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Creativity Will Stop You from Being Promoted, Right? Wrong! A Comparison of Creative Thinking Preferences Across Organizational Levels

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A number of reports have suggested that creative thinking is a crucial skill for today's organizational leaders. In contrast, results from experimental studies have led some to argue that the negative associations between creative thinking and leadership potential might stop individuals from being promoted into leadership positions. The present study used creative problem solving preferences identified by the FourSight Thinking Profile (i.e., Clarifier, Ideator, Developer, and Implementer) to evaluate the thinking styles of individuals across organizational levels. Analysis of data gathered from 7,280 professionals showed that individuals in more senior leadership positions reported significantly higher Ideator preferences, which is a tendency to generate a large number of possibilities, to think in original ways, to apply imagination and to seek change. A similar pattern was found for the Implementer scale, which measures an inclination toward action and risk, in that those in senior positions also showed tendency towards higher preferences on this scale when compared to those in non-management and entry-level leadership positions. No significant differences were found across organizational level for the Clarifier and Developer scales, which measure preferences for problem definition and solution refinement, respectively. Further analysis across sectors revealed that those in senior leadership positions in the private sector possessed even stronger Ideator preferences than those in the public sector. These findings seem to provide evidence that key aspects of creative thinking, specifically divergent thinking and imagination, are valued and necessary among strategic-level leaders.

A 2011 *Strategy+Business* article posed the question as to whether creativity was a bad trait for senior leaders (Palmquist, 2011). In response to this provocative question, Palmquist warned his readers that offering creative ideas, those that challenge the status quo, would prevent them from being promoted into top management positions. Palmquist's career advice was based on an investigation carried out by Mueller, Goncalo, and Kamdar (2011). Mueller et al. conducted a series of studies that demonstrated a negative relationship between perceptions of leadership potential and the expression of creative ideas (i.e., novel and useful solutions to a problem). Specifically, Mueller et al. found that undergraduate students who held prototypical views of leadership—that is, the primary function of leadership is to control situations and maintain the status quo—expressed significantly lower confidence in someone's leadership potential when that person proposed a highly novel solution to a strategic problem. However, when Mueller et al. explicitly primed undergraduate students to focus on a more contemporary view of leadership—specifically the concept of charismatic leadership—then a strong positive relationship was found between perceptions of leadership potential and those who offered novel ideas.

These results run counter to the growing trend that highlights the fact that leadership success in the 21st century relies in large part on leaders' ability to engage in creative thinking. Both the scholarly literature and surveys of corporate leaders highlight the fact that creativity is seen as a core leadership competence. Theories of leadership, for example, show a clear migration from traditional views of "command and control" forms of leadership behavior to a family of models based on the need to embrace change. As

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a collective, these more contemporary views of leadership are referred to as "transformational" theories of leadership. Northouse (2013) described transformational leadership as a form of influence that inspires followers to achieve goals and realize accomplishments that go beyond their own expectations. Transformational leaders recognize that the world is changing rapidly, and that to respond successfully to evolving situations they need to rely on the creative abilities of their followers. This connection between leadership and creativity is most evident in one of the common factors associated with transformational leadership. Northouse described this factor, called Intellectual Stimulation, as follows: "This type of leadership supports followers as they try new approaches and develop innovative ways of dealing with organizational issues. It encourages followers to think things out on their own and to engage in careful problem solving" (p. 193). Indeed, there is research evidence that shows those leaders who adopt a transformational leadership approach are more likely to drive greater levels of employee creativity (Cheung & Wong, 2011; Shin & Zhou, 2003), team creativity (Shin & Zhou, 2007), organizational innovation (Gumusluoglu & Ilsev, 2009), and the creativity of individuals working in groups (Jung, 2001; Sosik, Kahai, & Avolio, 1998). More recent research has unearthed further insights into the impact of transformational leadership on workplace creativity. In their study of team creativity, Shin and Eom (2014) found that creative efficacy and risk-taking norms were stronger predictors of team creativity than transformational leadership. In examining their findings, Shin and Eom suggested that when teams already possess beliefs and norms that predispose the team towards higher levels of creative performance, such as a bent towards risk-taking, team leaders' effects may be more muted. However, when teams lack such creative efficacy, then the role of transformational leaders may become more crucial and impactful.

Puccio, Mance, and Murdock (2011) argued that the fields of leadership and creativity studies are showing increased levels of conceptual overlap. Contemporary theories of leadership, such as transformational, charismatic, and capability models of leadership, routinely cite abilities and traits commonly associated with the creative person (i.e., open-mindedness, flexibility, originality, visionary, resistant to rules, and curious) as necessary for leaders to be successful in today's organizations. The qualities that predispose a leader to be successful seem to be highly dependent on the context. Conditions associated with contemporary organizational life—the pace of change, the innovation economy and global competition, to name a few—require leaders to adopt more creative attitudes and skills. Indeed, senior leaders are aware that in the face of turbulent times, creativity has become a crucial leadership skill. A 2010 IBM survey of more than 1500 executives revealed a clear majority of these senior organizational leaders identified creativity as the most important leadership skill.

Due to the dynamic environment in which leaders find themselves, they increasingly face what Mumford et al. (2000) refer to as complex social problems. Such problems are characterized by three qualities: they are ill-defined, meaning there is no single solution path; they are novel, meaning past experience is insufficient in resolving the emerging situation; and they are ambiguous, meaning there is often incomplete, missing, and extraneous information. In light of such problems, Mumford and his colleagues have argued that leadership performance is highly dependent upon an individual's ability to solve problems creatively. In support of this "capacity" model of leadership, Connelly et al. (2000) found, as predicted, that complex-problem solving, social judgment, and knowledge accounted for significant variance in leadership effectiveness beyond cognitive abilities, motivation and personality.

Creative Problem Solving

Creative problem solving can be thought of as a general set of capabilities, as described by Mumford et al. (2000), and more formally it also refers to a specific applied creativity process model. As a specific model for creative thinking, Creative Problem Solving (CPS) has been successfully used in a wide range of creativity programs to train participants in cognitive strategies that significantly enhance creative performance (Basadur, Graen, & Green, 1982; Parnes & Meadow, 1960; Parnes & Noller, 1972; Puccio, Firestien, Coyle, & Masucci, 2006). In fact, Scott, Leritz, and Mumford (2004) conducted a meta-analytic review of 70 studies of creativity training programs and concluded that CPS was one of the most effective models for teaching creative thinking. Since its initial introduction by Alex Osborn (1953), CPS has enjoyed ongoing development and continuous research for over five decades (Isaksen & Treffinger, 2004; Puccio & Cabra, 2009; Puccio, Murdock, & Mance, 2005). The cognitive strategies in CPS can be organized into a range of steps. In its most streamlined form CPS involves clarifying the problem, generating ideas, developing solutions, and implementing change.

Puccio (1999) embarked on a program of research to determine whether individuals expressed different levels of energy and preference for the four fundamental areas of the CPS process. Building off of cognitive style theories, such as Kirton's Adaptor-Innovator Theory (Kirton, 1976), which demonstrated that individuals express qualitatively different approaches to creativity, Puccio sought to measure differences in cognitive preference in CPS. As the steps

within CPS required different kinds of mental operations, he reasoned that individuals would show different cognitive style preferences for the steps within the CPS process. Analysis of items designed to capture the unique mental operations found within the CPS process yielded four distinct preference scales, named Clarifier, Ideator, Developer, and Implementer (Puccio, 2002). Theoretically, the Clarifier likes to focus on gathering information, examining facts, and isolating the exact nature of the problem. The Ideator engages easily in divergent thinking, looks at the big picture and applies imagination in support of visionary thinking. The Developer is a perfectionist who works to craft and refine good ideas into great solutions. The Implementer is quick to take action, face risk, and move a creative idea from the drawing board and into practice.

The self-report measure used to identify these four preferences is called the FourSight Thinking Profile (referred to subsequently as simply FourSight). Subsequent research using FourSight has helped to elucidate the personality traits associated with these four creativity preferences by examining correlations with the DiSC (Puccio & Grivas, 2009), the Jackson Personality Inventory (Puccio & Schwagler, 2008), and the Adjective Checklist (Rife, 2001). More recent research has shown a significant relationship between the Ideator preference and the likelihood of an Attention-Deficit/Hyperactivity Disorder diagnosis among adults (White & Shah, 2011). The present study sought to extend the current body of FourSight research by examining creative thinking preferences in organizational settings. Specifically, the present study compared the strength of preference in terms of the four scales across different organizational levels, thereby exploring whether a preference to think in original ways promotes or prevents leadership advancement.

Given the necessity for today's leaders to work in an arena of constant change, ambiguity, and global competition, which require flexibility and the need for sustained innovation, the first hypothesis was that, among the four scales, senior leaders would show a greater proclivity toward high Ideator preferences. When the CEOs in the IBM (2010) study described their recommendations for what leaders might do to explicitly model creativity, the executives identified three practices: encourage experimentation, make deep business model changes, and take calculated risks by finding new ideas that foster innovation. Ideators, among the four FourSight preferences, most closely embody these qualities. High Ideators play with possibilities, possess a risk-taking orientation, look at the big picture, and are comfortable with change. Puccio et al. (2011) defined creative leadership as a desire to bring something new into existence, a willingness to engage one's imagination to guide a group towards a novel goal. Given high Ideators' penchant for originality and openness to change, it was reasonable to predict that those in senior leadership positions are likely to express higher preferences in regard to this step of the creative process. If senior leaders are beginning to display behaviors associated with creative leadership, as described by Puccio et al., then it can be anticipated that they are more likely to associate their thinking style with the Ideator orientation. Moreover, since those in the business world have primarily driven the call for innovation, a secondary hypothesis is that a comparison of private and public sector leaders will show a higher preponderance of those with the Ideator orientation among senior leaders in the private sector. Conversely, if Palmquist (2011) is correct in that having creative ideas does indeed stop individuals from being promoted, the opposite effect is likely to be found. That is, individuals with low Ideator preferences—those who prefer to play it safe and to not proliferate novel ideas—will find greater representation among strategic-level leaders. And, these results should be consistent between sectors; that is, those in senior leadership positions in both the private and public sector should show equally low preferences for the ideational thinking style.

Method

Participants

This study involved 7280 participants (male = 3697; female = 3501; 82 did not report). Mean age was 39.03 (*SD* = 11.88). The sample consisted of individuals from various professional backgrounds including education, healthcare, business, and social services, and from both public and private sectors. All participants were enrolled in professional development and training programs that used the online version of the FourSight measure. As part of these programs, participants received an email inviting them to complete FourSight with a link to the online measure, along with a demographic form.

Instrument

Participants completed FourSight version 6.1 with 36 self-report Likert items (Puccio, 2002). FourSight was developed to identify individual preferences toward four thinking styles that are involved in the creative process. These four styles are clarifying, ideating, developing, and implementing. *Clarifiers* prefer to gather information, search for data and information, and dig into the details to clarify the problem before exploring the answers. They may also get stuck at the analysis stage and may slow the process down. *Ideators* like to generate many possibilities and to think in more global terms. They frequently use their imagination and play with ideas. They are usually visionary and flexible. They may jump from one idea to another and may miss details and realistic

TABLE 1
Descriptive Statistics of FourSight Scales Across Organizational Levels and Sectors

			Clarifier		*Ideator*		*Developer*		*Implementer*	
Organizational Level	*Sectors*	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Non-management		2170	33.32	4.73	31.32	5.77	31.74	5.15	30.28	4.84
Supervisor / Dept. head		678	33.31	4.56	31.46	5.58	31.74	4.94	30.65	4.56
Middle management		1418	33.35	4.57	32.33	5.66	31.65	5.01	30.90	4.72
Director		974	33.53	4.72	33.26	5.64	31.46	5.16	31.38	4.74
Vice president		288	33.27	5.00	33.99	5.56	31.45	5.20	31.76	4.71
Executive		454	33.73	5.16	34.04	5.75	31.45	5.57	31.41	4.94
	Public	641	31.64	5.67	33.15	4.59	31.46	4.98	30.61	4.54
Low	Private	1847	31.85	5.82	33.54	4.65	31.86	5.09	30.48	4.88
	Total	2488	31.79	5.78	33.44	4.64	31.76	5.06	30.51	4.79
	Public	463	32.74	5.62	33.08	4.64	30.82	5.01	31.51	4.74
High	Private	762	34.07	5.55	33.66	5.01	31.62	5.35	31.19	4.82
	Total	1225	33.77	5.61	33.44	4.88	31.32	5.24	31.31	4.79
	Public	1104	32.10	5.67	33.12	4.61	31.19	5.00	30.99	4.65
Total	Private	2609	32.50	5.83	33.57	4.76	31.79	5.16	30.69	4.87
	Total	3713	32.38	5.79	33.44	4.72	31.61	5.12	30.78	4.81

Note: Low organizational levels = non-management, supervisor / department head, and middle management; Higher organizational levels = director, vice president, and executive

limitations. *Developers* enjoy analyzing potential solutions by comparing alternatives, breaking each solution into parts, seeking ways to improve existing solutions, and converting unfinished projects into well-crafted outcomes. They may fail to finalize a project if it does not feel perfect. *Implementers* tend to be action-oriented and willing to take risks. They like to implement ideas and feel satisfaction from getting things done. They may jump into action too quickly without a careful analysis of the situation.

Each factor was measured with nine items. Five-level Likert scale was used with the following labels: 1 = Not like me at all, 2 = Not much like me, 3 = Like me, 4= Very much like me, 5 = Always like me. Sample items are provided below for all four factors:

- *Clarifier:* "I like identifying the most relevant facts to a problem."
- *Ideator:* "I enjoy coming up with unique ways of looking at a problem"
- *Developer:* "I like to explore strengths and weaknesses of a potential solution"
- *Implementer:* "I enjoy turning rough ideas into concrete solutions."

The four scales showed a high internal consistency (alpha > .78) and factor analysis results captured the four factors (Puccio, 1999, 2002).

Procedure

Data were collected through a web link sent to the email addresses of the participants. Participants completed demographic information, which included questions about gender, age, profession, and organizational level followed by the administration of the FourSight instrument. Total scores for each of the four scales were calculated and used in the analyses.

Results

Inter-item reliabilities were examined before the analyses. Cronbach alpha was .78 for Clarifier, .82 for Ideator, .78 for Developer, and .75 for Implementer. Total scores from each of these scales were used as the dependent variables in the subsequent analyses.

Organizational Level

Preferences across organizational levels were first compared through one-way ANOVAs. FourSight scales were used as dependent variables; organizational level (i.e., non-

management, supervisor/department head, middle-management, director, vice president, and executive) was the independent variable. Significant differences were found on the Ideator ($F(5, 5976) = 34.80$, $p = .001$, $\eta^2 = .03$) and Implementer scales ($F(5, 5976) = 12.07$, $p = .001$, $\eta^2 = .01$); but not on Clarifier ($F(5, 5976) = .83$, $p = .53$, $\eta^2 = .00$) and Developer ($F(5, 5976) = .68$, $p = .64$, $\eta^2 = .00$). Descriptive statistics are provided in Table 1 for all organizational levels with respect to FourSight scales.

Post-hoc analyses of the Ideator and Implementer scales indicated that pairwise comparisons were significant at all organizational levels except supervisor/department head when compared with non-management level. In other words, ideation and implementation scores were significantly higher in middle-management, director, vice president, and executive levels when compared to the non-management and supervisor/department head levels. The trends across organizational levels are illustrated in Figure 1.

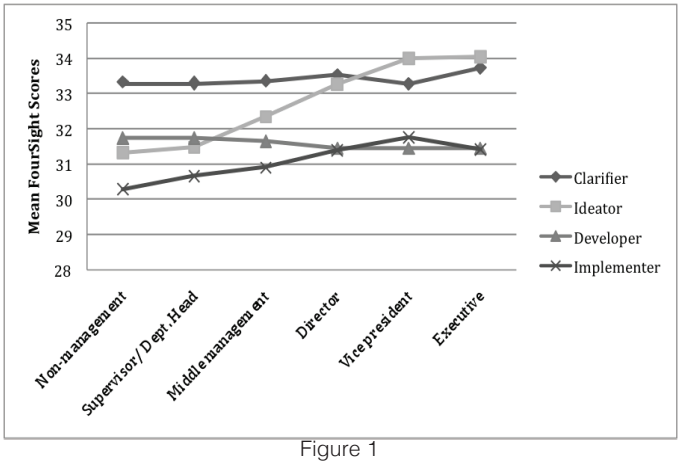

Figure 1
Changes in FourSight preferences across organizational levels

Next, organizational levels were classified as higher management (director, vice president, and executive) and lower management (non-management, supervisor/department head, and middle management), and these two groups were again compared across the FourSight scales. Significant differences were found between high and low management for both Ideator ($t(5980) = 11.73$, $p < .001$) and Implementer ($t(5980) = 6.65$, $p < .001$) scales but not on Clarifier ($t(5980) = 1.56$, $p < .12$) or Developer ($t(5980) = 1.74$, $p < .08$).

The relationship between scores on FourSight scales and organizational levels was also examined through Spearman's rho. This analysis used the rank-ordered values of organizational levels that ranged from 0 (non-management) to 5 (Executive). Correlations with organizational levels were significant for Ideator ($r_s = .16$, $p < .001$) and Implementer ($r_s = .10$, $p < .001$), but not with Clarifier ($r_s = .02$, $p < .17$) or Developer ($r_s = -.02$, $p < .13$).

Impact of Sector

Considering the potential influence of sector (whether public or private), the second set of analyses used two independent variables (two-way ANOVAs): organizational level (high vs. low) and sector (public vs. private). To obtain greater statistical power, organizational levels were collapsed to two levels. High organizational level consisted of directors, vice presidents, and executives; and low organizational level consisted of non-management, supervisor/department head, and middle-management. Sector variable had two categories: public (i.e., government, healthcare, social services) and private (i.e., business).

The first analysis with the Ideator scale showed significant main effects for both organizational level ($F(1, 3709) = 60.89$, $p = .001$, $\eta^2 = .016$) and sector ($F(1, 3709) = 12.98$, $p = .001$, $\eta^2 = .003$). The interaction effect (organizational level by sector) was also significant ($F(1, 3709) = 6.89$, $p = .01$, $\eta^2 = .002$). As shown in Figure 2, Ideator preference increased from low to high organizational levels in both public and private sectors, but the increase was more pronounced for those in the private sector than those in the public sector. Ideator preference was the lowest in low organizational levels of the public sector and the highest at the high organizational levels of the private sector. Descriptive statistics were provided for dependent and independent variables in Table 1.

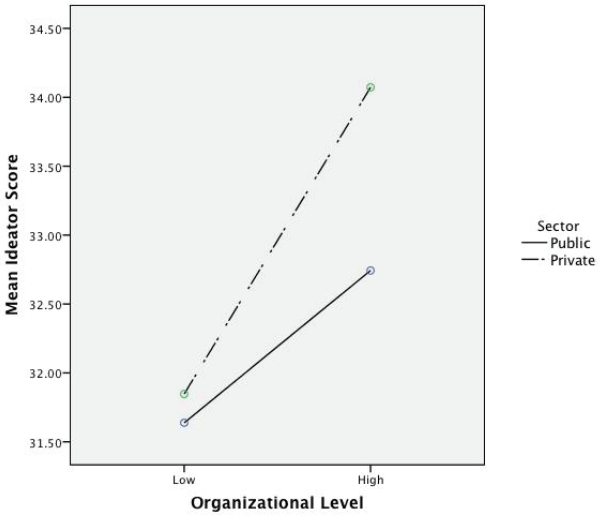

Figure 2
Ideator scores across organizational levels and sectors

When the same analyses were repeated for Clarifier scale, there was a significant main effect for sector ($F(1, 3709) = 7.65$, $p = .006$, $\eta^2 = .002$), but not for organizational level ($F(1, 3709) = .03$, $p = .87$, $\eta^2 = .001$). The interaction effect was not significant ($F(1, 3709) = .30$, $p = .59$, $\eta^2 = .001$). For Developer scale, a significant main effect was

found for sector ($F(1, 3709) = 5.36$, $p = .02$, $\eta^2 = .001$) and organizational level ($F(1, 3709) = 9.76$, $p = .002$, $\eta^2 = .003$) but the interaction effect (organizational level by sector) was not significant ($F(1, 3709) = 1.21$, $p = .29$, $\eta^2 = .001$). With Implementer scores, there was a significant main effect for organizational level ($F(1, 3709) = 20.26$, $p = .001$, $\eta^2 = .005$), but the main effect for sector ($F(1, 3709) = 1.62$, $p = .20$, $\eta^2 = .001$) and the interaction effect ($F(1, 3709) = .31$, $p = .58$, $\eta^2 = .001$) were not significant. Figures 3, 4, and 5 were provided to display the effects found for Clarifier, Developer, and Implementer scales.

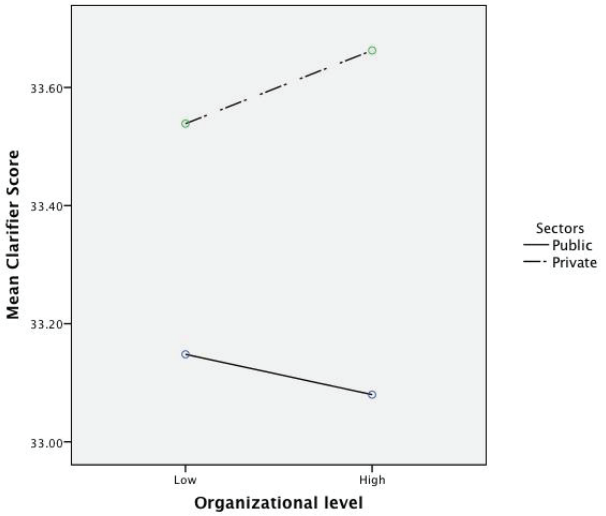

Figure 3
Clarifier scores across organizational levels and sectors.

Discussion

In light of the fact that Mueller et al.'s (2011) research participants associated creative ideas with significantly lower perceptions of an individual's leadership potential, Mueller and colleagues offered the following implication: "Our findings also suggest that organizations may face a bias against selecting the most creative individuals as leaders in favor of selecting leaders who would preserve the status quo by sticking with feasible but relatively unoriginal solutions" (p. 497). The present study provides evidence that this warning may be unwarranted, as the current findings showed a clear relationship between position leadership and the Ideator thinking style. Specifically, the higher individuals find themselves in organizational leadership ranks, the greater the likelihood they were to express a proclivity towards Ideator tendencies (i.e., the production of more original ideas, a desire to look at the big picture, and greater openness to change). Furthermore, an ideational thinking style seems to be more dominant among those in senior positions in the private sector than those in the public sector.

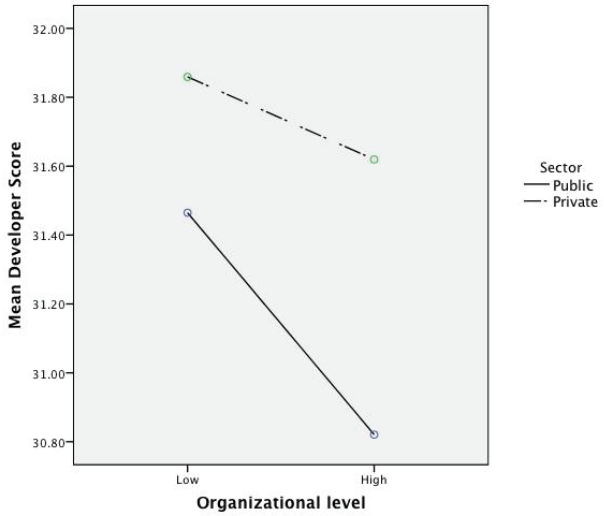

Figure 4
Developer scores across organizational levels and sectors

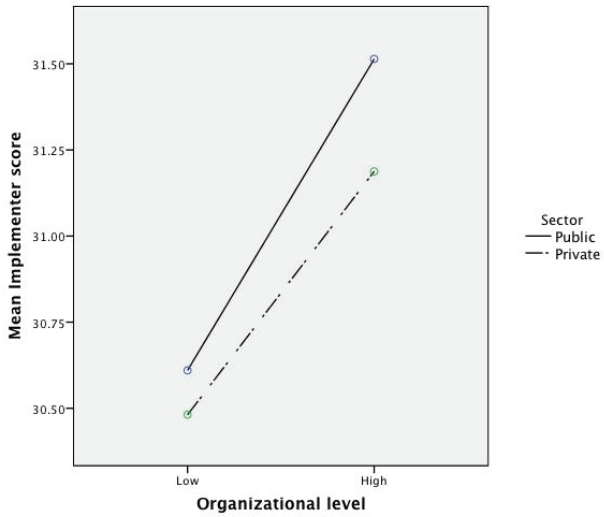

Figure 5
Implementer scores across organizational levels and sectors

These findings seem to corroborate the results of the IBM (2010) global survey of executives who identified creativity as the most important leadership skill for 21st century leaders. They are also consistent with findings of Mumford and Peterson (1999) who reported the need for superior creative problem-solving skills in higher-level positions. In the case of Mueller and his colleagues, two of their three experiments involved students with a mean age less than 22. It may be that undergraduate students simply do not have sufficient organizational experience to recognize and embrace a more contemporary view of leadership, which raises concerns about the ecological validity of the experimental manipulations (Broffenbrenner, 1977; Schmuckler, 2001). As Mueller et al. demonstrated, when they primed students with a more

current view of leadership, charismatic leadership specifically, there was a corresponding positive relationship between the presentation of creative ideas and perceptions of leadership potential.

Of course the results of the present study do not show whether individuals were promoted because they possessed higher Ideator preferences or whether they had to adapt their thinking style to fit role demands as they moved into more senior leadership positions. Longitudinal research, in which individuals' FourSight preferences are measured before and after advancement, would be necessary to make this determination. Regardless, the findings do provide practical implications for training and development opportunities for potential leaders. Ideational skills and creative attitudes have been shown to be positively impacted by creativity training (Basadur, Graen, & Green, 1982; Basadur, Graen, & Scandura, 1986). Those who aspire to rise to senior strategic leadership positions might benefit from creativity training in general, and specifically skill development related to divergent thinking. As the IBM (2010) study of executives showed, while creativity was identified as a core leadership skill, many leaders did not feel confident in their ability to lead in times of complexity. Perhaps formal creativity training with an emphasis on the Creative Problem Solving process and divergent thinking skills would help to foster higher levels of confidence among organizational leaders.

Higher scores on the Ideator scale is not surprising given the nature of leadership, which requires frequent practice in problem solving (Mumford et al., 2000). More importantly, the nature of problems faced at different organizational levels tend to vary (Nutt, 1984). A common feature of problems faced at higher organizational levels is that they are ambiguous, novel, and ill-defined; and therefore have no clear-cut solutions (Mumford & Connelly, 1991; Runco, 1994). Under those circumstances, leadership performance would be greatly facilitated by enhanced ideational productivity, which would allow leaders to consider multiple options from which to choose. Guastello (1995) found a positive correlation between idea generation and emerging leadership. Various empirical studies have indicated a positive correlation between divergent thinking and leadership achievement (Bray, Campbell, & Grant, 1974; Mumford, Marks, Connelly, Zaccaro, & Johnson, 1998).

Although not predicted, nor as marked as the results for the Ideator preference, analyses also showed a similar pattern for FourSight's Implementer scale. Namely, an increase in organizational level reflected a commensurate increase in strength of preference for the Implementer orientation, and this finding was consistent between those in senior leadership positions in both the private and public sector. These results would indicate that more senior positions reflect a tendency towards action and a willingness to entertain risk. The combination of these results provides an intriguing profile of those who reside in senior positions in organizations. While they show a tendency to dream and think big, they also seem to possess a penchant for bringing ideas to reality. This should not be surprising as true creative behavior is more than just producing novel ideas. Creativity results from bringing novel and valuable ideas to fruition (Runco & Jaeger, 2012). Perhaps the nature of creative leadership creates a natural fusion between these two tendencies. Puccio et al. (2011) described creative leadership as the deliberate application of imagination that moves a team or organization in a new direction. Inherent in this conception of leadership is the twin desire to generate and entertain new possibilities, a characteristic associated with Ideators, while at the same time possessing the inclination to transform novel ideas into reality, which is a quality that aligns with the Implementer preference. While all four FourSight thinking preferences are necessary for effective creative thinking, the present analysis would seem to highlight that increased tendencies to think like Ideators and Implementers is especially necessary at the highest levels of leadership in organizations. This dual combination of original thinking that is put into action may be further reinforced by the finding that the Developer thinking preference is significantly lower for those in senior positions in both the private and public sectors.

Some have argued that we now live in an era of innovation (Florida, 2002; Janszen, 2000). Given the complexities and challenges associated with the increased pace of change in such times, contemporary views of leadership have embraced creative thinking as a core leadership skill. The present findings provide some empirical evidence that leaders in today's organizations, and particularly those in business, do indeed embrace greater levels of imaginative thought. So it would seem that creative thinking does not prevent individuals from attaining senior leadership positions, and it may be that the opposite is true. Creative thinking, and specifically ideational thinking, seems to be a key distinguishing feature among those who find themselves in senior leadership positions.

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