



DOES ORGANIZATIONAL LEVEL INFLUENCE SELF-LEADERSHIP IN THE DEFENSE ACQUISITION WORKFORCE?

Trudy C. DiLiello and Jeffery D. Houghton

This article presents the findings of a study that investigated the relationships between self-leadership and creativity in the context of a defense acquisition organization and its employees. More specifically, this study examined differences in self-leadership, creativity, and perceived organizational support for creativity between line- and supervisory-level defense acquisition employees. The resultant analyses suggested that self-leadership was significantly related to creative potential and practiced creativity for both line- and supervisory-level employees, although there were no significant differences in overall levels of self-leadership between the two groups. In addition, the study findings revealed significant differences in creative potential, practiced creativity, gap scores, and perceptions of organizational support for creativity.

This article presents the findings of a study that addresses the question of whether there are significant and meaningful differences in self-leadership and creativity between line- and supervisory-level defense acquisition employees. Our findings imply that self-leadership is a primary tool for facilitating creativity at all organizational levels and that active organizational support for creativity may be the key for reducing the gap between creative potential and practiced creativity that represents untapped creative resources. Our results suggest that this gap is much more pronounced among line employees, and that line employees generally perceive less organizational support for using their creative resources than supervisors. In response, we make some specific suggestions for organizational interventions designed to increase self-leadership capabilities at all levels and to increase perceptions of organization

support for creative practices among line employees in defense acquisition. Our suggestions, when applied across the defense acquisition workforce, will accelerate the pace at which the Department of Defense (DoD) continues to develop a workforce of creative self-leaders, capable of synergistically assisting organizations in maximizing the leveraging of all organizational resources.

Self-leadership is a concept that focuses on self-reflection and -evaluation aimed at improving personal and professional performance.

BACKGROUND

Innovation and creativity are critical for organizations to thrive in the 21st century (Kanter, 1983; Tushman & O'Reilly, 1997; Utterback, 1994). Indeed, the Business Transformation Agency (BTA) under the Office of the Secretary of Defense (OSD) has placed the leveraging of innovation and creativity among the most effective approaches for creating the transformational changes needed to maintain Department of Defense strategic superiority. Creativity is more likely to occur if an individual has certain characteristics or innate skills and abilities (Tierney & Farmer, 2002; Hinton, 1970; Simonton, 1992; Woodman & Schoenfeldt, 1989) and when the individual perceives that the work environment supports creativity (Amabile, 1996; Cummings, Hinton, & Gobdel, 1975; Woodman, et al., 1993). Furthermore, the ability to leverage creativity depends largely on effective leadership (Kouzes & Posner, 1995; Manz & Sims, 2001). A common theme in improving leadership effectiveness concerns knowing and leading oneself (Bennis, 1994; Drucker, 1999; Goleman, Boyatzis, & McKee, 2002; Senge, 1990; Yukl, 2002). Self-leadership is a concept that focuses on self-reflection and -evaluation aimed at improving personal and professional performance.

Although theorists have often suggested relationships between self-leadership and creativity (e.g., Kouzes & Posner, 1995; Manz & Sims, 2001), very little attention has been given to how these relationships may differ across an organizational level. The purpose of the current study is to address the question of whether there are significant and meaningful differences in self-leadership and creativity between line- and supervisory-level defense acquisition employees. The answer to this question may have important implications for maximizing employee self-direction and for fully leveraging creative resources at all organizational levels.

CREATIVE POTENTIAL AND PRACTICED CREATIVITY

Although creativity is a complex concept that is somewhat difficult to define, consistent themes tend to emerge across the various definitions in the creativity literature (e.g., Barron & Harrington, 1981; Guilford, 1950; Martindale, 1989; Sternberg and Lubart, 1999). Based on the common ideas in these definitions, we define creativity as an ability to harvest novel but appropriate ideas in order to maximize efficiencies, solve problems, and increase effectiveness. We further divide the creativity concept into creative potential and practiced creativity (e.g., Hinton, 1968; DiLiello & Houghton, 2006, 2008). In short, if an individual's creativity is attenuated by the environment, then the individual will not use his or her full creative potential (Hinton, 1968; George & Zhou, 2001; Scott, 1965).

Creative potential is the creative capacity, skills, and abilities that a person possesses (Hinton, 1968, 1970). Creative potential includes the concept of creative self-efficacy, an individual's subjective assessment of his or her personal ability to be creative (Tierney and Farmer, 2002). Creative self-efficacy involves seeing oneself as being good at creative problem solving and generating novel ideas. Creative potential also includes having the talent or expertise to do well in one's work and possessing the ability to take risks by trying out new ideas (Amabile, Burnside, & Gyskiewicz, 1999).

The gap between creative potential and creative practice represents untapped organizational resources.

Practiced creativity, on the other hand, is the perceived opportunity to use creativity skills and abilities. Practiced creativity should not be confused with creative performance, which is an external assessment of products or achievements (Amabile, 1996; Hinton, 1968). Employees with strong creative potential are more likely to actually practice creativity when they perceive strong support from the organization (DiLiello & Houghton, 2006), and several key conditions must be present within an organization for its work environment to support individual creativity (e.g., Amabile, 1988; Ford, 1996; Mumford & Gustafson, 1988).

The distinction between creative potential and practiced creativity is important because when people perceive themselves as having creative potential but do not perceive the ability to use or practice this potential, they will be less likely to engage in creative behavior. The gap between creative potential and creative practice represents untapped organizational resources. Identifying such untapped resources may be especially important in defense acquisition organizations that are continually being told to "do more with less."

PERCEIVED ORGANIZATIONAL SUPPORT FOR CREATIVITY

Over the past two decades, the general concept of perceived organizational support (POS) has become a central organizational construct that has been investigated in a number of empirical studies (Rhoades & Eisenberger, 2002). Based on the concept of social exchange (e.g., Eisenberger, Huntington, Hutchison, & Sowa, 1986) and the norm of reciprocity (Gouldner, 1960), POS theory suggests that employees will demonstrate commitment, enhanced performance, and decreased withdrawal behaviors in exchange for fair procedures, support from their supervisor, desirable rewards, and favorable job conditions (Rhoades & Eisenberger, 2002). Research studies have shown empirical linkages between POS and job conscientiousness, job involvement, loyalty, trust in the organization, and decreased turnover (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Huntington, Hutchison, & Sowa, 1986).

Research has also suggested a relationship between POS and innovation/creativity (Amabile, 1988; Cummings, Hinton & Gobdel, 1975, Eisenberger, et al., 1990; Scott & Bruce, 1994; Shalley, 1995; Woodman, Sawyer & Griffen, 1993; Zhou & George, 2001). Indeed, some researchers have advanced the concept of perceived organizational support for creativity as a specific type of POS in organizations (e.g., Zhou & George, 2001). Perceived organizational support for creativity can be defined as “the extent to which an employee perceives that the organization encourages, respects, rewards, and recognizes employees who exhibit creativity” (Zhou & George, 2001, p. 686). Perceived organizational support for creativity can be further conceptualized in terms of “an organizational culture that encourages creativity through the fair, constructive judgment of ideas, reward and recognition for creative work, mechanisms for developing new ideas and active flow of ideas, and a shared vision of what the organization is trying to do” (Amabile et al., 1999, p. 15). Perceived organizational support for creativity is conceptually distinct from practiced creativity, which focuses more on actual opportunities to use creative skills rather than upon an environment that rewards and encourages creative behavior (DiLiello & Houghton, 2008).

SELF-LEADERSHIP

Self-leadership (e.g., Manz, 1986; Neck & Houghton, 2006; Neck & Manz, 2007) is a self-evaluation and self-influence process through which individuals identify and replace ineffective behaviors and negative thought processes with more effective behaviors and positive thought processes, thereby enhancing personal accountability and improving professional performance. Theorists have long suggested that leaders in organizations should encourage their followers to lead themselves in the workplace (e.g., Manz & Sims, 1980, 2001). Supervisors and work environments only have a limited control over the workers; additional control or work motivation must come from within the individual (Herzberg, Mausner, & Snyderman, 2003; Manz & Sims, 1980; Sergiovanni, 1992). When employees are trained and empowered to lead themselves, supervisors can shift their focus from detailed oversight and control to longer-term big picture issues.

Founded upon 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 is a normative model that prescribes specific sets of behavioral and cognitive strategies aimed at increasing individual performance. Self-leadership strategies are often divided into three primary categories: Behavior Focused Strategies, Natural Reward Strategies, and Constructive Thought Strategies (e.g., Neck & Houghton, 2006).

When employees are trained and empowered to lead themselves, supervisors can shift their focus from detailed oversight and control to longer-term big picture issues.

Behavior Focused Strategies. This category involves identifying and replacing ineffective behaviors with more effective ones through a process of self-observation, self-goal setting, self-reward, and self-correcting feedback (Neck & Houghton, 2006). Self-observation entails a close examination of one's own behaviors in order to identify behaviors that should be changed, enhanced, or eliminated (Mahoney & Arnkoff, 1978, 1979; Manz & Sims, 1980; Neck & Manz, 2007). Once target behaviors have been identified, individuals can establish goal and associated reward contingencies to energize and direct necessary behaviors (Mahoney & Arnkoff, 1978, 1979; Manz & Sims, 1980; Neck & Manz, 2007). Additionally, self-correcting feedback, consisting of a positively framed reflection on failures and undesirable behaviors, may be quite effective in helping to recast these behaviors in more positive directions (Manz & Sims, 2001).

Natural Reward Strategies. This category includes the ability of the individual to find pleasure in the work that has to be performed and to focus on the inherently enjoyable aspects of task or activity, leading to increased feelings of competence, self-control, and a sense of purpose (Csikszentmihalyi, 1996; Deci & Ryan, 1985; Herzberg et al, 2003). Natural reward strategies include building more pleasant and enjoyable features into a task or activity so that the task itself becomes more intrinsically rewarding, and shifting mental focus to inherently rewarding aspects of the task (Neck & Houghton, 2006; Neck & Manz, 2007).

Constructive Thought Strategies. This category focuses on directing and reshaping various mental processes including beliefs and assumptions, self-verbalizations (self-talk), and mental imagery in order to create constructive thought patterns and habitual ways of thinking that may have a positive impact on individual performance (Neck & Houghton, 2006; Neck & Manz, 1992, 1996). For example, individuals can assess their thought patterns in an effort to identify and eliminate dysfunctional

beliefs and assumptions with more rational and constructive ones (Burns, 1980; Ellis, 1977; Neck & Manz, 1992). Similarly, self-talk, defined as what we covertly tell ourselves, can be closely examined in order to eliminate undue negativity and pessimism. Research in various fields (sports psychology, clinical psychology, education, and communication) supports the use of positive self-talk as an effective way to improve individual performance (e.g., Neck & Manz, 1992). Mental imagery involves symbolically experiencing behavioral outcomes prior to actual performance without overt physical muscular movement (Driskell, Copper, & Moran, 1994; Finke, 1989; Neck & Manz, 1992, 1996). Research suggests that people who visualize successful performance before actually engaging in performance are much more likely to perform successfully when faced with the actual task (Neck & Houghton, 2006). In a meta-analysis of 35 empirical studies, Driskell et al. (1994) reported an overall positive and significant effect for mental imagery on individual performance.

The relationship between creativity and self-leadership may be partially founded on the concepts of autonomy and self-determination.

Theorists have often suggested a relationship between self-leadership and creativity (e.g., DiLiello & Houghton, 2006; Houghton & Yoho, 2005; Manz & Sims, 2001). The relationship between creativity and self-leadership may be partially founded on the concepts of autonomy and self-determination. Autonomy, a key aspect of creativity (e.g., Amabile, 1996; Barron & Harrington, 1981; Woodman et al., 1993), has been linked to self-determination and intrinsic motivation (Deci & Ryan, 1985). Self-determination is a primary component of self-leadership's natural reward strategies (Neck & Manz, 2007). Indeed, empirical research suggests that an individual's need for autonomy can subsequently influence the extent to which the individual engages in self-leadership (Yun, Cox, & Sims, 2006).

Other relationships between creativity and self-leadership have also been suggested. For example, Houghton and Yoho (2005) have suggested a relationship between individual self-leadership and subsequent levels of individual independence and creativity. In addition, internal locus of control, a theorized component of creativity, has been empirically related to individual self-leadership (Kazan & Earnest, 2000). Finally, an empowering leadership style (leading others to be self-leaders) tends to promote creativity rather than conformity (Manz & Sims, 2001). Indeed, creativity may be one of the most essential aspects of effective organizational leadership (Mumford & Connelly, 1999). Creative thinking and a different style of leadership are necessary to provide flexibility, facilitate change, and redesign traditional bureaucratic processes (Katz & Kahn, 1978). Encouraging self-leadership is a relatively

new leadership style that may help to promote an organizational climate that supports creativity. Empowering leadership is rapidly becoming a key success strategy in the rapidly changing work environments of the 21st century.

PURPOSE AND RATIONALE

The purpose of the current study is to examine the relationships between self-leadership and creativity in the context of a defense acquisition organization. Our primary research question is: Are there significant differences in self-leadership and creativity between line- and supervisory-level defense acquisition employees? More specifically, our analysis will address the following questions: 1) Are there significant differences in self-leadership between line- and supervisory-level employees? 2) Are there significant differences in creative potential, practiced creativity, and the gap between the two in line- and supervisory-level employees? 3) Are there significant differences in perceived organizational support for creativity between line- and supervisory-level employees?

The present study contributes to the self-leadership and creativity literature in a number of important ways. First, this study takes an empirical step toward understanding the nature of the relationship between self-leadership and creativity. This study also examines the role of organizational support in facilitating practiced creativity among organizational members. Most importantly, this study is among the first to examine differences in self-leadership, creativity, and perceptions of support between line- and supervisory-level employees. Understanding these differences may be critical for reducing the gap between creative potential and practiced creativity in organizations. Finally, this study makes a unique contribution to our knowledge of creativity and self-leadership in the context of defense acquisition. The differences examined here may have important implications for creating a defense acquisition workforce with strong self-leaders working in environments that support creativity. Creative self-leaders could synergistically assist the DoD in maintaining an all-important competitive advantage in the face of a wide range of 21st century challenges.

METHOD

SAMPLE AND PROCEDURE

Primary data were collected from the Army Contracting Agency (ACA) as part of a larger study that examined a number of performance-related issues. Approximately 37 percent of the total ACA workforce of approximately 1,900 people chose to complete the online survey—a fairly high response rate when compared to the response rates for other federal employee surveys and with response rates for e-mail surveys in general (Sheehan, 2001). List-wise, deletion for missing data resulted in a final overall sample of 654. This sample was subsequently divided into two subsamples (i.e., supervisory employees, N=215; and line employees, N=439) for further analysis. The average age of the respondents was approximately 46, and the average job tenure was

approximately 12 years. Sixty percent of the respondents were female. The online survey was activated in accordance with the tailored design method (Dillman, 2000). An initial e-mail was sent to ACA workforce members that included an Informed Consent Notification, the purpose of the study, the approval and sponsorship of the study, a confidentiality statement, and a link to the online survey. A subsequent follow-up e-mail summarized the first message, added a personal note, and provided a four-day extension along with a link to the online survey.

MEASURES

Self-leadership. Thirteen items from the Revised Self-leadership Questionnaire (RSLQ, Houghton & Neck, 2002) were used to measure self-leadership. The RSLQ has been used to measure self-leadership in numerous studies (e.g., Houghton & Jinkerson, 2007; Houghton, Bonham, Neck & Singh, 2004; Neubert & Wu, 2006). The 13 items demonstrated good reliability in the current sample with an alpha coefficient of .80—well above Nunnally's (1978) recommended threshold of .70. The items were measured using a five-point Likert-type scale ranging from Completely Accurate to Not At All Accurate.

Creative potential and practiced creativity. Eleven items were used to measure creativity, with six items assessing creative potential and five items representing practiced creativity (DiLiello & Houghton, 2008). DiLiello and Houghton (2008) assessed the construct and discriminant validity of the creative potential and practiced creativity concepts using an exploratory factor analysis (EFA) along with a confirmatory factor analysis (CFA) using structural equation modeling techniques. Their EFA demonstrated a clean factor structure for each construct with strong factor loadings and virtually no cross-loadings for any of the items, while the reliability of the items used to measure each construct was also quite good, with coefficient alphas of .84 for each of the two constructs (DiLiello & Houghton, 2008). CFA results also provided additional evidence in support of the construct and discriminant validity of these concepts (DiLiello & Houghton, 2008). Items were measured using a five-point Likert-type scale ranging from Strongly Agree to Strongly Disagree.

Perceived organizational support for creativity. Perceived organizational support for creativity was measured with six items from "KEYS: Assessing the Climate for Creativity," used with the permission of the Center for Creative Leadership (Amabile et al., 1999). The KEYS scale has shown good psychometric properties as evidenced by CFA results and by median reliability estimates of .84 across a number of studies (e.g., Mathisen & Einarsen, 2004). All items were measured using a five-point Likert-type scale ranging from Strongly Agree to Strongly Disagree.

ANALYSES

Mean differences between supervisory and line employees for self-leadership, creative potential, practiced creativity, a gap score (i.e., the difference between creative potential and practiced creativity that represents untapped creative potential), and perceptions of organizational support for creativity were examined using a series of t-tests. In addition, a series of regression analyses were conducted to examine the

effects of self-leadership, perceived organizational support for creativity and organizational level (line vs. supervisory) on creative potential, practiced creativity, and gap scores, respectively, along with the effects of organizational level (line vs. supervisory) on perceived organizational support for creativity.

RESULTS

Means and standard deviations for both supervisory and line employees for self-leadership, creative potential, practiced creativity, gap scores, and perceived organizational support for creativity are shown in Table 1. The analysis indicated no mean difference between groups for self-leadership, $t(507df) = 1.16, p = .247$. In contrast, analyses showed significant mean differences between the two groups for creative potential, $t(652df) = 3.30, p = .001$; practiced creativity, $t(469df) = 7.48, p = .000$; gap scores, $t(471df) = -5.03, p = .000$; and perceived organizational support for creativity, $t(652df) = 3.21, p = .001$.

Four separate regression analyses were conducted. Model 1 examined the effects of the independent variables self-leadership and organizational level (1=supervisor - 0=line, using dummy variable coding) on the dependent variable creative potential. Model 2 examined the effects of self-leadership, perceived organizational support for creativity, and organizational level on the dependent variable practiced creativity. Model 3 examined the relationships between the three independent variables and gap scores. Finally, Model 4 explored the effects of organizational level on perceptions of organizational support for creativity. A summary of the results of these analyses is presented in Table 2.

The regression equation for Model 1 suggested that both self-leadership and organizational level were significantly related to creative potential, with self-leadership as the stronger predictor of the two (Standardized $\beta = .356, p = .000$). The equation for Model 2 indicated that self-leadership, perceived organizational support for

TABLE 1. MEANS AND STANDARD DEVIATIONS (IN PARENTHESES)

	SL	CP	PC	GS	OS
Supervisors	49.55	25.47	23.58	1.89	20.00
<i>N=215</i>	(6.10)	(2.98)	(4.04)	(4.10)	(5.40)
Line Employees	48.92	24.65	20.97	3.68	18.54
<i>N=439</i>	(7.43)	(3.03)	(4.51)	(4.60)	(5.46)

Note. SL=Self-Leadership, CP=Creative Potential, PC=Practiced Creativity, GS=Gap Score, OS=Perceived Organizational Support.

creativity, and organizational level were all significant predictors of practiced creativity, accounting for approximately 42.6 percent of its variance. Of the three variables, perceived organizational support was the stronger predictor of practiced creativity (Standardized $\beta = .563$, $p = .000$). The Model 3 analysis found that perceived organizational support and organizational level were significantly and negatively related to gap scores, explaining approximately 33.1 percent of the observed variance. The regression equation suggested a strong negative effect for perceived organizational support (Standardized $\beta = -.551$, $p = .000$), indicating that lower perceptions of organizational support for creativity will result in larger gaps between an individual's creative potential and their practiced creativity. In addition, the equation suggests that gap scores will be significantly greater for line employees than for supervisors (Organizational Level: Standardized $\beta = -.117$, $p = .000$). Finally, the regression analysis for Model 4 implied that supervisors tend to have more positive perceptions of organizational support for creativity than line employees (Organizational Level: Standardized $\beta = .125$, $p = .001$).

TABLE 2. SUMMARY OF REGRESSION ANALYSES RESULTS

Independent Variables	Model 1: β	Creative Potential p - value	Model 2: β	Practiced Creativity p - value	Model 3: β	Gap Score p - value	Model 4: β	Organizational Support p - value
Self-Leadership	.356	.000	.158	.000				
Perceived Organizational Support			.563	.000	-.551	.000		
Organizational Level	.113	.002	.195	.000	-.117	.000	.125	.001
Adjusted R ²	.140		.426		.331		.014	
F Statistic	54.25		162.84		162.53		10.32	
p - value	.000		.000		.000		.001	

DISCUSSION

This study revealed a number of significant differences between line and supervisory defense acquisition employees. Our analyses suggested that self-leadership was significantly related to creative potential and practiced creativity for both line- and supervisory-level employees with no significant differences in overall levels of self-leadership between the two groups. In contrast, we found significant differences between line- and supervisory-level employees in creative potential, practiced creativity, gap scores, and perceptions of organizational support for creativity. Specifically, line employees reported significantly lower levels of creative potential, practiced creativity, and perceptions of organizational support for creativity along with higher gap scores in comparison to supervisors.

Self-leadership appears to be the more important concept in determining an individual's creative potential.

Our analyses further suggested that although supervisors tend to have more creative potential than line employees, self-leadership appears to be the more important concept in determining an individual's creative potential. Likewise, although self-leadership and organizational level are both important determinants of practiced creativity, employee perceptions of organizational support for creativity seem to be far more crucial. Similarly, perceived organizational support for creativity appears to be more important than organizational level in predicting creativity gaps in acquisition employees. In other words, employees who feel that the organization supports their creative efforts will be much more likely to practice creative behaviors, thus lowering the gap between their potential and practiced creativity. Finally, organizational level was a significant determinant of perceptions of organizational support for creativity, with supervisory employees holding significantly more positive perceptions of support than line employees. In summation, our analyses suggest that self-leadership may be a key determinant of creative potential and practice among defense acquisition employees; and that perceptions of organizational support for creativity, which tend to be weaker in non-supervisory employees, are critical in determining whether creative potential will be realized or whether a gap between potential and practice will result.

The results of this study have important theoretical, empirical, and practical applications that add to our understanding of the nature of the relationship between self-leadership, creativity, and organizational support for creative practices at both the supervisory and non-supervisory levels. Our findings imply that self-leadership is a primary tool for facilitating creativity at all organizational levels and that active organizational support for creativity may be the key for reducing the gap between

creative potential and practiced creativity that represents untapped creative resources. Our results also suggest that this gap is much more pronounced among line employees and that line employees generally perceive less organizational support for using their creative resources than supervisors. To address this situation, an organizational intervention designed to increase self-leadership capabilities at all levels and to increase perceptions of organization support for creative practices among line employees in defense acquisition would be well advised. More specifically, a structured self-leadership training program similar to those reported elsewhere in the literature (e.g., Neck & Manz, 1996; Stewart, Carson, & Cardy, 1996) could be conducted for defense acquisition employees. Such a training program could have the dual effect of increasing self-leading behaviors and thus creative potential while also strongly signaling organizational support for creative behaviors.

Employees who feel that the organization supports their creative efforts will be much more likely to practice creative behaviors.

Although our findings suggest exciting avenues toward increasing self-leadership and unleashing creative resources at all organizational levels, our study is bound by certain limitations. First, the present sample was relatively homogeneous, consisting entirely of members of the ACA. As we have suggested, such a sample is especially appropriate for creativity research because the DoD has taken a keen interest in tapping all creative resources available in order to sustain a competitive advantage. However, whether the results reported here would generalize to other samples of interest remains uncertain. Second, all items were self-reported and collected using a single survey at a single point in time, thus raising concerns regarding measurement issues such as response set and social desirability biases. Given this potential problem, our findings should be viewed with some degree of caution. On the other hand, despite such inherent limitations, the use of self-reported items collected in a single administration is common practice in many aspects of social science research. Finally, it is impossible to determine, based on these data and statistical techniques alone, the direction of causality for the observed relationships. Direction of causality must be inferred by underlying theory. Although we have advanced empirical and theoretical arguments supporting the possible direction of causality for the various relationships reported here, these arguments cannot be unequivocally substantiated on the sole basis of statistical test results.

Future research should continue to examine the relationships between self-leadership, creative potential, practiced creativity, organizational level and organizational support for creativity. Specifically, future research should more closely examine the

role of organizational support as a moderator of the relationship between creative potential and practiced creativity and as a key mechanism for reducing the gap between these concepts in organizations. In addition, perceptions of support for creativity might be further subdivided from the organizational level to the work group and supervisory levels in order to provide additional insights (DiLiello & Houghton,

An acquisition workforce of creative self-leaders could synergistically assist the organization in maximizing the leveraging of all organizational resources.

2006). Similarly, future research could continue to examine the differences between line- and supervisory-level employees in terms of creativity and perceptions of support for creative practices, with an eye toward identifying ways to increase creativity at all organizational levels. In closing, our findings and suggestions have significant practical application in the context of transformational efforts across the DoD in support of warfighter readiness. An acquisition workforce of creative self-leaders could synergistically assist the organization in maximizing the leveraging of all organizational resources.



Dr. Trudy C. DiLiello is a program manager for the Naval Facilities Expeditionary Logistics Center. She was an instructor at the Defense Acquisition University where she taught for eight years. Prior to joining the DAU, she was a contracting officer for the Naval Facilities Engineering Command. Dr. DiLiello is Level III certified in Contracting, Level II certified in Facilities Engineering, and Level I certified in Acquisition Logistics. She holds a Doctorate of Public Administration from the University of La Verne.

(E-mail address: trudy.diliello@navy.mil)



Dr. 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. Houghton has presented his research at various professional meetings and has published numerous articles in a variety of respected journals. He holds a PhD in Organizational Studies from Virginia Polytechnic Institute and State University.

(E-mail address: jeff.houghton@mail.wvu.edu)

AUTHOR BIOGRAPHY

REFERENCES

- Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, 19, 123–167.
- Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview Press.
- Amabile, T. M., Burnside, R. M., & Gryskiewicz, S. S. (1999). User's manual for KEYS: Assessing the climate for creativity. *A survey from the Center for Creative Leadership*. Greensboro, NC: Center for Creative Leadership.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Barron, F., & Harrington, D. M. (1981, January). Creativity, intelligence, and personality. *Annual Review of Psychology*, 32, 439–476.
- Bennis, W. G. (1994). *On becoming a leader*. New York: Perseus Books.
- Burns, D. D. (1980). *Feeling good: The new mood therapy*. New York: Morrow.
- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control theory*. New York: Springer-Verlag.
- Cautela, J. R. (1969). Behavior therapy and self-control: Techniques and applications. In C.M. Franks (Ed.), *Behavioral therapy: Appraisal and status* (pp. 323–340). New York: McGraw-Hill.
- Csikszentmihalyi, M. (1996). *Creativity: flow and the psychology of discovery and invention*. New York: HarperCollins Publishers, Inc.
- Cummings, L. L., Hinton, B. L., & Gobdel, B. C. (1975, September). Creative behavior as a function of task environment: Impact of objectives, procedures, and controls. *Academy of Management Journal*, 18(000003), 489–499.
- Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- DiLiello, T. C., & Houghton, J. D. (2006). Maximizing organizational leadership capacity for the future: Toward a model of self-leadership, innovation, and creativity. *Journal of Managerial Psychology*, 21, 319–337.
- DiLiello, T. C., & Houghton, J. D. (2008). Creative potential and practiced creativity: Identifying untapped creativity in organizations. *Creativity and Innovation Management*, 17, 37–46.
- Dillman, D. (2000). *Mail and internet surveys: The tailored design method* (2nd Ed.). New York: John Wiley and Sons.

- Driskell, J. E., Copper, C., & Moran, A. (1994). Does mental practice enhance performance? *Journal of Applied Psychology, 79*, 481–492.
- Drucker, P. F. (1999). *Management challenges for the 21st century*. New York: HarperCollins Publishers, Inc.
- Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology, 75*, 51–59.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*, 500–507.
- Ellis, A. (1977). *The basic clinical theory of rational-emotive therapy*. New York: Springer.
- Finke, R. A. (1989). *Principles of mental imagery*. Cambridge, MA: MIT Press.
- Ford, C. M. (1996, October). A theory of individual creative action in multiple social domains. *Academy of Management Review, 21*(4), 1112–1142.
- George, J. M., & Zhou, J. (2001, June). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology, 86*(3), 513–524.
- Goleman, D., Boyatzis, R. E., & McKee, A. (2002) *Primal leadership*. Boston, MA: Harvard Business School Press.
- Guilford, J. P. (1950). Creativity. *American Psychologist, 5*, 444–454.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (2003). The motivation to work (originally published in 1959). New Brunswick, NJ: Transaction Publishers.
- Hinton, B. L. (1968). A model for the study of creative problem solving. *Journal of Creative Behavior, 2*, 133–142.
- Hinton, B. L. (1970). Personality variables and creative potential. *Journal of Creative Behavior, 3*, 210–217.
- Houghton, J. D., & Jinkerson, D. L. (2007, September). Constructive thought strategies and job satisfaction: A preliminary examination. *Journal of Business and Psychology, 22*(1), 45–53.
- Houghton, J. D., & Neck, C. P. (2002). The revised self-leadership questionnaire: Testing a hierarchical factor structure for self-leadership. *Journal of Managerial Psychology, 17*(7/8), 672–691.
- Houghton, J. D., & Yoho, S. K. (2005). Toward a contingency model of leadership and psychological empowerment: When should self-leadership be encouraged? *Journal of Leadership and Organizational Studies, 11*(4), 65–83.

- Houghton, J. D., Bonham, T. W., Neck, C. P., & Singh, K. (2004). The relationship between self-leadership and personality: A comparison of hierarchical factor structures. *Journal of Managerial Psychology, 19*(4), 427–441.
- Kanfer, F. H. (1970). Self-regulation: Research, issues, and speculations. In C. Neuringer & J. L. Michael (Eds.), *Behavioral Modification in Clinical Psychology* (pp. 178–220). New York: Appleton-Century-Crofts.
- Kanter, R. M. (1983). *The change masters: Innovation and entrepreneurship in the American corporation*. New York, NY: Simon & Schuster, Inc.
- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations*. Hoboken, NJ: Wiley & Sons, Inc.
- Kazan, A. L. & Earnest G. W. (2000, Winter). Exploring the concept of self-leadership. *Leadership Link*, Columbus, OH: Ohio State University Leadership Center.
- Kouzes, J. M., & Posner, B. Z. (1995). *The leadership challenge* (2nd ed.). New York, NY: Jossey-Bass.
- Mahoney, M. J., & Arnkoff, D. B. (1978). Cognitive and self-control therapies. In S. L. Garfield & A. E. Borgin (Eds.), *Handbook of psychotherapy and therapy change* (pp. 689–722). New York: Wiley.
- Mahoney, M. J., & Arnkoff, D. B. (1979). Self-management: Theory, research, and application. In J. P. Brady & D. Pomerleau (Eds.), *Behavioral medicine: Theory and practice* (pp. 75–96). Baltimore: Williams and Williams.
- Manz, C. C., & Sims, H. P. (2001). *The new superleadership: Leading others to lead themselves*. San Francisco: Berrett-Koehler.
- Manz, C. C. (1986, July). Self-leadership: Toward an expanded theory of self-influence processes in organizations. *Academy of Management Review, 11*(3), 585–600.
- Manz, C. C., & Sims, H. P. (1980, July). Self-management as a substitute for leadership: A social learning perspective. *Academy of Management Review, 5*(000003), 361–367.
- Martindale, C. (1989). Personality, situation, and creativity. In J. A. Glover, R. R. Ronning, & C. R. Reynolds (Eds.), *Handbook of creativity*. New York: Plenum Press.
- Mathisen, G. E., & Einarsen, S. (2004). A review of instruments assessing creative and innovative environments within organizations. *Creativity Research Journal, 16*(1), 119–140.

- Mumford, M. D., & Connelly, M. S. (1999). Leadership. In M. A. Runco & S. R. Pritzker (Eds). *Encyclopedia of Creativity ac-h* (Vol. 1, pp. 139–145). San Diego, CA: Academic Press.
- Mumford, M. D., & Gustafson, S. B. (1988, January). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, *103*(1), 27–43.
- Neck, C. P., & Manz, C. C. (2007). *Mastering self-leadership: Empowering yourself for personal excellence* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Neck, C. P., & Houghton, J. D. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future possibilities. *Journal of Managerial Psychology*, *21*(4), 270–295.
- Neck, C. P., & Manz, C. C. (1992, December). Thought self-leadership: The impact of self-talk and mental imagery on performance: Summary. *Journal of Organizational Behavior*, *13*(7), 681–699.
- Neck, C. P., & Manz, C. C. (1996, September). Thought self-leadership: The impact of mental strategies training on employee cognition, behavior, cognition, behavior, and affect. *Journal of Organizational Behavior*, *17*(5), 445–467.
- Neubert, M. J., & Wu, J. C. (2006). A cross-cultural validation of the Houghton and Neck revised self-leadership Questionnaire to a Chinese context. *Journal of Managerial Psychology*, *21*(4), 360–373.
- Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill,.
- Rhoades, L., & Eisenberger, R. (2002, August). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, *87*(4), 698–714.
- Scott, W. E. (1965, September). The creative individual. *Academy of Management Journal*, *8*(000003), 211–219.
- Scott, S. G., & Bruce, R. A. (1994, June). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*(3), 580–607.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Sergiovanni, T. J. (1992). *Moral leadership: Getting to the heart of school improvement*. San Francisco: Jossey-Bass.
- Shalley, C. E. (1995, April). Effects of coercion, expected evaluation, and goal setting on creativity and productivity. *Academy of Management Journal*, *38*(2), 483–503.
- Sheehan, K. B. (2001). E-mail survey response rates: A review. *Journal of Computer-Mediated Communication*, *6* (2).

- Simonton, D. K. (1992). Creativity and leadership: Causal convergence and divergence. In S. S. Grysiewicz & D. A. Hills (Eds.), *Readings in innovation* (pp. 29–43). Greensboro, NC: Center for Creative Leadership.
- Sternberg, R. J., & Lubart, T. I. (1999). The concept of creativity: Prospects and paradigms. In R. J. Sternberg (Ed.), *Handbook of creativity*. New York: Cambridge University Press.
- Stewart, G.L., Carson, K.P., & Cardy, R.L. (1996, Spring). The joint effects of conscientiousness and self-leadership training on employee self-directed behavior in a service setting. *Personnel Psychology*, *49*(1), 143–164.
- Tierney, P., & Farmer, S. M. (2002, December). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, *45*(6), 1137–1148.
- Tushman, M., & O'Reilly III, C. A. (1997). *Winning through Innovation: a practical guide to leading organizational change and renewal*. Boston, MA: Harvard Business School Press.
- Utterback, J. M. (1994). *Mastering the dynamics of innovation*. Boston, MA: Harvard Business School Press.
- Woodman, R. W., & Schoenfeldt, L. F. (1989). Individual differences in creativity: An interactionist perspective. In J. A. Glover, R. R. Ronning & C. R. Reynolds (Eds.), *Handbook of creativity*. New York, NY: Plenum Press.
- Woodman, R. W., Sawyer, J. E., & Griffen, R. W. (1993, April). Toward a theory of organizational creativity. *Academy of Management Journal*, *18*(2), 293–321.
- Yun, S., Cox, J., & Sims, H. P. (2006). The forgotten follower: A contingency model of leadership and follower self-leadership. *Journal of Managerial Psychology*, *21*(4), 374–388.
- Zhou, J., & George, J. M. (2001, August). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, *44*(4), 682–696.