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Is the Creative Tendency Affected by Organizational Leadership and Employee Empowerment? An Empirical Analysis of U.S. Federal Employees

Kyoung Ryoul Min, Reginald G. Ugaddan, and Sung Min Park

Sungkyunkwan University

ABSTRACT

Creativity is a focal area of interest in public administration because it is an important resource that helps organizations in the public sector respond effectively to complex and growing challenges. The impact of organizational leadership and employee empowerment on creative tendency was examined empirically using the 2013 Federal Employee Viewpoint Survey (FEVS) data. The findings suggest that organizational leadership factors have different impacts on the creative tendency. Furthermore, employees are more likely to have a high creative tendency when they are given the opportunity to be informed about their organization’s performance, are provided with training and development, have autonomy on the job, and receive rewards based on performance.

Creativity is a topic of keen interest in public administration theory and practice. Fostering a creative and innovative culture has become a very popular activity in the public sector (Pitcairn, 2014) that is enabling government to adapt and develop new solutions and implement new strategies (Berman & Kim, 2010). Creativity also has received public attention in response to budget declines (Fox, 2014a) and the constant pressures on government to operate a stringent budget. This focus is critical because creativity is an important resource for effective governmental responses to the complex and growing challenges to effective public service delivery (Denhardt, Denhardt, & Aristigueta, 2013). Creativity means that public organizations can innovate, finding better ways to deliver valuable public goods and achieve public goals (Denhardt et al., 2013). However, the results of the 2013 Best Places to Work in the Federal Government reveal that innovation across the government has steadily declined over the past three years (Fox, 2014a).  

The five-year (2008–2013) Federal Employee Viewpoint Survey (FEVS) results reveal declining employee empowerment factors, leadership, and creative tendency (see Table 1). Although creativity and innovation are
available to the public sector (West & Berman, 1997), it is clear that the problem of how to improve and advance a creative and innovative culture for public organizations remains. Despite compelling circumstances demanding a clear grasp of creativity and innovation in the public sector, they have received scant attention because of the impression of a “dull and noncreative image associated with the government” (Rangarajan, 2008, p. 133).

Fostering creativity and innovation in public organizations can be sourced from organizational leaders, such as middle managers, politicians/agencies, heads/frontline staff, and interest groups and other relevant actors, such as citizen and clients (Borins, 2000). In a study of public sector innovation, Borins (2000) found that organizational leaders were the most influential sources of creativity. In the current leadership literature, leadership models have tended to emphasize that different types of leadership and skills are needed at different structural levels, particularly because of the increasing extent of discretion available as one moves up the organizational hierarchy (Van Wart, 2005).

Although previous studies have investigated the relationship between leadership types and creativity (Amabile, Schatzel, Moneta, & Kramer, 2004), scant attention has been paid to the particular influence of organizational leadership or supervisory status. The extent of the influence of leadership tends to vary among senior leaders, middle managers, and frontline leaders (Park, 2012), perhaps because leaders in each category have different influences on employees’ creative tendencies. The scarcity of information on the effects at different levels of leadership and on the contributory influence of empowering values on creative tendencies is regrettable; these important organizational factors could bring out higher quality from employees.

When an organization has made no effort to elicit its employees’ creativity and/or innovativeness, leaders could adopt or explore many different approaches. A leader’s role is crucial for crafting targeted organizational practices and systems (Wang, Van Wart, & Lebredo, 2014) that might trigger the employees’ creative tendency. For example, leaders could explore “removing disincentives and adding incentives,” such as “resources to implement experiments, pilot projects, and full-scale implementation plans,

Table 1. Means of key variables by year (2008–2013).

<table>
<thead>
<tr>
<th>Variable</th>
<th>2008</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior leadership</td>
<td>3.47</td>
<td>3.42</td>
<td>3.45</td>
<td>3.37</td>
<td>3.35</td>
</tr>
<tr>
<td>Manager leadership</td>
<td>3.48</td>
<td>3.50</td>
<td>3.53</td>
<td>3.46</td>
<td>3.44</td>
</tr>
<tr>
<td>Frontline leadership</td>
<td>3.66</td>
<td>3.78</td>
<td>3.79</td>
<td>3.74</td>
<td>3.73</td>
</tr>
<tr>
<td>Empowerment 1</td>
<td>3.63</td>
<td>3.64</td>
<td>3.63</td>
<td>3.57</td>
<td>3.51</td>
</tr>
<tr>
<td>Empowerment 2</td>
<td>3.09</td>
<td>3.13</td>
<td>3.11</td>
<td>2.96</td>
<td>2.87</td>
</tr>
<tr>
<td>Empowerment 3</td>
<td>3.76</td>
<td>3.76</td>
<td>3.77</td>
<td>3.72</td>
<td>3.70</td>
</tr>
<tr>
<td>Empowerment 4</td>
<td>3.33</td>
<td>3.37</td>
<td>3.36</td>
<td>3.27</td>
<td>3.23</td>
</tr>
<tr>
<td>Creative tendency</td>
<td>3.76</td>
<td>4.00</td>
<td>3.98</td>
<td>3.94</td>
<td>3.92</td>
</tr>
</tbody>
</table>
the public recognition of successful innovation, and even financial rewards when possible” (Van Wart, 2005, p. 41).

Numerous approaches have been used to foster creativity; however, only a handful of studies have examined the role of employee empowerment for enhancing creative tendency. Although employee empowerment is not guaranteed to have a strong influence on organizational performance (Liao & Chuang, 2004), some scholars have suggested that empowered employees could improve organizational effectiveness, productivity, and the quality of services (Spreitzer, 1995). Among others, Fernandez and Moldogaziev (2011) pointed out that employee empowerment might unleash employees’ innovativeness or creativity. Empowered employees tend to be more active, innovative, and/or inclined toward creativity, and they tend to care about the development and growth of their organizations (Zhang & Bartol, 2010).

The present study aims to determine whether employee empowerment is a motivating mechanism that can explain the relationship between organizational leadership (specifically, senior leaders, middle managers, and frontline leaders) and employees’ creative tendency. The hypothesized research model, based on the relevant theory and research, is illustrated in Figure 1 and, accordingly, the study addresses the following questions: (a) How are supervisory status and levels of leadership related to employee empowerment and creativity (b) Does employee empowerment mediate the effects of leadership levels on creativity?

**Literature review**

**Creative tendency**

According to Cummings and Oldham (1997), an organizational employee displays creativity by generating new and useful ideas, introducing better ways to effect organizational processes, and developing new knowledge to improve organizational effectiveness and organizational capacities to produce and deliver services. Gardner (1989) posited: “Creativity is best described as the human capacity to regularly solve problems or to fashion products in a
domain, in a way that is initially novel but ultimately acceptable in culture” (p. 14). However, Oldham and Cummings (1996) argued that creativity is not a personal quality, but an individual’s behavior that results from a personal quality, manifested as “products, ideas, or procedures that satisfy two conditions: (1) they are novel or original, and (2) they are potentially relevant to, or useful to, an organization” (p. 608). Therefore, individual creativity is an obvious behavioral or cognitive response to a problem in a given situation.

The behavioral perspective on creativity focuses on an individual’s “action and activities, outward creative behavior, or the creative product that results in the development of something new” (Denhardt et al., 2013, p. 63) and in a useful response to a problem or situation (Amabile, 1997). As a behavioral outcome, creativity is described as the extent of generated useful and novel ideas (Zhang & Bartol, 2010). However, the cognitive view of creativity centers on the use of conceptual and creative thinking skills and abilities to develop valuable and useful outcomes for one’s organization (Denhardt et al., 2013). The cognitive approach to creativity concerns the ways that individuals obtain, organize, process, store, and use information to generate worthwhile ideas and outcomes in diverse, analytical, and logical thinking processes (Cropley, 2010).

Kirton’s (1976) adaption-innovation theory (KAI) asserts that everyone is creative and capable of solving problems using cognitive and conceptual skills (i.e., the ability to think and muster a stream of ideas to address problems in a given context at a certain time). Kirton (1976) identified two styles of individual creativity: adaptation and innovation. He proposed that adaptors tend to express creative thinking related to improving something rather than doing something differently. Their creativity tends to generate problem-solving ideas that reinforce and support existing and collectively recognized structures (Kirton, 1976, 1978). They treat problems based on their established and agreed-upon descriptions or rationale, and they handle problems within existing organizational policies and practices (Kirton, 1984). In contrast, innovators offer suggestions for doing things differently rather than dealing with them in the existing and agreed-upon structures (Jablokow & Booth, 2006). Kirton (1976) postulated that innovators perceive that “the more the structure surrounding a problem is incorporated within and treated as part of the problem, the more any solution is likely to be radical and innovative” (p. 622). Innovators’ creativity is drawn toward overhauling current work processes (Kwang et al., 2005) or introducing new paradigms; they are relatively more likely to challenge the status quo and, thereby, generate radical outcomes (Cummings & Oldham, 1997).

Thus, the KAI clearly distinguishes between adaptive and innovative creativity styles and explicitly disclaims any significant difference in the extent of creativity between adaptors and innovators (Kirton, 1978). It further provides a straightforward explanation of and insight into the propensities
and tendencies of the two styles in respect to adaptive or innovative creativity (Woodman, Sawyer, & Griffin, 1993). The theory suggests a common outcome regardless of differences in creative style—adaptors and innovators equally advance creativity through the enactment of creative thinking and ideas based on cognitive discernment, so as to do things better or to do things differently. Therefore, a creative tendency can be defined as an individual’s expression of adaptive or innovative creativity.

An employee's development of a creative inclination is an essential element for assessing the employee's creative output (Learning and Teaching Centre, Macquarie University, n.d., para. 1). Facione (2000) pointed out the importance of nurturing creative tendencies in order to effectively develop critical thinking skills. Several studies have demonstrated that employee creativity is influenced by leadership styles, such as transformational leadership (Gumusluoglu & Ilsev, 2009), empowering leadership (Zhang & Bartol, 2010), intrinsic task motivation (Amabile, 1997), supportive supervision (Cummings & Oldham, 1997), and organizational culture and climate. Holistically, encouraging employees to be creative requires the integration of factors, such as constructive and favorable individual interactions with the organizational leadership and the work environment, taking place within an organizational climate supportive of creativity.

**Direct effect of engaging organizational leadership on creative tendency**

Social exchange theory suggests that a behavior is the result of an exchange process or a series of exchanges between two parties (Emerson, 1976). The social exchange process also applies to exchanges between an organization and its employees that occur through organizational inducements and employee contributions (March & Simon, 1958). In the present article, organizational leadership characteristics exclusive to particular leadership levels are understood as factors that might induce or trigger an exchange process in which employees’ creative behaviors are their contributions in the social exchange relationships between them and their organizations. For example, the article assumes that managerial inducements under conditions of strong leadership should encourage, stimulate, and draw out employees’ creativity. If the organization-employee relationship were based solely on agency theory, in which manager-employee dyads rely on “contractual opportunism” (Van Slyke, 2007) caused by information asymmetry or discrepancy and/or goal incongruence, it would be difficult to assume the presence of employees’ creative dispositions or to extract voluntary creative behaviors.

In dyadic relationships that reflect the social exchange process, organizational leaders who engage their leadership attributes might support vibrant and valuable interactions. An engaging leadership style is demonstrated when there is respect for others, concern for human development and well-being, the
ability to unite groups of stakeholders to develop a joint vision, support for a developmental culture, and delegation that empowers and develops employees’ potential by encouraging questioning as well as constructive, critical, and strategic thinking (Alimo-Metcalfe, Alban-Metcalfe, Bradley, Mariathasan, & Samele, 2008). Like other leadership styles, such as transformational leadership, engaging leadership encourages teamwork, collaboration, connectedness, innovation, and creativity (Miller, McCartney, Baron, McGurk, & Robinson, 2011).

This article argues that leaders who display integrity, openness, and transparency, and who genuinely value others and their contributions, decisiveness, and problem-solving skills, encourage employees to be more committed and creative in their work or tasks. Leaders who enable organizations to cope with complex environmental changes and to proactively meet organizational challenges might encourage a creative and innovative organizational culture. According to Fox (2014a), the Partnership for Public Service (n.d.) suggests that leaders (a) share their visions, (b) provide forums, (c) build trust and serve as mentors, (d) create processes for implementation, (e) assess and reflect on outcomes, and (f) recognize employees’ contributions. Generally, these leadership characteristics manifest principles that engage employees in their organizations.

This article’s central proposition is that senior leaders, middle managers, and frontline supervisors each have a unique role in fostering creative tendency. Moreover, it argues, engaging the leadership behaviors exclusive to each level of leadership is an effective mechanism for triggering social exchanges that foster employees’ creative tendencies. Therefore, the following hypotheses are proposed:

H1: Senior leadership in the public sector positively relates to employees’ creative tendencies.
H2: Middle manager leadership in the public sector positively relates to employees’ creative tendencies.
H3: Frontline leadership in the public sector positively relates to employees’ creative tendencies.

**Mediating role of employee empowerment**

Employee empowerment has been defined as the “extent to which employees feel empowered with respect to work processes and how satisfied they are with their involvement in decisions that affect their work” (Partnership for Public Service, n.d., Effective Leadership: Empowerment, para. 1). It has also been conceptualized as involving the extension of resources and efforts to increase employees’ sense of worth (Nielsen, 1986). Some scholars view employee empowerment as either managerial or psychological (Bowen & Lawler, 1995; Fernandez & Moldogaziev, 2011). The managerial perspective concerns the role of top management in creating employee empowerment (Honold, 1997), emphasizing the importance of sharing information, allocating power, and distributing rewards.
to improve work outcomes, such as productivity (Bowen & Lawler, 1995). The psychological perspective views employee empowerment as a “motivational construct defined as an internal cognitive state characterized by an increased intrinsic task motivation” (Fernandez & Moldogaziev, 2011, p. 2). This perspective emphasizes employees’ perceptions of the behavior of their superiors and of their working conditions and environment (Thomas & Velthouse, 1990).

This article uses the term “empowerment” in the psychological sense as comprising a set of conditions necessary to intrinsic motivation. Thomas and Velthouse (1990) described empowerment as intrinsic task motivation, defined as comprising four dimensions: meaningfulness, impact, competence, and choice. Meaningfulness concerns the value of an employee’s task relative to the employee’s value system. Effect refers to employees’ perceptions of the extent to which their behaviors matter. Competence is self-efficacy; in other words, the employee’s belief that she or he is capable of successfully performing a particular task or activity (Gist & Mitchell, 1992). Last, choice involves “causal responsibility for a person’s actions” (Thomas & Velthouse, 1990, p. 672). Relying on Thomas and Velthouse (1990) for a theoretical foundation, Spreitzer (1995) developed a four-dimensional scale to measure meaningfulness, impact, competence, and choice.

Regarding the relationship of organizational leadership factors to employee empowerment, each of the three leadership levels has distinct and particular influences. For example, senior leaders have a critical role in creating an organizational culture that promotes high levels of performance and effectiveness (Ensley, Hmieleski, & Pearce, 2006). Senior leaders and middle managers demonstrate a variety of behaviors, including aversive, directive, transformational, transactional, and empowering leadership behaviors (Manz & Sims, 2001). In a frontline leadership system, team leaders tend to demonstrate the same leadership behaviors as senior leaders (Ensley et al., 2006; Pearce, 2004).

Scholars argue that these particular leadership behaviors are important predictors of employee empowerment in that organizational leaders exercise their capacities to influence employees’ access to information, rewards, locus of control, and self-esteem (Bowen & Lawler, 1995). Employees gain self-efficacy, which, if translated into empowerment, could be a motivational construct to positively influence interpersonal trust (Moye & Henkin, 2006). Hence, employee empowerment might influence constructive social interactions between leaders and employees in an organization. Thus, the following hypotheses were derived:

H4: Senior leadership in the public sector positively relates to employee empowerment.
H5: Manager leadership in the public sector positively relates to employee empowerment.
H6: Frontline leadership in the public sector positively relates to employee empowerment.
The logic of social learning theory and stewardship theory explains the intervening influence of employee empowerment in the relationship of organizational leadership to creativity. Social learning theory proposes that human behavior results from continuous interaction among numerous cognitive, behavioral, and environmental factors (Bandura, 1971). One of the important concepts of social learning theory is “reciprocal determinism,” a term coined by Bandura (1977) that refers to human behavior as influenced by its environment, and vice versa.

Applied to the organizational context examined by this article, an empowering organizational environment encourages reciprocal actions from employees such that the employees behave in the ways the organization wants them to behave. From a social learning theory perspective, it is possible that employees’ creative dispositions and behaviors are significantly influenced by self-efficacy that determines whether a behavior will be performed, how much effort will be spent on it, and how much time will be put into it. For example, when their self-efficacy is high, employees might be more intrinsically and internally motivated (as self-determination theorists suggest). It is reasonable that relatively high self-efficacy that leads to increased motivation also increases voluntary and autonomous work behaviors (Deci & Ryan, 2000).

Stewardship theory argues that actors are driven by pro-organizational collective goals rather than individualistic goals (Lambright, 2008; Van Slyke, 2007). It assumes a collaborative relationship, founded on trust, in which the leaders (the principals or stewards) have goals that are compatible and aligned with the employees’ goals (Jing, 2012; Lambright, 2008). Moreover, the motivations of the stewards are mostly based on intrinsic, intangible rewards (Van Slyke, 2007) rather than extrinsic motivations. Intrinsic and intangible rewards are organizational mechanisms that adopt empowering structures and give individuals opportunities to grow in contexts where trust prevails and where there is stability and tenure, achievement, reciprocity, self-actualization, discretion, and autonomy (Lambright, 2008; Van Slyke, 2007). These outcomes are similar to the outcomes alluded to by employee empowerment theory. The organizational context generated under the above conditions potentially generates an environment that fosters employees’ creativity (d’Inverno & Luck, 2012).

In sum, the theoretical employee empowerment perspectives could explain why the most interactive and self-determined individuals are the most highly and intrinsically motivated, and further explain why high levels of motivation could relate to greater willingness to pursue creative activities and produce creative outcomes for the organization in both immediately and in the long term. Based on the previous research and the propositions of stewardship theory and social learning theory, the following hypothesis was proposed.
Methods

Data

The data used to test the hypotheses of the study described in this article were derived from the 2013 FEVS, conducted by the U.S. Office of Personnel Management. The FEVS was administered in April through June of 2013 to 781,047 full-time and part-time permanent, nonseasonal employees from 81 large and small U.S. federal agency units. Altogether, 37 large departments and 44 small independent agencies were sampled, for a sample of 376,577 employees, rendering a government-wide response rate of 48.2% (USOPM, 2013).

Missing data can lead to estimation errors in a structural equation model (SEM). Although a listwise deletion approach or a complete-case analysis could be the best alternative, these methods could result in significant data loss in the analysis because they drop cases with one or more missing values (Enders, 2010; Roth, 1994). In this article, cases with missing data in the control variables (i.e., age, gender, race, position, disability, length of service) were dropped. The expectation-maximization (EM) algorithm method was then used to handle the remaining missing values. The EM generates a covariance matrix used to “estimate, or impute, missing-data points at the final iteration” (Enders, 2001, p. 137). The EM algorithm method increases the statistical power of the model and minimizes possible bias in the parameter estimates (Enders & Bandalos, 2001). Although it has drawbacks, multiple imputation was considered the best option to restore the lost variability of the dataset. Of the 376,577 sampled cases, 240,918 (64%) were used in the empirical analysis.

Measures

Unless otherwise noted, the response options on all of the items were 5-point Likert-type scales asking for the respondents’ extent of agreement, where 1 = strongly disagree and 5 = strongly agree.

Employee empowerment

The four aspects of empowerment used to measure employee empowerment were conceptually based on: “(1) information about the organization’s performance, (2) rewards based on the organization’s performance, (3) knowledge that enables employees to understand and contribute to organizational performance, and (4) power to make decisions that influence organizational direction and performance” (Bowen & Lawler, 1992, p. 32). The employee empowerment measures were adapted from Fernandez and Moldogaziev (2011). The items and variables that comprise the scales are presented in
the Appendix. The means and standard deviations of the four employee empowerment measures are shown in Table 2.

Organizational leadership
The study measured three types of organizational leadership drawn from the hierarchical leadership continuum: (a) senior leadership (heads of department/agencies or members of the Senior Executive Service), (b) middle management leadership (management that typically supervises one or more supervisors), and (c) frontline leadership (first-line supervisors without supervisory power over other supervisors and mainly responsible for appraising employee performance and approving time off) (USOPM, 2013). A four-item scale measuring senior leadership and a three-item scale measuring management leadership were developed from responses to questions asking for the respondents’ opinions on specific characteristics of their leaders. Frontline leadership was a four-item scale measured with responses to questions asking the respondents to indicate the extent to which they agreed with four statements about their supervisor’s engagement with a teamlike attitude. These three variables and the items used to construct the scales, with their reliability coefficients, are presented in the Appendix.

Creative tendency
A two-item scale was employed to measure the presence of employees’ creative tendency based on Zhou and George (2001) and Fernandez and Moldogaziev (2013): (a) I feel encouraged to come up with new and better ways of doing things, and (b) I am constantly looking for ways to do my job better.

Control variables
Previous studies have found important differences in creativity and empowerment according to demographic characteristics (Shalley, Zhou, & Oldham,
The analysis controlled for the effects of six demographic factors previously found to influence significantly employees’ creative tendency: (a) age, (b) gender, (c) race, (d) position, (e) disability, and (f) length of service.

**Statistical modeling**

Structural equation modeling (SEM) was used to confirm the total, direct, and indirect effects of the independent variables on the dependent variable and test the interrelationships among the independent variables using Amos 21.0 software. SEM simultaneously tests the entire system of study variables and the fit of the model to the data (Byrne, 1994). The bootstrapping method was used to test the mediating role of employee empowerment on the relationship between the main predictors and employees’ creative tendencies.

**Reliability and validity tests**

Reliability is the possibility of obtaining identically measured values when measurements are repeated for identical concepts. The reliability of the variables in the research model was established using internal consistency analysis, construct reliability (CR), and average variance extracted (AVE). The factor loadings of all items ranged from 0.53 to 0.95. The CR values of all of the variables were more than 0.70, which validated the reliability of the instruments. The AVE values were greater than 0.50, except for empowerment 2 (viz., merit pay) and creative tendency. A validity test was performed for Variance Inflation Factor (VIF), discriminant validity, common-method bias (CMB), and a second-order confirmatory factor analysis (CFA) on leadership and employee empowerment. To examine whether a multicollinearity problem existed, the VIF values were extracted. The results revealed that the VIF values were less than 10 (values greater than 10 are often regarded as indicative of multicollinearity). Testing for discriminant validity, the square roots of each AVE supported the psychometric parameters.

Collecting the FEVS data on a self-reported questionnaire raised some concern about common-method variance (CMV) and measurement error that may cause estimation bias. Harman’s single-factor test was used to evaluate CMV. The test finds a CMV factor of 31%, which is below the suggested threshold of 50% (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition, a marker variable assessment technique was also used to assess CMV, Lindell & Whitney, 2001), with the respondents’ participation in the employee assistance program as the marker variable (0 = no, 1 = yes). This variable was not conceptually or statistically associated with the variables in the research model. The results found that the bivariate correlations among the main predictors and outcomes remained statistically significant. Collectively, the Harman’s factor test and the marker variable assessment test strongly supported the position that the risk of common method bias in the analysis was negligible.
Last, based on previous studies, it was assumed that leadership and empowerment are multidimensional constructs. This assumption was confirmed through second-order CFA analysis. The model fits for both constructs were within statistically acceptable bounds. The fit indices of CFI, RFI, NFI, and IFI exceeded the standard 0.90. The RMSEA and RMR were less than the standard of 0.80 (a value less than 0.80 is considered acceptable). In addition, CFA outputs demonstrated that the first-order factor was strongly related to the second-order factor. These results indicated that the subdimensions of the leadership and empowerment measures were strongly interrelated, but mutually distinct.

**Results**

**Results of correlations**

A correlation analysis of the study variables was performed and the results are presented in Table 3. Positive and significant correlations were found between all the pairs of key variables, and all of them were statistically significant at \( p < 0.001 \), with strengths ranging from \( r = 0.55 \) (between manager leadership and creative tendency) to \( r = 0.82 \) (between manager leadership and empowerment 3), suggesting strong intercorrelations.

**SEM results: Organizational leadership and creative tendency (model 1)**

Figure 2\(^5\) shows the results of the SEM employed to test the relationship of the organizational leadership factors and demographic characteristics (as control variables) to creative tendency in the absence of employee empowerment.\(^6\) All of the antecedent variables were directly related to creative tendency \( (p < 0.001) \). The seven model fit of indices exceeded the standard cut-off

**Table 3.** Polychoric/polyserial correlation matrix.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Senior leadership</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Manager leadership</td>
<td>0.77</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Frontline leadership</td>
<td>0.62</td>
<td>0.61</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Empowerment 1</td>
<td>0.66</td>
<td>0.63</td>
<td>0.62</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Empowerment 2</td>
<td>0.71</td>
<td>0.65</td>
<td>0.64</td>
<td>0.65</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Empowerment 3</td>
<td>0.77</td>
<td>0.82</td>
<td>0.80</td>
<td>0.68</td>
<td>0.70</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Empowerment 4</td>
<td>0.74</td>
<td>0.69</td>
<td>0.66</td>
<td>0.71</td>
<td>0.72</td>
<td>0.76</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8. Creative tendency</td>
<td>0.59</td>
<td>0.55</td>
<td>0.58</td>
<td>0.62</td>
<td>0.56</td>
<td>0.61</td>
<td>0.65</td>
<td>1</td>
</tr>
<tr>
<td>Skewness</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0</td>
<td>0</td>
<td>0.347</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note: The correlations scores provided in this table are all significant at the 0.01 level. The skewness and kurtosis values are within thresholds (±3 for skewness, ±2 kurtosis) that embolden the robustness of the dataset for the findings.*
values for acceptable fit. The effects of the demographic characteristics (age, gender, race, position, and length of service) on creative tendency were significant and positively associated with creative tendency.

**SEM results: Organizational leadership, employee empowerment, and creative tendency (model 2)**

Figure 3 shows that all of the antecedent and mediation variables were directly and indirectly related to creative tendency ($p < 0.001$), suggesting that three organizational leadership factors and four types of empowerment are key factors in employees’ creative tendency. The results conveyed that senior leadership and frontline leadership directly and positively related to all four measures of empowerment; however, among the four empowerment factors, manager leadership positively related to three measures of empowerment except merit pay (empowerment 2). Senior, manager, and frontline leadership all had negative direct effects on creative tendency. The statistical findings of the SEM suggested that the model fit the data. The model fits of the indices exceeded the standard cut-off for acceptable values. Focusing on the effect of organizational leadership on creative tendency through employee empowerment, the total effects of senior leadership (0.517), manager leadership (0.013), and frontline leadership (0.430) were positive and statistically significant influences on creative tendency.

**Mediation analysis**

The mediation analysis of the effects of employee empowerment on the relationship of organizational leadership to creative tendency using bootstrapping analysis found that all four measures were statistically important. The results revealed that the four empowerment factors partially mediated the relationship of organizational leadership and creative tendency. For
example, empowerment 1 (Job skill/HRD) partially mediated the effects of senior leadership ($\beta = 0.22$, $p = 0.000$, CI = 0.218–0.222).

**Discussion and conclusions**

The study summarized in this article aimed to foster public sector creativity by examining the influence of leadership factors (characterized by supervisory status) and employee empowerment on employees’ creative tendencies. As a source of leadership power, supervisory status embodies formal authority and influence (Van Wart, 2005), which might influence employees’ creative tendency. Legitimate or formal power could trigger employees’ awareness of their commitment and responsibility (Hinkin & Schriesheim, 1989) to be creative and thus drive them to greater organizational effectiveness. Apart from their assigned legitimate authority, organizational leaders have distinct behavioral characteristics that might influence employees’ psychological attitudes, such as engaging behaviors.

The direct influences of senior, manager, and frontline leadership were tested first, and the results of the SEM in Model 1 demonstrate that these factors positively and significantly influenced creative tendency. However, the results of Model 2 indicated that these leadership factors negatively and
significantly influenced creative tendency. Second, there was varying evidence of a mediating influence of employee empowerment on the relationship of leadership level to creative tendency, based on the leadership position. Considering the distinctive engaging behaviors that characterize each supervisory status, senior leadership, which embodies leadership with integrity, had the strongest effect on creative tendency. Senior leadership was followed in strength by the effect of frontline leaders, who tend to provide employee encouragement and leadership-development skills, and then by managers, who focus mainly on lower-level supervisors.

The different effects could be attributable to the leadership level and the particular engagement characteristics at each level. For example, senior leaders possess more leadership autonomy (Wynen, Verhoest, & Kristin, 2014) and authority, and tend to have more engagement characteristics, such as integrity and workforce communication and motivation, than the other leadership levels. Frontline leaders tend to have relatively more opportunities to interact with employees or form interpersonal relationships with them based on trust, respect, and support. Managers are mostly engaged with low-level supervisors, which could influence the extent to which they influence employees’ attitudes, such as creative tendency.

The results also imply that greater employee empowerment could improve employees’ creative tendencies. Each of the four measures of empowerment was associated with creativity. Specifically, job skills/HRD empowerment (empowerment 1) could promote the importance of understanding and acquiring knowledge on work performance. Creative thinking requires skills and abilities that prompt the production of novel or original ideas and products that are relevant and potentially useful to organizations (Denhardt et al., 2013). Merit pay empowerment (empowerment 2) likely encourages a performance-based reward system, fosters creativity as an outcome of such a system (Shalley & Gilson, 2004), and increases employees’ perceptions of fairness regarding the distribution of rewards. Third, feedback/information empowerment (empowerment 3) could promote open communication and transparency in an organization, including clear communication of the specific demands of certain tasks. Carson and Carson (1993) proposed that performance feedback and goal setting, or a combination of the two, could improve creativity. Last, participatory decision-making empowerment (empowerment 4) focuses on employees’ power to make decisions for effective organizational performance, and it tends to grant them power or autonomy in the workplace that could improve their creative dispositions and behaviors.

Greenberg (1992) argued on behalf of a strong relationship between creativity and autonomy, stating, “Whenever possible, give creative workers autonomy” (p. 6). Taken together, the implication is that dimensions of employee empowerment cultivate individual employees’ creative behaviors.
Leaders at every level of the hierarchical leadership continuum who are interested in maintaining or improving their employees’ creative tendencies might be more successful if they focused on enhancing employee empowerment, work autonomy, reward systems, performance appraisal systems, and employees’ self-worth in the organization than if they directly aimed at improving creativity.

**Theoretical implications**

Social exchange, agency, social learning, and stewardship theories formed the theoretical foundation of the study. In social exchange theory, Homans (1964) articulated that all people (in this article, all employees) are more inclined to address their personal self-interests based on cost-benefit analyses than they are to attend to the interests of their employer organizations. The social exchange process embraces material and nonmaterial substance (Bottomley, Mostafa, Gould-Williams, & León-Cázares, 2015), and exchanges are based on managerial and/or organizational inducements that might encourage employees to express an equivalent behavioral response from, for example, their creative tendencies.

Furthermore, employees behave in accord with the social benefits they anticipate in the context of reciprocal obligations with their organizational leaders. They control their behaviors to somewhat align with their contractual obligations to their organizations. However, leaders’ support and communication could motivate employees to contribute more than that to which they are contractually obligated.

Considering the possible problems raised by agency theory, to extract creativity or, at the very least, creative tendency, some barriers must be eliminated, such as information asymmetry, adverse selection, and moral hazards that influence the maximization of the contractual relationship. The elimination of opportunistic behaviors (Van Slyke, 2007) could be minimized by “controlling and monitoring agent behavior, establishing an information-sharing culture, and a knowledge incentive and management system” (Park, 2012, p. 409). Satisfying these requisite conditions could improve employees’ compliance with their contractual obligations to fully engage their expertise and/or skills in work involving creativity.

The employee empowerment perspective argues for the importance of extending empowering motivations to employees to change or improve their creative or other behaviors. The results found that the four distinct measures of empowerment mediated the relationship between leadership factors and creative tendency, suggesting that leaders increase their employees’ creative tendencies when they employ employee empowerment mechanisms, such as power-sharing and investing in their employees’ work product. Leaders who empower their employees tend to promote interactive relationships with
them that are based on trust, include open communication about organizational goals, have an element of coaching to develop skills, and promote participative decision-making (Sun, Zhang, Qi, & Chen, 2012). These interactive practices could cultivate employees’ creativity.

Last, the evaluation of four distinct dimensions of employee empowerment with respect to creative tendency contributes to the limited literature on employee empowerment. Although previous studies have explored these four dimensions of employee empowerment, they have focused on relationships to other behavioral outcomes, such as employee performance (Fernandez & Moldogaziev, 2011, 2012, 2013). Thus, this article provides a more nuanced snapshot of the influence of employee empowerment on employee behavior and, therefore, deepens our understanding of the link between leadership factors and employee empowerment.

**Managerial implications**

Identifying the mechanisms through which different levels of engaging leadership behaviors and employee empowerment influence creativity is an important topic in the field of public management. The present article contributes to this literature with evidence of the distinct and idiosyncratic influences of engaging leadership at different levels (senior, middle manager, and frontline) on creative tendency. Thus, the results could provide practical managerial implications.

The results have specific implications for managers regarding the relationships among leadership factors, employee empowerment, and employees’ creative tendency. First, engaging leadership characteristics at the senior, middle manager, and frontline leadership levels have different types and extents of influence on employees. However, the findings suggest that engaging leadership behaviors could influence employees’ creative tendencies. Essentially, leaders should be encouraged to create supportive organizational cultures by employing engaging leadership tools, such as empowerment, motivation, leading by example, collaboration, and open communication. Additionally, a supportive organizational culture includes preparedness for possible innovation failures. As Borins (2014) posited, “An innovative culture will accept failure with equanimity, terminate programs that do not work … [and] will not tolerate blaming and shaming” (p. 31).

Second, the critical role of organizational leaders in fostering creativity in organizations cannot be denied. Denhardt et al. (2013) pointed to three important organizational factors that could stimulate employees’ creativity: (a) challenging work, (b) supportive supervision, and (c) an organizational and work group culture that supports and encourages creativity (p. 73). Managers could adopt organizational practices that encourage employees to bring out creative ways of doing things, and consistently elicit innovative
work processes for creative outcomes, rather than remaining inactive and passive. For example, integrating an innovative HRD practice, such as job redesign, could increase employees’ autonomy and control over their work. Employee-friendly policies, such as alternative work schedules, can be used to reward employees for creativity in an institutionalized incentive system. According to Ravindranath (2015), the U.S. Health and Human Services Department has adopted specific practices to encourage creativity in the agency by developing a Silicon Valley–type entrepreneurial spirit with (a) creativity zones, (b) innovation awards, (c) internships (such as working with the White House), (d) changes to internal processes (e.g., the internal calendar and email system), and (e) an agency-based innovation council. The department emphasizes the importance of a creative internal culture. These practices are practical ways to provide a working environment that encourages the flow of creative thinking in an organization.

Third, the role of employee empowerment is crucial to employee creativity. For example, adopting intrinsic intangible motivators, such as employee empowerment, appears to be relatively more likely to stimulate employees’ innovativeness and creativity. Intrinsic motivation has been found to improve creativity (Amabile, 1997), and the fundamental factor that intrinsically motivates employees is having some extent of discretion and/or autonomy over their work. In public sector organizations, autonomy appears to be weaker than in the private sector (Williamson, 2011), implying a need for organizational leaders to take steps to improve employee autonomy. Autonomy and some control over their job responsibilities could stimulate their creativity.

Fourth, the results suggest that to the extent that scholars and organizations accept that creative tendency is an important positive influence on employee performance, employees’ participation in the decision-making processes of their organizations should be increased and opportunities for professional development through HRD have relatively more influence on creative tendency than the other empowerment dimensions. Therefore, leaders should enhance their performance management systems, because this might stimulate creative or innovative ways to solve problems (Borins, 2014). For example, at the National Aeronautics and Space Administration, one of the most creative and innovative U.S. federal agencies, leaders have succeeded in building strong connections among all the aspects of the agency’s program, fostering a genuine feeling of ownership, and inspiring the employees. This includes the provision of an environment that encourages innovation and creativity (Fox, 2014b).

Last, the results implied that creative tendency varies according to certain demographic characteristics. Older employees, females, minorities, managers, disabled respondents, and respondents with long federal tenures were relatively more likely to have strong creative tendency than their counterparts. According to research on decision-making, the different perspectives related
to demographic differences yield different concepts, ideas, and approaches to creativity (Martins & Shalley, 2011). McLeod and Lobel (1992) found that a demographically diverse group produces high-quality ideas, and managements and leaders should consider the value of diversity in terms of the entire human resources’ system.

**Limitations and suggestions for future research**

This article makes an important contribution to the existing knowledge about leaders’ influences on their employees’ attitudes and behaviors, specifically regarding creativity. However, it has several limitations that could direct future research. First, although the large sample size controlled for some threats to validity, addressing causal relationships is speculative because the data are cross-sectional (Yang & Kassekert, 2009). Prospective, longitudinal data encompassing the leadership-empowerment-creativity relationships would be more likely to pinpoint the causal directions of the associations and the changes that occur over time in creativity as leadership and employees’ behaviors respond to organizational changes. Second, the survey items were not derived from previously tested (and, perhaps, more reliable) scales, and some of the items were chosen on face validity alone. The implementation of scales used by previous studies would allow for direct comparisons to other samples examined at other times. Additionally, only two items were linked for creative tendency, resulting in relatively low inter-item reliability. Although every effort was made to establish the reliability of the measurement, future studies may consider the development of creative tendency items and rigorous reliability and validity approaches.

Third, the use of self-report data might lead to inflated relationships among variables, possibly from social desirability bias and/or common method variance in the statistical analysis. Although there is some suggestion that self-report data are not as limited as previously believed, the extent of bias in the results is neither known nor knowable (Alper, Tjosvold, & Law, 1998).

Future researchers might consider developing and testing measures of the dimensions of empowerment that are more rigorous. Identifying and testing different aspects of empowerment in the public sector could greatly improve our understanding of the relationships among leadership, empowerment, and creative tendency. Understanding the moderating role of leadership could provide a wide range of implications by observing ways that organizational leadership interacts with different factors that might influence employees’ creative tendency. Given that public organizations are generally moving toward a participatory paradigm that emphasizes the involvement of employees in organizational goal-setting and problem-solving, and that organizations are leaning toward empowering employees to help create successful
organizations, a fruitful area of future research might involve the exploration of the influence of participatory leadership on employees’ creative dispositions and behaviors.

Along these lines, although this article makes a valuable contribution regarding leadership behaviors, it addresses only three of a wide array of leadership styles. One style worthy of attention is followership behavior, which is the opposite of leadership in a leadership-followership continuum (Crossman & Crossman, 2011). Followership emphasizes individuals’ engagement with critical thinking and their interactions with and support of leadership. Moreover, the extent to which employees recognize their responsibility to follow their leaders, take directions, and initiate appropriate actions could influence their creative dispositions and behaviors. Therefore, a relatively wide range of possible explanatory factors should be included in analytical models to broaden our understanding of the complexity of this vital attitude and behavior in the workplace.

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Notes

1. Numerous U.S. federal agencies have been trying to integrate innovation and creativity in the workplace. According to Ballenstedt (2013), Van Hitch, senior advisor at Deloitte and former CIO to the Justice Department, stated that to institutionalize innovation, “the innovation plan and strategy would need to be reviewed and approved by leadership and the CIO to make sure it is well-founded and everyone is committed to it” (Ballenstedt 2013, para. 9).

2. According to the 2013 FEVS, senior leaders in federal agencies are those in the higher leadership echelon (agency or department heads, members of the Senior Executive Service, managers, etc.) who occupy managerial positions that typically provide oversight to one or more supervisors. The FEVS further found that frontline supervisors are responsible for employee performance appraisals and approvals of their time off (USOPM, 2013).

3. There is a notable drawback to this practice, which is the EM algorithm method. Although the imputed values are optimal statistical estimates of the missing observations, they lack the residual variability present in the hypothetically complete data set; the imputed values fall directly on a regression line and are thus imputed without a random error component (Enders, 2001, p. 137). The multiple imputation process attempts to restore the lost variability.

4. In the previous studies, the items used to measure organizational leadership factors reflect the FEVS Employee Engagement Items. For example, the “Leaders Lead” items, which measure “employees’ perceptions of the integrity of leadership, as well as leadership behaviors such as communication and workforce motivation” (USOPM, 2014, p. 6), mainly capture the items used in this article to measure senior and manager leadership. Furthermore, although the items measuring “Supervisors” in the FEVS reflect “the interpersonal relationship between worker and supervisor, including trust, respect, and support” (USOPM, 2014, p. 6), the items employed in this article for frontline leadership seem to parallel each other.

5. Reflective indicators rather than formative indicators measured the latent constructs. The direction of causality is from the latent construct—organizational leadership, empowerment factors, and creative tendency—to the measure. This means that the indicators are reflections of the constructs; that is, when the construct varies, the indicators vary as well. In a reflective model, the latent construct still stands or does not change even if an identified composite indicator was absent or removed (Coltman, Devinney, Midgley, & Venaik, 2008; Diamantopoulos & Winklhofer, 2001).

6. A model was tested in which performance was the outcome variable. The items were based on the Fernandez and Moldogaziev (2013) measure of performance as two factors: work unit performance (survey item: “The skill level in my work unit has improved in the past year”) and agency performance (survey item: “How would you rate the overall quality of work done by your work unit?”). The findings suggested that creative tendency positively and significantly related to performance ($\beta = 0.51$).

7. Despite receiving a low Cronbach’s $\alpha$ of 0.44, the creative tendency was retained. The low number of items used in a variable may have influenced the low $\alpha$ value. Previous studies adopted and used measurements in the empirical analysis despite low internal consistency (see Arnold, Daniel, Jensen, McDaniel, & Marsh, 2016; Tosi, Werner, Katz, & Gomez-Mejia, 2000). In addition, the items seem to relate to the construct that it intends to measure, thus establishing its face validity. From a theoretical standpoint, the items make sense together, arguing that item 1 (“I feel encouraged to come up with new and better ways of
doing things”) depicts the innovator side, while item 2 (“I am constantly looking for ways to do my job better”) depicts the adaptor side of the Kirton’s adaptor and innovator (KAI) theory.

References


Appendix

- **Senior Leadership** (factor loadings = 0.75–0.87, α = 0.901)
  - In my organization, leaders generate high levels of motivation and commitment in the workforce.
  - My organization’s leaders maintain high standards of honesty and integrity.
  - I have a high level of respect for my organization’s senior leaders.
  - Senior leaders demonstrate support for work/life programs.

- **Manager Leadership** (factor loadings = 0.80–0.95, α = 0.907)
  - Managers communicate the goals and priorities of the organization.
  - Managers promote communication among different work units (for example, about projects, goals, needed resources).
  - Managers support collaboration across work units to accomplish work objectives.
Frontline Leadership (factor loadings = 0.84–0.92, $\alpha = 0.927$)
- My supervisor/team leader provides me with opportunities to demonstrate my leadership skills.
- Discussions with my supervisor/team leader about my performance are worthwhile.
- Supervisors/team leaders in my work unit support employee development.
- Overall, how well do you feel your immediate supervisor/team leader is performing?

Empowerment 1 (Job Skills/HRD) (factor loadings = 0.58–0.78, $\alpha = 0.752$)
- I am given a real opportunity to improve my skills in my organization.
- The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.
- How satisfied are you with the training you receive for your present job?

Empowerment 2 (Merit Pay) (factor loadings = 0.70–0.83, $\alpha = 0.859$)
- Promotions in my work unit are based on merit.
- Awards in my work unit depend on how well employees perform their jobs.
- Employees are recognized for providing high-quality products and services.
- Pay raises depend on how well employees perform their jobs.

Empowerment 3 (Feedback/Information) (factor loadings = 0.53–0.73, $\alpha = 0.741$)
- I have enough information to do my job well.
- I know how my work relates to the agency’s goals and priorities.
- Employees in my work unit share job knowledge with each other.
- How satisfied are you with the information you receive from management on what’s going on in your organization?

Empowerment 4 (Decision-making Process) (factor loadings = 0.79–0.79, $\alpha = 0.773$)
- Employees have a feeling of personal empowerment with respect to work processes.
- How satisfied are you with your involvement in decisions that affect your work?

Creative Tendency (factor loadings = 0.56–0.56, $\alpha = 0.437$)
- I feel encouraged to come up with new and better ways of doing things.
- I am constantly looking for ways to do my job better.