RSLQ. The EFA produced a nine-item scale. This shortened survey was administered to a United States government agency workforce. A confirmatory factor analysis was performed using these nine items to validate our proposed Abbreviated Self-Leadership Questionnaire (ASLQ). Our analyses suggest that the nine-item ALSQ is a reliable and valid measure that inherits the nomological network of associations from the original version of the RSLQ.

“Times of upheaval require not just more leadership but more leaders.
People at all organizational levels, whether anointed or self-appointed,
must be empowered to share leadership responsibilities.”

-Rosabeth Moss Kanter

The nature of leadership is changing in today’s dynamic and fast-paced organizations. The top-down, bureaucratic leadership approaches of the by-gone industrial era no longer make sense in a knowledge-based world marked by complexity and instability (Uhl-Bien & Marion, 2009; Uhl-Bien, Marion, & McKelvey, 2007). In these present times of economic uncertainty and fierce competition, many firms are shifting away from a traditional top-heavy leadership paradigm to embrace a new model of leadership that involves empowering employees

at all organizational levels to take greater responsibility for their own work-related behaviors and actions (Pearce & Manz, 2005). The heroic leader high atop the vertical structure can no longer be expected to have all the knowledge and skills necessary to direct all aspects of knowledge-based work. Instead, today's highly-educated and motivated workers are more often encouraged to lead themselves and to share critical leadership roles that were once filled by a traditional vertical leader (Pearce & Manz, 2005).

Not surprisingly, then, the concept of self-leadership, the process of influencing oneself to perform more effectively, has attracted a significant amount of attention over the past two decades (Neck & Houghton, 2006). Numerous practitioner-focused articles and books on the topic of self-leadership have been published (e. g., Blanchard, 1995; Drucker, 2005; Manz & Sims, 2001; Neck & Manz, 2010; Sims & Manz, 1996; Waitley, 1995) and self-leadership has been the focus of dozens of academic journal articles spanning more than two decades (e. g., Boss & Sims, 2008; Konradt, Andressen & Ellwart, 2009; Manz, 1986; Manz & Sims, 1987; Markham & Markham, 1995; Prussia, Anderson & Manz, 1998; Roberts & Foti, 1998; Stewart, Carson & Cardy, 1996). Moreover, the self-leadership concept is often included in management and leadership textbooks (e. g., McShane & Von Glinow, 2010; Nahavandi, 2009).

Self-leadership has generated an impressive body of literature, yet the majority of these writings have been conceptual in nature. Empirical work has been slow to develop in part because a valid and reliable measurement scale was not available for many years (Neck & Houghton, 2006). Since the publication of the Revised Self-Leadership Questionnaire (RSLQ; Houghton & Neck, 2002), more empirical studies have been forthcoming (e. g., Curral & Marques-Quinteiro, 2009), and over the past several years the RSLQ has been validated across a number of samples and cultural settings (e. g., Ho & Nesbit, 2009), with the scale now having been translated into at least five different languages. Although the RSLQ has proven to be an effective measure of self-leadership, the scale's length (35 items) has posed some data collection challenges to researchers. When self-leadership is being examined along with other variables of interest, overall survey length can very quickly become unwieldy, leading to rater fatigue and inaccuracy as well as incomplete and unusable surveys. To date, no brief and concise self-leadership instrument has been developed. Thus, the purpose of the current study is to develop and present an Abbreviated Self-Leadership Questionnaire (ASLQ) that may prove useful as a general assessment of self-leadership for certain empirical research applications.

Self-Leadership: Conceptual Overview

Self-leadership (e. g., Manz, 1986; Neck & Houghton, 2006; Neck & Manz, 2010) is a process of behavioral and cognitive self-evaluation and self-influence whereby people achieve the self-direction and self-motivation needed to shape their behaviors in positive ways in order to enhance their overall performance. More precisely, self-leadership involves specific sets of strategies and normative prescriptions designed to enhance individual performance. Self-leadership strategies operate within the theoretical context of several classic theories of self-influence, including self-regulation (Kanfer, 1970; Carver & Scheier, 1981), self-control (Cautela, 1969; Mahoney & Arnkoff, 1978, 1979; Thoresen & Mahoney, 1974), intrinsic motivation theory (e. g., Deci and Ryan, 1985), and social cognitive theory (e. g., Bandura, 1986). Self-leadership strategies are traditionally divided into three primary categories: behavior-focused strategies, natural reward strategies, and constructive thought strategies (e. g., Neck & Houghton, 2006).

Behavior-focused Strategies

Behavior-focused strategies provide specific approaches for identifying ineffective behaviors and replacing them with more effective ones through a process of self-observation, self-goal setting, self-reward, self-correcting feedback, and self-cueing (Neck & Houghton, 2006). Self-observation allows for the examination of one's own behaviors for the purpose of identifying behaviors to be changed, enhanced, or eliminated (Mahoney & Arnkoff, 1978, 1979; Manz & Sims, 1980). Self-goal setting encourages individuals to develop and adopt specific goals and related reward contingencies in order to energize and direct necessary performance-related behaviors (Mahoney & Arnkoff, 1978, 1979; Manz & Sims, 1980). A plethora of goal setting research suggests that accepting specific, challenging, and realistic performance goals can significantly impact task-related performance (e. g., Locke & Latham, 1990). Next, individuals should link self-set rewards to goal attainment. Self-rewards may be as simple mentally praising oneself for a job well done or something much more tangible, such as treating oneself to a new outfit or a night at the movies. Self-correcting feedback involves a constructive self-examination of failures and unproductive behaviors in order to reshape these behaviors in more positive directions. However, excessive self-punishment, including harsh and unrealistic self-criticisms, leading to feelings of guilt and inadequacy, is often counterproductive and should be avoided (Neck & Houghton, 2006; Manz & Sims, 2001). Environmental cues, such as to-do lists, Post-it® notes, or inspirational wall hangings, can serve as an effective means of keeping attention and effort focused on the task at hand (Houghton & Neck, 2006; Neck & Manz, 2010). Self-leadership's behavior-focused strategies are especially helpful for managing necessary but potentially unpleasant behaviors, such as studying for a professional certification exam or finishing a major work project, that are nonetheless instrumental for long-term goal attainments.

Natural Reward Strategies

Natural reward strategies allow individuals to find enjoyment in a given task or activity, leading to increased feelings of competence, self-control, and sense of purpose (Deci & Ryan, 1985). Individuals can employ natural rewards either by building more pleasant and enjoyable features into a task or activity so that the task itself becomes more gratifying or by shifting cognitive focus to the intrinsically rewarding aspects of the task (Neck & Houghton, 2006). Examples of shifting cognitive focus might include decorating one's workplace with personal touches or jogging along a beautiful scenic mountain trail. Both are examples of building more pleasant features into a task, while choosing to concentrate attention on the aspects of a major project that are more interesting and less tedious.

Constructive Thought Strategies

Constructive thought strategies are aimed at reshaping certain key mental processes in order to facilitate more positive and optimistic thinking patterns and mental processes that can have a significant impact on individual performance (Neck & Houghton, 2006; Neck & Manz, 1992, 1996). Strategies include identifying and eliminating dysfunctional beliefs and assumptions, engaging in positive self-talk, and constructive mental imagery. Dysfunctional beliefs and assumptions often result in habitually dysfunctional thought processes, which can lead to depression, unhappiness, and personal ineffectiveness (Burns, 1980; Ellis, 1977). Through a process of identifying and altering these distorted beliefs, individuals can minimize

dysfunctional thinking processes and engage in more rational and effective cognitive processes (Burns, 1980, Ellis, 1975). Self-talk or self-dialogue may be defined as what we covertly tell ourselves (Ellis, 1962; Neck & Manz, 1992). Negative self-talk tends to correspond with negative emotional states, which in turn affect cognition (Ellis, 1977; Neck & Manz, 1992). By heightening awareness of the content of internal dialogues, individuals can effectively reduce or eliminate negative, irrational or pessimistic self-talk while encouraging more optimistic self-dialogues (Seligman, 1991). Constructive mental imagery refers to the process of visualizing successful performance prior to actual performance (Manz & Sims, 1991; Neck & Manz, 1992). Individuals who visualize and mentally rehearse the successful performance of a task in advance are more likely to experience successful performance of the actual task than those who visualize failure or other negative outcomes (Finke, 1989). Empirical research findings tend to support this assertion. For example, a meta-analysis of 35 empirical studies reported a significant positive effect for mental imagery on individual performance (Driskell, Copper, & Moran, 1994). Indeed, research across numerous disciplines (sports psychology, clinical psychology, education, and communication) provides support for the role of rational beliefs and assumptions, positive self-talk, and constructive mental imagery as effective means for improving individual performance (e. g., Neck & Manz, 1992).

Recently, self-leadership theorists have identified some additional self-leadership strategy dimensions that reflect some important nuances of self-leadership (e. g., Georgianna, 2005, 2007; Müller, 2006). For example, *self-awareness strategies* involve specific efforts to focus attention on oneself in order to selectively process self-related information resulting in knowledge about oneself (Georgianna, 2007; Carver & Scheier, 1998). Considered in this way, self-awareness may be seen as a complimentary or even prerequisite process in relationship to self-observation as described above. Likewise, *volitional strategies* go beyond the basic processes of self-goal setting to address the forming of goal implementation intentions that specify when, where and how goal striving will be initiated (Georgianna, 2007). When coupled with the behavior-focused strategies outlined above, volitional strategies may help individuals become even more effective at engaging in difficult or unpleasant tasks. Indeed, research has shown that goal implementation intentions may be instrumental for motivating relatively distasteful behaviors such as undergoing cancer screenings (Sheeran & Orbell, 2000) and engaging in breast self-examinations (Orbell, Hodgkins, & Sheeran, 1997). Finally, *motivational strategies* involve an intentional focus on performance outcomes such as performance-approach goals or, in other words, as a process of visualizing personal competency and effectiveness leading to successful performance (Georgianna, 2007). Motivational strategies may also involve the use of intermediate or more proximal goals in order to achieve longer-term or more distal goals as well as the use of self-rewards to facilitate goal striving (Georgianna, 2007). Although the additional strategies discussed here overlap somewhat with the three classic self-leadership strategy dimensions discussed above, they nevertheless make a substantial contribution to our overall understanding of self-leadership by addressing several subtle aspects of performance-related cognitive and behavioral processes.

In the years since its inception, the self-leadership concept has been investigated in several applied settings. For example, the effectiveness of self-leadership strategies has been examined in the context of appraisals (Neck, Stewart, & Manz, 1995), organizational change (Neck, 1996), self-leading teams (Neck, Stewart, & Manz, 1996), entrepreneurship (D'Intino, Goldsby, Houghton, & Neck, 2007), diversity management (Neck, Smith, & Godwin, 1997), job satisfaction (Houghton & Jinkerson, 2007; Roberts & Foti, 1998), non-profit management (Neck,

Ashcraft, & VanSandt, 1998), team performance and processes (Konradt, Andressen & Ellwart, 2009; Stewart & Barrick, 2000), succession planning (Hardy, 2004), creativity and innovation (Carmeli, Meitar, & Weisberg, 2006; DiLiello & Houghton, 2006), and ethics (VanSandt & Neck, 2003). Neck and Houghton (2006) offer a more detailed review of self-leadership development, research, and applications over the past two decades.

Self-Leadership: Criticisms and Responses

Due to its strong intuitive appeal and applied nature, self-leadership has enjoyed an enduring popularity among academics and business practitioners alike (Neck & Houghton, 2006). Nevertheless, the self-leadership concept has been subject to two primary criticisms involving conceptual distinctiveness and measurement issues. The first criticism suggests that self-leadership is conceptually indistinct from and redundant with classic theories of motivation such as self-regulation. As mentioned above, self-leadership strategies are founded upon and operate within the context of other established theories of motivation and self-influence, leading some theorists to question whether or not self-leadership is a unique concept relative to these related theories. Similarly, some have argued that self-leadership is simply a recasting of individual difference variables included as a part of existing personality constructs such as conscientiousness (e. g., Markham & Markham, 1995, 1998; Guzzo, 1998). For example, Markham and Markham (1998) contend that “one of the major stumbling blocks of self-leadership theory is its uniqueness when compared to more traditional views of similar psychological processes” (p. 197) and go on to conclude that “it is possible that various aspects of self-leadership simply recast previous personality traits...” (p. 198). Similarly, Guzzo (1998) expresses doubt as to whether “self-leadership is distinguishable from other, existing psychological constructs such as the personality dimension of conscientiousness...” (p. 214).

Critics such as these who suggest that self-leadership is indistinct from classic theories of motivation and personality do not seem to appreciate the fact that self-leadership is a normative or prescriptive model rather than a deductive or descriptive theory (Neck & Houghton, 2006). Normative theories are common in applied fields such as business and offer prescriptions regarding how something *should* be done. Descriptive theories, on the other hand, provide explanations regarding the basic operation of various phenomena, but usually don't provide specific normative advice for managing the given process. Indeed, normative and descriptive theories often provide differing perspectives on the same phenomenon (Hilton, 1980), with descriptive theories sometimes helping to explain how and why the prescriptions of normative models operate. As Neck and Houghton (2006) have argued, self-leadership consists of a particular set of behavioral and cognitive strategies that are based upon, related to, and yet distinct from other theories of personality, motivation, and self-influence, such as self-regulation theory and social cognitive theory.

For example, self-regulation theory provides a broad descriptive view of human behavioral processes. This theory does not, however, suggest that self-regulation always operates effectively or always leads to successful performance outcomes. Indeed, Latham and Locke (1991) suggest that “although people are natural self-regulators in that goal-directedness is inherent in the life process, they are not innately effective self-regulators” (p. 240). Although self-regulation theory prescribes few strategies for increasing self-regulatory effectiveness, self-leadership, operating within the conceptual framework of self-regulation, prescribes specific

behavioral and cognitive strategies aimed at enhancing individual self-regulatory effectiveness (Neck & Houghton, 2006).

Research also supports the idea that self-leadership strategy dimensions are distinct from, yet related to, certain key personality traits (Neck & Houghton, 2006). For instance, Stewart and his colleagues (Stewart et al., 1996) reported an interaction effect between conscientiousness and self-leadership training, such that those scoring lowest in conscientiousness subsequently showed the greatest increase in self-leadership behaviors as a result of the training, thus supporting the proposition that self-leadership behaviors are amenable to change (e. g., Manz, 1986), whereas personality characteristics tend to be more stable (e. g., Costa & McCrae, 1994). More recently, Houghton, Bonham, Neck, and Singh (2004) used structural equations modeling to compare the hierarchical factor structures of self-leadership and a set of personality traits that included extraversion and conscientiousness. Their results provided additional empirical support for the idea that the self-leadership strategy dimensions are distinct from personality traits, especially at lower levels of abstraction (Houghton et al., 2004).

The second criticism has focused on self-leadership measurement issues. In the early years of self-leadership research, the majority of self-leadership publications were either conceptual in nature or practitioner-focused, with relatively few empirical studies examining self-leadership in organizational contexts. As Markham and Markham (1998) commented, there was “a lack of widespread research use of these constructs either from a validation or predictive study perspective” (p. 208). This lack of early empirical research in the self-leadership domain was due in large part to the fact that a valid self-leadership measurement scale had not yet been developed. Thus, in setting an agenda for future self-leadership research, Markham and Markham (1998) called for the construction and validation of individual self-leadership scales that are unique with respect to Big 5 personality dimensions. In subsequent years, self-leadership researchers responded to this call by developing self-leadership measurement scales that have been shown to have both construct and discriminant validity (e. g., Houghton & Neck, 2002), resulting in more published empirical self-leadership research in recent years (Neck & Houghton, 2006). In the following section, we provide a detailed overview of the developments in self-leadership measurement over the past decade, leading into a discussion of the purpose for the current study.

Self-Leadership Measurement

Anderson and Prussia's (1997) Self-Leadership Questionnaire (SLQ) was the first published self-leadership assessment scale. The SLQ was developed based on early self-leadership assessment prototypes created by Manz and Sims (1991). Although the 50-item Anderson and Prussia instrument represented an excellent first step in self-leadership scale development, the original SLQ was plagued by some inherent reliability and validity problems and therefore required additional refinement. Subsequently, Houghton and Neck (2002) developed and presented a Revised Self-Leadership Questionnaire (RSLQ). Ambiguous and ineffective questions from the Anderson and Prussia SLQ were either eliminated or rewritten, while additional items were added from Cox's (1993) previously unpublished self-leadership scale.

The RSLQ has demonstrated reasonably good reliability and validity across a number of empirical studies (e. g., Carmeli et al., 2006; Curral & Marques-Quinteiro, 2009; Houghton, Bonham, Neck & Singh, 2004; Houghton & Jinkerson, 2007). Furthermore, the RSLQ has been

translated into at least six foreign languages including Chinese (Ho & Nesbit, 2009; Neubert & Wu, 2006), Afrikaans (van Zyl, 2008), Portuguese (Curren & Marques-Quinteiro, 2009), Turkish (Dogan & Sahin, 2008), Hebrew (Carmeli et al., 2006), and German (Andressen & Konradt, 2007). Translated versions of the scale have generally shown good reliabilities and validities together with stable factor structures that further confirm the original findings of Houghton and Neck (2002) and support a significant degree of cross-cultural validity for the self-leadership construct itself. In a notable exception to these findings, Neubert and Wu (2006) reported that a Chinese translation of the RSLQ did not universally generalize to the Chinese culture and that a modified model of self-leadership including self-goal setting, visualizing successful performance, self-talk, self-reward, and self-punishment demonstrated the best fit among the alternative models they tested. Building upon the work of Neubert and Wu (2006), Ho and Nesbit (2009) further refined and modified a Chinese version of the RSLQ to better reflect the social and relations-based features of a collectivist culture, resulting in a considerably more valid and reliable instrument.

Although additional studies are needed to further assess the reliability and validity of the RSLQ, in both its English and its translated versions, the research findings of the past several years have been very encouraging and to date appear to confirm the RSLQ as an effective measure of self-leadership. Yet despite its relatively strong psychometric properties, the RSLQ suffers from a major limitation of its potential effectiveness: scale length. The full RSLQ includes 35 items, which can become a challenging issue when self-leadership is being examined along with other variables of interest. Overall survey length can quickly become unwieldy, leading to rater fatigue, inaccuracy and missing survey data. While some researchers have simply chosen to shorten the scale themselves (e. g., Andressen & Konradt, 2007; Curren & Marques-Quinteiro, 2009), a brief self-leadership scale has yet to be developed and validated. Thus, the purpose of the current study is to develop and present an Abbreviated Self-Leadership Questionnaire (ASLQ) that may prove useful as a general assessment of self-leadership.

Methods

Sample One: Scale Development and Exploratory Factor Analysis

In order to create a succinct and abbreviated scale, we chose thirteen items from among the thirty-five items included in the RSLQ. We selected the one or two highest factor loading items for each of the eight primary dimensions (excluding self-punishment¹) that emerged through the factor analysis of the RSLQ, as reported by Houghton & Neck (2002). The eight dimensions include: visualizing successful performance, self-goal setting, self-talk, self-reward, evaluating beliefs and assumptions, self-observation, focusing on natural rewards, and self-cueing. All selected items had factor loadings greater than .727. We chose to use items from the RSLQ as a starting point for our abbreviated scale because, as noted above, the RSLQ has demonstrated good reliability and validity across several empirical studies and it is the most widely used measure of self-leadership currently available.

A number of multivariate techniques are available for empirically identifying factors (or groupings) and their associated survey items (or data cases). For example, canonical correlation analyses, which include discriminant analysis, are popular data reduction techniques. Principal components analysis (PCA) is similar to the canonical analyses in that both procedures involve linear combinations of correlated variables and variable weightings (Tabachnick & Fidell, 2007).

Since the goal of this research is to reduce the thirty-five original RSLQ items by two-thirds, we are cognizant that the resultant factor structure will change considerably. Tabachnik & Fidell (2007) note that PCA can be used in the initial stage of a study where the goal is to reduce or consolidate variables and to generate hypotheses about underlying factors. Therefore, we proceed with the PCA because it “should be used when the primary goal is to identify latent constructs and there is insufficient basis to specify an a priori model” (Fabrigar, Wegener, MacCullum, and Strahan, 1999: 283).

The first sample was composed of 430 undergraduate students enrolled in a management course at a large university located in the mid-Atlantic region of the United States. All survey variables were measured on a Likert-type scale (1 = strongly disagree to 5 = strongly agree). Results of the initial exploratory, principal components factor analysis using varimax rotation yielded three factors with eigenvalues greater than one, accounting for 73.2% of the variance. Nine items converged into three distinct factors as shown in Table 1.

Table 1: Item Descriptions, Factor Loadings of Sample One

Item (<i>original dimension</i>)	<u>Factor 1</u> Behavior Awareness & Volition $\alpha = .70$	<u>Factor 2</u> Task Motivation $\alpha = .67$	<u>Factor 3</u> Constructive Cognition $\alpha = .54$
1. I establish specific goals for my own performance (<i>self-goal setting</i>).	.798	.124	.118
2. I make a point to keep track of how well I'm doing at work (<i>self-observation</i>).	.737	.024	.128
3. I work toward specific goals I have set for myself (<i>self-goal setting</i>).	.787	.208	.137
4. I visualize myself successfully performing a task before I do it (<i>visualizing successful performance</i>).	.198	.881	.118
5. Sometimes I picture in my mind a successful performance before I actually do a task (<i>visualizing performance</i>).	.081	.899	.126
6. When I have successfully completed a task, I often reward myself with something I like (<i>self-reward</i>).	.202	.626	.121
7. Sometimes I talk to myself (out loud or in my head) to work through difficult situations (<i>evaluating beliefs and assumptions</i>).	.061	.112	.871
8. I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with (<i>self-talk</i>).	.301	.024	.768
9. I think about my own beliefs and assumptions whenever I encounter a difficult situation (<i>evaluating beliefs and assumptions</i>).	.207	.147	.844

We named each of the three factors to embody the meaning and the origins rooted in the classic self-leadership dimensions outlined above. Accordingly, we label factor one as Behavior Awareness and Volition (BAV), factor two as Task Motivation (TM), and factor three as Constructive Cognition (CC). Four of the original thirteen items selected failed to load cleanly on any of the interpretable factors and were therefore eliminated from the abbreviated scale. Two of the deleted items represented the RSLQ natural rewards dimension and two represented the RSLQ self-cueing dimension.

Sample Two: Confirmatory Factor Analysis

A government agency workforce, with nine regional offices, was invited to participate in the survey. The Tailored Design Method (Dillman, 2000) was used to deploy the online survey. Two e-mails were sent to the agency employees. The first e-mail included the informed consent notification, the purpose of the study, the approval and sponsorship of the study, confidentiality statement and a link to the online survey. The second e-mail served as a reminder. The reminder e-mail summarized the initial message, added a personal note and provided a four-day extension and a link to the online survey.

We obtained 663 responses through the web-based survey link. Of these, 643 were fully completed surveys. Participants were 60% female, reported a mean age of 46 years, and had an average tenure of 12 years. A response rate check indicated a fairly representative percentage response from each of nine regional offices within the agency with no indications of any type of systematic non-response bias. The 35% response rate for this study is considered to be fairly good for an employee survey when considering the results from other federal employee surveys from similar study populations using e-mail surveys (Sheehan, 2001).

All survey variables were measured on a Likert-type scale (1 = strongly disagree to 5 = strongly agree). We used the nine items identified through the Sample 1 exploratory factor analysis. Three items were labeled for each dimension: Behavior Awareness and Volition (BAV1-3), Task Motivation (TM1-3), and Constructive Cognition (CC1-3). The coefficient alpha for the revised nine-item scale showed an acceptable reliability level of 0.73 (Nunnally and Bernstein, 1994) as an overall measure of self-leadership.

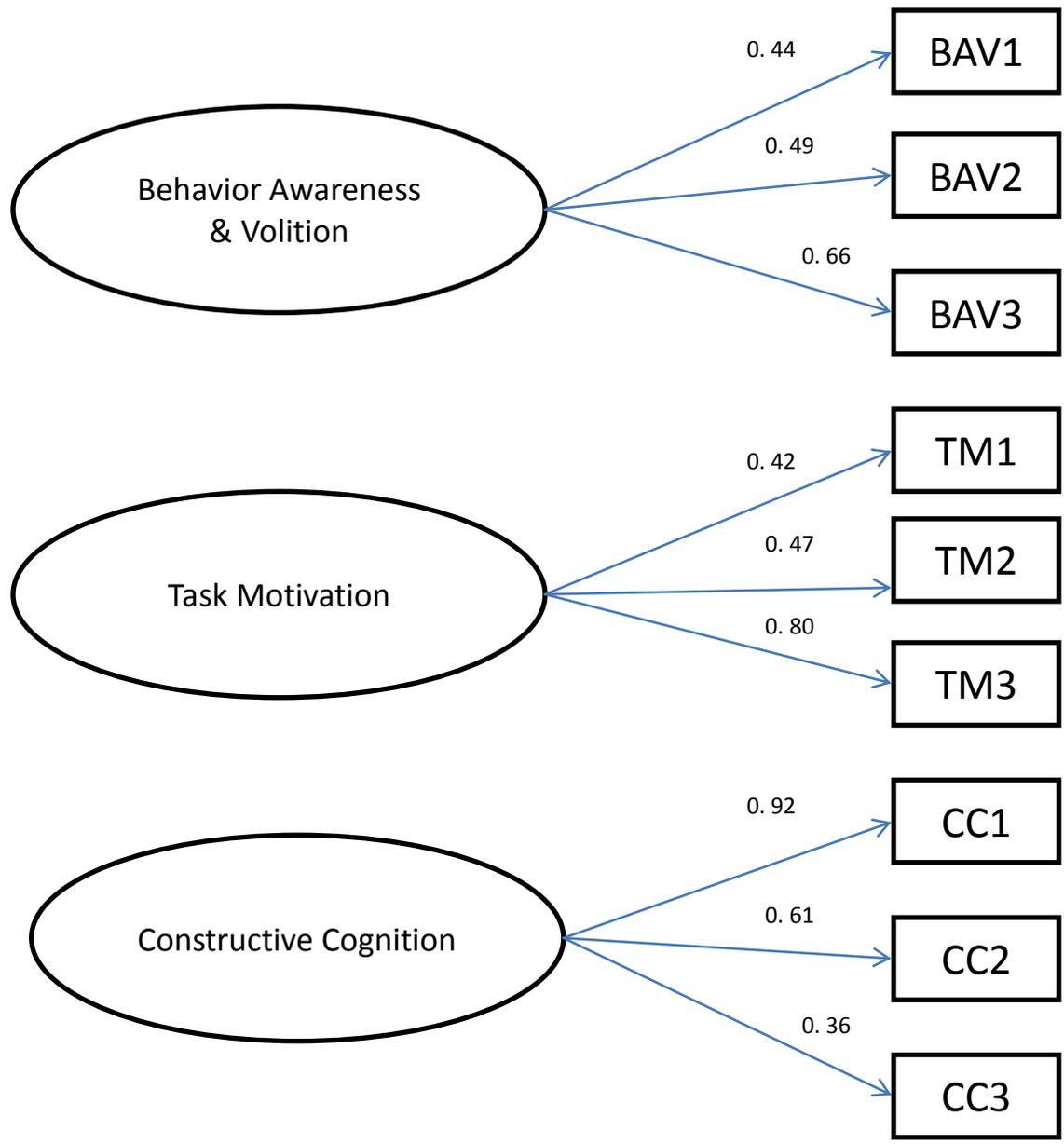
Structural equation modeling (SEM) with maximum likelihood estimation was used to assess the overall model fit. Results revealed the following goodness of fit indices: $\chi^2 = 37.83$, $df = 23$, $p < .05$; comparative fit index (CFI) = .99; normed fit index (NFI) = .98; non-normed fit index (NNFI) = .98; adjusted goodness of fit index (AGFI) = .97; and root mean square error of approximation (RMSEA) = .02. CFI, NFI, NNFI & AGFI indices greater than 0.90 and RMSEAs less than 0.08 indicate good model fit (Browne and Cudek, 1993; Hair, Anderson, Tatham, & Black, 1998). The SEM is shown in Figure 1.

Discussion

We developed and tested a 9-item abbreviated version (ASLQ) of the widely used 35-item RSLQ. Three factors emerged in our exploratory factor analysis with three items loading on each factor. We named the three factors Behavioral Awareness and Volition (BAV), Task Motivation (TM), and Constructive Cognition (CC). We propose that these three factors encapsulate the heart of the classic self-leadership strategy dimensions (e. g., Neck & Houghton,

2006), while also reflecting some of the additional self-leadership strategies suggested more recently (e. g., Georgianna, 2007). As shown in Table 1, the BAV factor contains items from the self-observation and self-goal setting sub-dimensions of the RSLQ and reflects the classic behavior focused strategies dimension. However, these items seem particularly appropriate for capturing the concepts of self-awareness and volition as described by Georgianna (2007).

Figure 1: Abbreviated Self-leadership Questionnaire 3-factor model



All paths significant at $p < 0.05$; $\chi^2 (23) = 37.83, p < .01$; AGFI = .97 CFI = .99; RMSEA = .02; NNFI = .98; NFI = .98

Similarly, the TM factor is comprised of items from the visualizing successful performance and self-reward sub-dimensions of the RSLQ, thus representing both the behavior focused and constructive thought strategies dimensions. The TM factor also captures key motivational strategies such as a performance-approach goals and self-set rewards to facilitate goal strivings (Georgianna, 2007). Finally, the CC factor includes self-talk and evaluating beliefs and assumptions items from the original RSLQ and thus represents the classic self-leadership strategy dimension of constructive thought.

Our results have important applications for self-leadership measurement. To begin, we suggest that the 9-item ASLQ will be most useful when a brief overall measure of self-leadership is required or when the use of the more in-depth 35-item RSLQ is not practical. As mentioned above, the coefficient alpha for the ASLQ was 0.73, above the acceptable reliability threshold established in the literature (Nunnally & Bernstein, 1994) and a fairly good number for such a brief scale covering such a diverse construct. However, we forward that the ASLQ is not especially useful for measuring self-leadership strategy dimensions in isolation. Although we found, through our EFA and CFA, three distinct factors representing three coherent and rationale groupings of self-leadership strategies, these factors were interpreted conceptually primarily to demonstrate how the abbreviated scale represents the overall construct of self-leadership. Due to the small number of items per factor and the resulting marginal scale reliabilities (see Table 1), we do not recommend that these abbreviated sub-scales be used in isolation to measure specific categories of self-leadership strategies. Instead, for those researchers who require a separate measure of a given self-leadership strategy dimension (e. g., constructive thought), we recommend using the appropriate measurement sub-scale of the original RSLQ.

Developing a brief measurement scale to reflect a complex construct can be challenging and problematic. Not surprisingly, our scale development efforts and the resulting ASLQ are subject to certain limitations. First, we examined our 9-item scale using a sample of undergraduates and a sample of employees of a government agency. Thus, the generalizability of our findings cannot be speculated with certainty. However, we have no reasons to suspect that either students or government employees should be systematically different from other groups of interest in terms of their self-leadership behaviors and strategy use. Nevertheless, future research should examine whether our findings will generalize to other samples of interest. Second, although we examined the ASLQ's stability using both EFA and CFA in two large samples respectively, we could have tested scale stability across time via test-retest reliability. Using this technique, a subset of one of the large samples would have completed the ASLQ a second time, which would have allowed for an assessment of scale reliability over the two administrations. Third, although we conceptually examined construct validity of the ASLQ, we did not examine the scale's convergent validity (i. e., the scale should correlate with scores on another instrument designed to measure the same construct) and discriminant validity (i. e., the scale should be uncorrelated with other scales that are not designed to measure that construct). Finally, the ASLQ does not contain any items to directly measure the classic self-leadership strategy dimensions of natural rewards and self-cueing. Of the four items eliminated due to weak factor loadings in our EFA, two represented the RSLQ natural rewards dimension and two represented the RSLQ self-cueing dimension. The natural rewards dimension has been particularly troublesome for self-leadership scale developers. The natural rewards sub-scales in both the Anderson and Prussia (1997) SLQ and the Houghton and Neck (2002) RSLQ demonstrated the lowest sub-scale reliabilities of any sub-scale on either instrument. In addition, EFA factor loadings for the natural reward items were the lowest of all items included in the RSLQ and

suffered from relatively high cross-factor loadings. It is therefore not surprising that the natural reward items failed to fit well in the context of a brief scale. Similarly, self-cueing is a somewhat tangential self-leadership strategy that focuses more on altering a person's behavioral environment than on directly altering a person's behavior (cf. Neck & Manz, 2010). It is therefore understandable that the self-cueing items did not fit well in a brief scale designed to provide an overall measure of self-leadership. We suggest that researchers who are particularly interested in the natural rewards or self-cueing dimensions of self-leadership should use the RSLQ and/or the natural rewards or self-cueing subscales.

Despite these limitations, the ASLQ shows good promise as a brief self-leadership measurement scale. As mentioned above, we believe that the ASLQ will be especially useful for researchers who wish to measure self-leadership as one variable of interest in the context of a larger model and who therefore find it impractical to use the full 35-item RSLQ. Future research should continue to examine the psychometric properties of the ASLQ relative to the RSLQ and other scales of interest. In short, the ASLQ has great potential to facilitate future empirical self-leadership research as our understanding and application of this popular normative model of self-influence continues to expand into the future.

About the Authors

Jeffery D. Houghton is an associate professor of management and director of the Master of Science in Human Resources and Industrial Relations (MSIR) program at West Virginia University. His research interests include leadership, creativity, and individual differences. He holds a Ph.D. from Virginia Polytechnic Institute and State University. Email: jeff.houghton@mail.wvu.edu

David Dawley is an associate professor of management at West Virginia University. His research interests include organizational support and commitment. He holds a Ph.D. from Florida State University. Email: david.dawley@mail.wvu.edu

Trudy C. DiLiello is the director of people and processes for the Specialty Center Acquisition, NAVFAC. Her research interests include creativity, innovation, and leadership. She holds a doctorate of public administration from the University of La Verne. Email: trudy.diliello@navy.mil

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ⁱ Self-punishment was excluded because this dimension has more recently been reconceptualized in the self-leadership literature as “self-correcting feedback” (e. g., Neck & Houghton, 2006) and because excessive self-punishment involving self-criticism and guilt can become self-destructive (Manz & Sims, 2001).