

The Emergence of Shared Leadership from Organizational Dimensions of Local Government

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Shared leadership is a mutually shared process by those who share vision, information, feedback, leadership responsibility, and public policy problems with members in public organizations. This article examines the effects of organizational structure, culture, and context on shared leadership from a public sector perspective. Completed mail surveys were received from 261 public employees of a local government in Florida. A multiple regression analysis was conducted to test five theoretically formulated hypotheses. The results showed that public employees' perceptions on shared leadership are partially explainable by organizational structure, culture, and context factors. Organizational crisis, information technology, innovative culture, and hierarchy of position are significantly associated with shared leadership. This article concludes that every public employee displays and shares leadership under specific organizational dimensions.

The public administration literature has attempted to conceptualize shared leadership that occurs in a decentralized organization with adaptable culture and highly advanced technology within highly turbulent environments (Bryson & Crosby, 1992; Crosby, 1999; Denhardt & Denhardt, 2003; Luke, 1998). Shared leadership allows organizational members to share power, vision, information, feedback, and public policy problems (Bryson & Crosby). Shared leadership does not constitute a position in a hierarchy but a process that occurs throughout organizations (Bradford & Cohen, 1998, Ensley, Pearson, & Pearce, 2004). It emphasizes lateral peer influence rather than the hierarchical influence of a leader at the top (Conger & Pearce, 2003). Thus, shared leadership in public administration highlights mutually shared processes embedded within public organizational contexts (Denhardt & Denhardt).

Based on the public administration literature, this study defines shared leadership as a mutually shared process by those who share vision, information, feedback, leadership responsibility, and public policy problems with members in their organizations. Sharing vision is clearly materialized through sharing information and sharing feedback with others (Luke, 1998). Sharing information and feedback make it possible for others to find the policy problems of the organization that should be solved. In the development of public policy, shared leadership pays attention to the multiple dimensions of the process by which public policy is challenged and

changed and helps others frame and reframe public policy problems (Crosby, 1999). The definition of shared leadership is incorporated in the Shared Leadership Index (see Appendix) which is the dependent variable of this study.

Despite numerous practical and prescriptive discussions of shared leadership in light of organizational structure, culture, and context, little empirical research has been conducted to test the effects of organizational dimensions on shared leadership (Ensley et al., 2004; Pearce & Sims, 2002; Seers et al., 2003; Yukl, 2002). Few instruments explicitly designed to measure the concept of shared leadership in public administration or business administration currently exist. Therefore, the study of the dynamics, nature, dimensions, and organizational context for shared leadership is quite primitive (Pearce & Conger, 2003).

There has been a growing emphasis to test the effects of organizational context on leadership within public administration (Fernandez, 2005; Javidan & Waldman 2003; Moynihan & Ingraham, 2004; Van Wart, 2003, 2005; Yukl, 2002; Zaccaro & Horn, 2003). Such challenges stimulate empirical leadership research. Consequently, the purpose of this study is to investigate the effects of organizational structure, organizational culture, and organizational context variables on shared leadership from a public sector perspective.

The next section reviews the literature on the perspective of shared leadership and its organizational context variables. Five hypotheses were formulated to test the effects of organizational structure, culture, and context variables on shared leadership. In order to support the perspective of shared leadership, this researcher collected data from a mail survey of public employees in lower-level to higher-level positions in local government regardless of their hierarchical positions. A multiple regression analysis examines the theoretically derived hypotheses. Following the empirical test and analyses, this article discusses the major findings. Finally, the theoretically and practically significant implications of shared leadership for the field of public administration are presented.

Horizontal Perspective of Shared Leadership

Organizational hierarchy constitutes the social structure for a superior-subordinate role relationship (Diamond, 1992; Gramsci, 2000; Thayer, 1981) that shapes hierarchically-oriented perceptions about leadership. Presidents, governors, mayors, and public managers are properly conceived of as leaders in public organizations because they are top executives and administrators who control, command, and direct public employees. Until presently, the study of leadership in public administration has typically focused on the leadership behavior of chief executives, public administrators, and public managers (Crosby, 1999).

However, the practice of the hierarchical approach of leadership is somewhat unworkable in a rapidly changing society (Denhardt & Denhardt, 2003; Kouzes & Posner, 1996; Raelin, 2003). As organizations struggle to adapt to increasingly dynamic, complex, and uncertain environments, significant transformations are taking place in daily work (Luthans, 1998). The primary facets of these transformations include globalization, information technology, and devolution. During the last decades, researchers have become increasingly less accepting of the notion that leadership within organizations stems only from individuals in a hierarchical process (Ensley et al., 2004).

In the hierarchical perspective, leadership comes from the top of the organization, whereas in the horizontal perspective of leadership, leadership is shared with every member in the organization. Although Follett (1918) explicitly raised the need of “leadership-sharing” and

“power with” almost 90 years ago, it was not until the beginning of the 1990s that public administration scholars began paying serious attention to the concept of shared leadership. In the public administration literature, shared leadership is conceptualized and developed through the writings of Bryson and Crosby (1992), Denhardt (1993), Kakabadse and Kakabadse (1998), Luke (1998), Crosby (1999), Denhardt and Denhardt (2003), and Van Wart (2005). In business administration, the writing of Pearce and Conger (2003) offers a theoretical foundation to guide the study of shared leadership, using conceptual and empirical lenses.

Shared leadership discussed by Pearce and Conger (2003), Denhardt and Denhardt (2003), and Van Wart (2005) is very much focused on a mutual shared process within organizations. This study also focuses on shared leadership that is the mutually shared process among multiple levels in an organization for promoting leadership-distributing or bottom-up leadership (Denhardt & Denhardt; Van Wart, 2005). The horizontal perspective proposed in shared leadership emphasizes that every public employee can share and display leadership regardless of hierarchical position (Bryson & Crosby, 1992; Dicke, 2004; Kouzes & Posner, 1996; Organization for Economic Cooperation and Development [OECD], 2001; Raelin, 2003, 2005; Vinzant & Crothers, 1998).

The horizontal perspective of shared leadership also emphasizes shared leadership as “a leader-full process rather than a leader-less one” (Luke 1998, p. 97). Raelin (2005) argued that “everyone shares the experience of serving as a leader, not sequentially, but concurrently and collectively” (p. 18). Denhardt and Denhardt (2003) convincingly noted that “while shared leadership takes time, because more people and groups are involved, ironically, it is often far more successful for exactly the same reason- because more people and more groups are involved!” (p. 148). Bradford and Cohen (1998) further argued that shared leadership “makes every one a leader and enlarges the psychological ownership of everyone” (p. 15). Additionally, “leadership is everyone’s business” (Kouzes & Posner, 1996, p. 108). The next section reviews the relationships among organizational structure, culture, and context factors and shared leadership, and develops the conceptual model of this study.

Organizational Dimensions and a Conceptual Model

Organizational Structure Factor

Organization structure influences a wide range of interlinked leadership processes (Bass, 1990; deLeon, 1993; Yukl, 2002). Weber’s (1958) pure type of bureaucracy constitutes the core structural dimensions of organizations that include hierarchy, centralization, formalization, specialization, and complexity (Daft, 1992; Hall, 1992; Rainey, 2003). The dimensions of organizational structure are often inconsistent across studies. In the public organization hierarchy, specialization, formation, merit and seniority, size, and nonmarketable output are identified as core structural dimensions (Nachmias & Ronsenbloom, 1980). Gortner, Mahler, and Nicholson (1997) introduced three traditional dimensions of organizational structure in the public sector as hierarchy of position or authority, centralization, and specialization. For an organizational structure factor, one traditional dimension of organization structure, hierarchy of position, is used.

Traditionally, a person’s hierarchy of position in the organization is viewed as a source of power. Management research has paid attention to the impacts of a high position on leadership (Hall, 1992). Hierarchical position is an important leadership contingency (Oshagbemi & Gill, 2004). However, little leadership research has been conducted to test the impacts of different

positions on leadership in public administration. This might be attributed to the traditional leadership approaches that rely on leadership from the top.

In the perspectives of the traditional leadership approaches, hierarchy and power depend on the top position whereas in those of shared leadership, hierarchy and power are shared with all positions. Despite the emphasis on shared power in leadership, public organizations are still hierarchically designed (Frederickson & Smith, 2003; Hill & Lynn, 2005). In hierarchical organizations, public employees at the top display more leadership than those at the bottom. Consequently, this study expects that hierarchy of position is positively associated with perceptions of shared leadership.

- H₁: There is a positive relationship between public employees' hierarchy of positions in their organizations and public employees' perceived levels of shared leadership.

Organizational Culture Factors

Generally, organization culture is recognized as a major dimension for the understanding and practice of leadership (Bass, 1990; Ogbonna & Harris, 2000; Schein, 1985; Terry, 2003; Wildavsky, 1984; Yukl, 2002). However, few studies have empirically examined the relationship between organizational culture and leadership (Ogbonna & Harris). Moreover, the characteristics and concepts of organizational culture are inconsistent across research (Luthans, 1998; Schein, 1985). For understanding and analyzing organization culture, Wallach (1983) conceptualized three culture dimensions: bureaucratic, innovative, and supportive. These dimensions provide a useful and measurable typology (Koberg & Chusmir, 1987). This study tests the effects of bureaucratic and innovative cultures on shared leadership. The reason of excluding supportive culture is that it might not be embedded enough in public organizations as bureaucracy to affect public employees' perceptions of shared leadership under the conceptual model.

Bureaucratic culture. According to Wallach (1983), bureaucratic culture has clear lines of responsibility and authority. In bureaucratic culture, work is hierarchal, systemic, and compartmentalized. Cameron and Quinn (1999) considered bureaucratic culture as hierarchical culture. They observed that managers surrounded in hierarchical culture are good at controlling, administrating, coordinating, and maintaining efficiency. Some researchers have shown that bureaucratic culture has a negative relationship with job satisfaction, job involvement, and employee commitment and involvement (Chen, 2004; Koberg & Chusmir, 1987).

Shared leadership is at odds with bureaucratic culture because shared leadership encourages employee involvement and rejects the hierarchy, control, domination, and power that bureaucratic culture creates. Shared leadership stimulates members' participation in decision-making and teamwork and creates ongoing communication (Ensley, Pearson, & Pearce, 2003; Pearce & Conger, 2003). In the perspective of shared leadership, members of the organization share mutual interests and create a shared culture.

- H₂: There is a negative relationship between public employees' perceived levels of bureaucratic culture in their organizations and their perceived levels of shared leadership.

Innovative culture. An individual who is well-suited to innovative culture is results-oriented, risk-taking, creative, pressurized, stimulating, challenging, enterprising, and driving (Wallach, 1983). Doig and Hargorve's (1987) concept of entrepreneurial leadership emphasizes the role of effective bureaucratic leaders as risk-takers and opportunists. The entrepreneurial leadership approach focuses on innovative and creative environments for the satisfaction of customers and the benefits of the organization (Osborne & Gaebler, 1992). In innovative culture, creativity and risk-taking are primary values to survive in the competition of capital markets. Cameron and Quinn (1999) conceptualized such culture as market culture.

However, there are negative aspects on innovative culture in public administration. Innovative culture produces burnout and stress that are routine occupational hazards of the constant pressure (Wallach, 1983) and is significantly and negatively related to the propensity to leave (Koberg & Chusmir, 1987). The philosophies of innovative culture borrow the principles of market economics and apply them to government (Denhardt, 2004; Kettl, 2002; Terry, 2003). The entrepreneurial leadership approach and innovative culture is tied to the satisfaction of customers rather than collective democratic consensus in a democratic society (deLeon & Denhardt, 2000). Thus, innovative culture is not related to consensus in decision-making, teamwork, and communication (Shadur, Kienzle, Rodwell, 1999). On the other hand, shared leadership challenges citizens to engage in the effort by convening a diverse set of peoples, agencies, and interests (Luke, 1998). Shared leadership is far from an innovative culture that stresses customer satisfaction and risk-taking.

- H₃: There is a negative relationship between public employees' perceived levels of innovative culture in their organizations and their perceived levels of shared leadership.

Organizational Context Factors

In leadership studies, technology and organizational crisis are frequently identified as the dimensions of organizational context that affect leadership (Shamir & Howell, 1999). The disasters of the 9/11 attacks and Hurricane Katrina created organizational crises in federal, state, and local governments and had tremendous effects on public organizations and political leadership (Comfort, 2002; The White House, 2006). Therefore, this study uses information technology and organizational crisis as the dimensions of organizational context for understanding shared leadership.

Information technology. Information technology has moved to more technology-based telecommunications, the information superhighway, and global networks (Huddleston, 2000; Luthans, 1998). The Weberian model of bureaucracy is outmoded in information technology and e-government (Fountain, 2001). The leadership style of the bureaucratic paradigm focuses on control, command, and hierarchy whereas e-government's leadership style emphasizes facilitation and coordination (Tat-Kei Ho, 2002).

Shared leadership emerges in information technology that stimulates interconnectedness, communication, information sharing, and rapid feedback via community networks, e-mail, and distance conferencing (Luke, 1998). The increasing technology used in the workplace suggests that in more technologically-advanced organizations, power and control may become less important (Bass, 1990; Fountain, 2001; Tat-Kei Ho, 2002). Thus, given information technology,

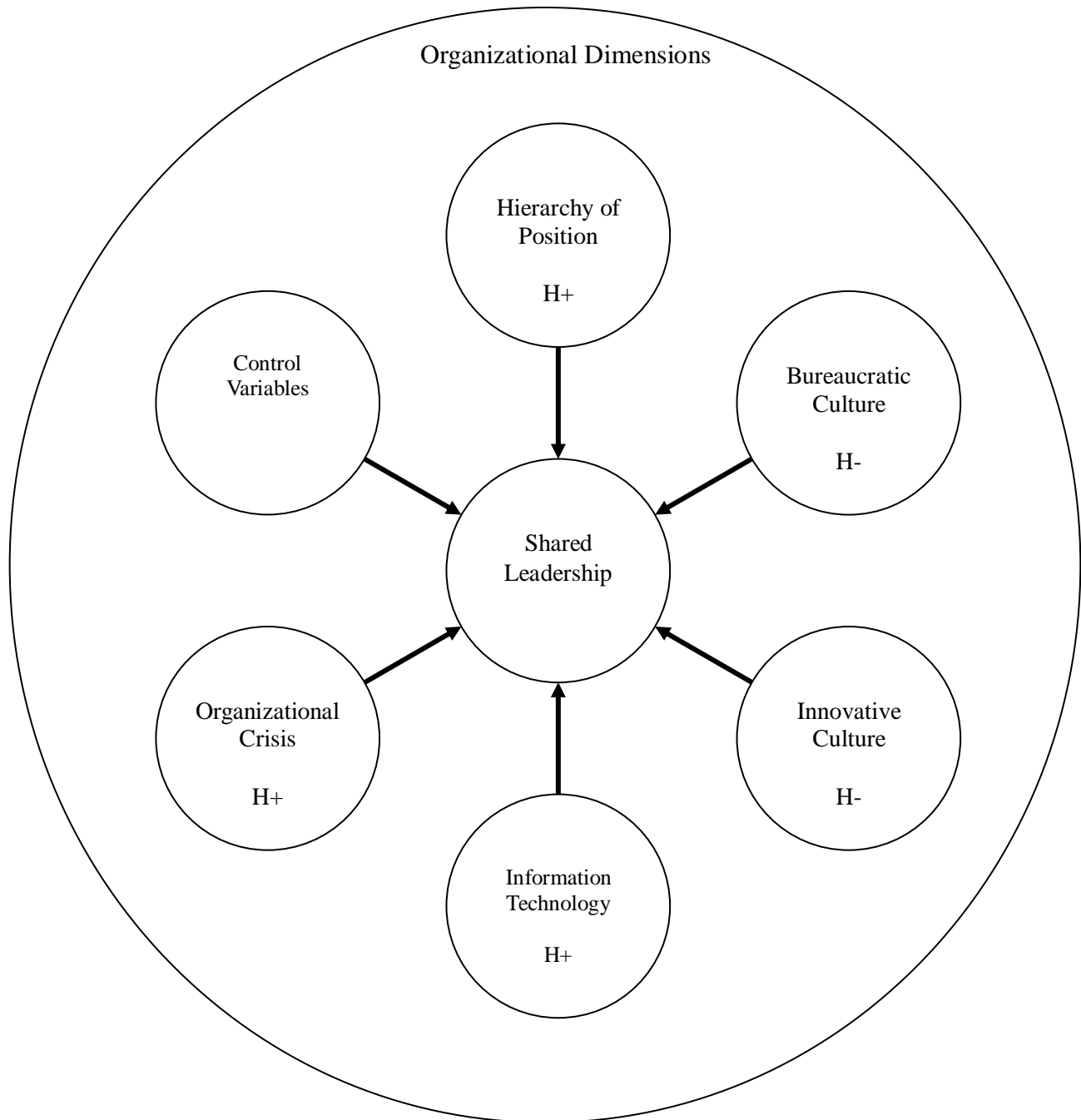
shared leadership distributes information, decision-making, and leadership to every member in the organization (Bryson & Crosby, 1992; Luke, 1998).

- H₄: There is a positive relationship between public employees' usage of information technology in their jobs and their perceived levels of shared leadership.

Organizational crisis. The presence of organizational crisis affects leadership (Boin & 't Hart, 2003; Shamir & Howell, 1999). Some studies noted that under turbulent environments, the members of the organization expect their leaders to be more directive, powerful, and charismatic (Bass, 1990). On the other hand, some researchers suggested that under organizational crisis, organizations should encourage sharing information and lateral coordination, not top-down command and control (Pearson & Clair, 1998). Shared leadership requires shared power, responsibility, and creative solutions under turbulent environments (Bryson & Crosby, 1992). Arguing that under highly turbulent environments the traditional command and control form of leadership is outmoded, Denhardt and Denhardt (2003) suggested that shared leadership is necessary, especially in public organizations that are influenced from many external constituencies.

- H₅: There is a positive relationship between public employees' perceived levels of *organizational crisis* within and outside their organizations and their perceived levels of shared leadership.

Figure 1 summarizes the theoretical constructs and the hypothesized relationships among these constructs. The constructs constitute a conceptual model of this study. In the diagram, each theoretical and hypothetical construct is represented by a circle and an arrow depicting the hypothesized positive and negative effects of organizational dimensions on shared leadership.



- Organizational structure factor: Hierarchy of position
- Organizational culture factors: Bureaucratic culture and innovative culture
- Organizational context factors: Information technology and organizational crisis
- Control variables: Gender, years of government service, and years of education

Figure 1. Conceptual model of shared leadership.

Research Methods and Data Analysis

Use of Single Case Selection

This study is case based empirical research. Case studies can consist of a single case or of multiples cases and can use quantitative methods to collect data for research convenience, research economy, and research interest (Johnson, 2002; Patton, 1990; Yin, 1989). The reasons why the researcher chose Broward County, Florida as a single case for collecting data is attributed to factors identified by Yin (1989), Patton (1990), and Johnson (2002), especially because of the dynamic and rapidly changing organizational context which affect the emergence of shared leadership.

The organizational structure, culture, and context of Broward County's government create unique challenges in the government's delivering services to citizens (Broward County Human Resource Division, 2005). The data obtained from the dynamic and diverse organizational dimensions of all sixty organizations (divisions) within the county government across 300 different locations in 20 different cities can be ideal to test the effects of organizational dimension variables on shared leadership. According to its organizational profile (Broward County Human Resource Division), the Broward County government has approximately 8 departments, 80 agencies, 60 divisions, 1,000 different job classes, and 7,000 employees working at 300 different locations, which serve 1.62 million residents. Thirty-one cities are located in the county. In 2000, the population of Broward County ranked 15th out of 3,141 counties in the United States. Broward County's 60 divisions are sub-units of 8 departments that include aviation, community services, environmental protection, finance and administration services, human services, Port Everglades, public works, and urban planning and redevelopment.

Another reason to choose the county is for research convenience and research economy. Since this study is designed to include all public employees from the top to the bottom in the sample data, collecting data from various governments would generate sample data that are large and very expensive. The conceptual model of shared leadership in this study makes empirical testing extremely hard (Van Wart, 2005). Thus, it is difficult for the researcher to collect large sample data from all public employees in various governments because of the financial limitations on research and research inconvenience. For these reasons, this study selected only the Broward County government as the single case and collected sample data from its public employees at 60 divisions across 300 locations in 20 cities. While the researcher chose Broward County as a single case, the study combines the single case with quantitative methods called the "dominant less design" (Creswell, 1994). According to Creswell, the dominant-less design presents the study within a single dominant research method with one small component of the overall study drawn from an alternative research method and is advantageous to a researcher for better understanding the conceptual model being tested. Thus, selecting the Broward County government as the single case and collecting data from its employees can be useful to examine the conceptual model of shared leadership.

Data Collection

The data collection of the previous leadership studies were commonly conducted on a relatively small number of leaders at the very top of organizations (Shamir, Zakay, Breinin, & Popper, 1998; Yukl, 2002). Even recently, vast leadership studies in public administration have

also used data collected from high ranking public managers (e.g., Fairholm, 2004; Fernandez, 2005; Gabris, Golembiewski, & Ihrke, 2001; Hambleton & Sweeting, 2004; Hanbury, Sapat, & Washington, 2004; Hooijberg & Choi, 2001; Javidan & Waldman, 2003). The perception and consciousness of “leader” or “leadership” are deeply rooted in hierarchically oriented leadership. Viewing administrators and managers as leaders has become one of the dominant myths of leadership theory (Rost, 1991).

This study does not agree with the idea that data collection limited to high level positions is adequate for leadership research because the study specifically asserts that every public employee can become a public leader and display leadership. As noted in the literature (Bradford & Cohen, 1998; Bryson & Crosby, 1992; Denhardt & Denhardt, 2003; Dicke, 2004; Kouzes & Posner, 1996; OECD, 2001; Raelin, 2003, 2005; Vinzant & Crothers, 1998), both public managers from the top and public employees from the bottom are likely to display leadership. On the other hand, according to Van Wart (2005), a major weakness of shared-leadership theory is that it works at multiple levels of analysis, which makes empirical testing extremely difficult.

Given the nature of research design, this study collected sample data from the top to the bottom at 60 organizations within the county’s government. Five levels of employees were discerned: entry, upper-entry, middle, upper-middle, and top. A mail survey was sent to a sample of public employees ranging from division directors to carpenters, painters, bookkeepers, plumbers, library aides, bus operators, park aides, groundskeepers, social worker aides, school crossing guards, and student lifeguards. Since this study focused on public employees’ shared leadership within their organizations, the mail survey emphasized the phrase “in your division” by having it at the end of each survey question or statement.

The study used stratified sampling, adding all 60 division directors in the county government into the sample.¹ Over a four-week period (from July 11, 2005 to August 16, 2005), three waves of mail surveys were sent to 791 public employees of Broward County’s government. Of the 791 public employees, 126 employees responded to the first survey, for a first wave response rate of 15.9%. Of the 791 public employees, 98 employees responded to the second survey, for a response rate of 12.3%. Thirty-seven of the 312 employees in the third wave responded, for a response rate of 14.1%. Consequently, 261 public employees of the 791 sample responded to the survey, for an overall response rate of 33%.

Since this study asserts that shared leadership behaviors occur among all public employees from the bottom to the top echelons in public organizations regardless of hierarchical position, the participation in data analysis of public employees below the upper-middle level is critical to this study. Among the 261 survey respondents, 46 employees in the entry level responded (17.6%). The upper-entry, middle, upper-middle, and top levels comprise 23.8, 34.1, 13.4, and 9.2%, respectively (see Table 1). Thus, employees below the upper-middle level comprise 75.5%.

¹ Since the ratio of the number of the directors (60) to the population (6,865) is .008, if this study used simple random sampling that yields an equal probability of being selected, it could generate only about 1 percent of the directors in a sample size. Thus, this study used stratified sampling to obtain data capable of achieving statistical significance for the number of the directors.

Survey Measurement

All variables in this study, except for hierarchy of position, are measured by summated scales for increasing the reliability of measurements. The dependent variable of this study was the Shared Leadership Index (SLI, see Appendix). Measurement of shared leadership is not available in the literature (Pearce & Conger, 2003), so this study attempts to measure shared leadership and to develop the SLI. The SLI is comprised of five statements that describe the definition of shared leadership as previously noted. Each statement is measured on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha reliability for the SLI was 0.78.

Five independent variables were used to test the effects of organizational structure, culture, and context on the dependent variable in this study (see Appendix). Hierarchy of position is measured by a single measurement on a 5-point scale ranging from 1 (*entry level*) to 5 (*top level*). The variable of hierarchy of position is an ordinal scale. The issue of the level of scaling required of metric variables in multiple regression analysis, which is conducted for this study, is controversial (Cohen & Cohen, 1983). Statisticians argue that scales classified as nominal, ordinal, interval, and ratio based on a Steven's typology are too strict to apply to real-world data (Norusis, 2000; Velleman & Wilkinson, 1993).

According to Cohen and Cohen (1983), ordinal scales have intervals equal enough for meeting most assumptions in multiple regression analysis. In practice, ordinal scales can be treated successfully in the same statistical tests as interval scales (Albertson, 1995; Bentler & Chou, 1987; Pedhazur & Schmelkin, 1991; Velleman & Wilkinson, 1993), so that ordinal scales can be employed in multiple regression analysis (Anderson, 1984; Cohen & Cohen, 1983; Cohen, West, Aiken, & Cohen, 2003; McCullagh & Nelder, 1989; Walker & Duncan, 1967). Thus, the variable of hierarchy of position is measured by the ordinal scale that was employed in multiple regression analysis.

The measurements of organizational cultures (i.e. bureaucratic and innovative) and organizational crisis are measured and modified by multiple indicators derived from existing instruments. Bureaucratic and innovative cultures are measured by the Organizational Culture Index (OCI) developed by Wallach (1983). The OCI has been widely validated through management research (Chen, 2004; Koberg & Chusmir, 1987; Shadur et al., 1999). The OCI measures three separate cultural dimensions: bureaucratic, innovative, and supportive. The three cultural dimensions of the OCI are considered common in varying degrees to all organizations (Koberg & Chusmir, 1987; Wallach, 1983). This study uses bureaucratic and innovative cultures. Each of the bureaucratic and innovative cultures is comprised of eight adjective items. Each culture is measured on a 4-point scale ranging from 0 (*does not describe*) to 3 (*describes most of the time*), given its eight adjectives. Cronbach's alpha reliability for bureaucratic and innovative cultures was reported at 0.86 and 0.97 respectively in previous research (Chen, 2004). Cronbach's alpha reliability for bureaucratic and innovative cultures in this study was 0.75 and 0.79 respectively.

This study develops the measurement of information technology. Three descriptive statements are measured on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Example items include statements such as "I frequently use technology on my job." Cronbach's alpha for information technology was 0.75. A measurement of organizational crisis was developed through Guth's (1995) Organization Crisis Index. Guth provided 25 items to measure organizational crisis based on a 5-point scale.

Guth (1995) observed that public employees identify top-rated organizational crises among the 25 items as (a) intense scrutiny from news media, (b) political controversy, and (c) intense scrutiny from state/federal regulators. This study uses these three items for the measurement scale of organizational crisis. Respondents were asked to indicate how often the three items have occurred in their organizations based on a 5-point scale from 0 (*not at all*) to 4 (*frequently*). Cronbach's alpha reliability for organizational crisis was 0.66.

Nunnally (1978) provided a widely accepted rule of thumb that Cronbach's alpha should be at least 0.70 for a scale to demonstrate internal consistency. However, it is not unusual to see scales with lower alphas in research (Peterson, 1994). Research suggests a value of 0.60 as "the criterion-in-use" (Ogbonna & Harris, 2000; Peterson, 1994). This suggestion and the construct validity of the organizational crisis scale in the previous research (Guth, 1995) led to the conclusion that the scale was above the criterion-in-use and thus acceptably reliable.

Three control variables were included in the survey: respondents' gender, years of education, and years of government service. Claims about the nature of women's leadership show similarities with the characteristics of shared leadership (Northouse, 1997). The search for gender differences in leadership has surged in importance over the past few decades (Bass, 1990; Northouse, 1997; Yukl, 2002). Using a dummy variable, the variable of gender is measured as 0 (*female*) and 1 (*male*). This study also controlled for respondents' years of government service and their years of education because such personal factors affect leadership (Bass 1990; Van Wart, 2005).

Factor analysis (the varimax rotated component analysis) was conducted to identify the underlying dimensions and constructs of shared leadership (see Appendix). Included in the factor analysis were five items of shared leadership, which were measured on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The dependent variable, the *SLI*, was successful to capture a single composite measure at the level of factor loadings $\geq .50$. Thus, the results of factor analysis ensure the scale validity of shared leadership.

Results

Table 1 presents descriptive statistics, correlation, and reliability for each variable. All independent variables were positively and significantly correlated with shared leadership, except bureaucratic culture. The correlations show a striking finding between the results and the hypotheses. This study hypothesized that innovative culture is negatively associated with shared leadership. Yet, the results of the correlations indicated that innovative culture is significantly and positively correlated with shared leadership.

Table 1: Descriptive Statistics, Correlations, and Reliability ($N = 261$)

	<i>M</i>	<i>SD</i>	α^a	1	2	3	4	5	6
Shared Leadership	19.61	3.39	.78	-					
Hierarchy of Position	2.72	1.18	-	.47**	-				
Bureaucratic Culture	16.06	4.41	.75	-.02	-.03	-			
Innovative Culture	12.00	4.90	.79	.44**	.31**	-.10	-		
Information Technology	12.19	2.95	.75	.42**	.31**	.04	.22**	.16**	-
Organizational Crisis	3.38	2.82	.66	.22**	.20**	.03	.06	-.04	.12*

* $p < .05$. ** $p < .01$.

^aCronbach's alpha reliability.

Multiple regression analysis was conducted to examine the conceptual model of this study. The overall prediction and generalization of regression results tested by the tolerance value and the variance inflation factor of all variables indicated that the estimation of the variables on shared leadership is not overly distorted by multicollinearity. Table 2 displays the model summary with a R^2 of .42 and an adjusted R^2 of .40. Hierarchy of position was statistically significantly associated with shared leadership ($\beta = .21, p < .001$). The findings support Hypothesis 1.

Among organizational culture variables, innovative culture was significantly and positively associated with shared leadership ($\beta = .29, p < .001$). The findings showed contradictory results in the relationship between *innovative culture* and shared leadership (Hypothesis 3). The effect of *bureaucratic culture* on shared leadership was not statistically significant.

Information technology was statistically and positively significant with shared leadership ($\beta = .23, p < .001$). Organizational crisis had also a statistically significant relationship with shared leadership ($\beta = .13, p < .05$). This finding supports Hypotheses 4 and 5. Among control variables, only years of education were significant with shared leadership ($\beta = .10, p < .1$). In sum, public employees perceived that shared leadership is likely to be affected by hierarchy of position, innovative culture, information technology, organizational crisis, and years of education under the specific organizational dimensions of the conceptual model in this study.

Table 2: Results of Regression Analysis for Shared Leadership ($N = 261$)

Organizational Dimensions	Variable	B	SE B	β	t
Structure	Hierarchy of Position	.69	.17	.21***	3.40
	Bureaucratic	.04	.04	.05	1.08
Culture	Innovative	.21	.03	.29***	5.31
	Information Technology	.28	.06	.23***	4.10
Context	Organizational Crisis	.20	.06	.13**	2.54
	Gender	.24	.36	.03	.70
Control Variables	Years of Education	.11	.07	.10*	1.86
	Years of Government	.02	.02	.07	1.32

Note. $R^2 = .43$. $F = 8.15$.

* $p < .10$. ** $p < .05$. *** $p < .001$.

Discussion of the Results

This study finds that hierarchical position, organizational crisis, information technology, innovative culture, and years of education are significantly and positively associated with shared leadership. The findings of this study show that public employees at higher positions are more likely to express higher perceived levels of shared leadership than employees at lower positions. However, the findings indicate that shared leadership also occurs in the perceptions of public employees at lower positions.

These results are important to support the horizontal perspective on leadership theory in the public administration literature, in which scholars assert that leadership is potentially shared with every member of public organizations, and that every public employee can be a public leader (Bradford & Cohen, 1998; Bryson & Crosby, 1992; Denhardt & Denhardt, 2003; Dicke, 2004; Kouzes & Posner, 1996; OECD, 2001; Vinzant & Crothers, 1998). The results of this study

portray that public employees perceive a horizontal form of leadership within that hierarchical structure even while they might still hold to the hierarchical perspective that relies on the role and responsibility of leadership from the top. Through empirical analysis on horizontal governance, Hill and Lynn (2005) indicated that slowly, “new tools or administrative technologies are being added that facilitate public governance within a hierarchical system” (p. 189).

This study provides some interesting possibilities regarding the coexistence of hierarchical and horizontal perspectives on leadership within public organizations. Public employees might attempt to make “consciousness-raising efforts” for leadership-sharing in hierarchical and bureaucratic organizations, becoming accustomed to the new tools and concepts for horizontal governance, shared power, and leadership-sharing. Consequently, the hierarchical and horizontal perspectives on leadership might coexist in public employees’ consciousness. In other words, public employees at lower positions perceive both the hierarchical and horizontal perspectives within their organizations at the same time, but they are more likely to perceive the hierarchical perspectives because public organizations are still hierarchically organized (Frederickson & Smith, 2003; Hill & Lynn, 2005).

The findings of this study indicate that organizational crisis positively and significantly affects public employees’ perceptions of shared leadership. In the literature, there is the debate between the centralized and decentralized tendency of leadership to deal with organizational crisis. In traditional leadership approaches of orthodox public administration, leadership relies on the top of the hierarchy in times of organizational crisis (Boin & ‘t Hart, 2003). However, shared leadership is a decentralized leadership approach to deal with unpredictable environments. The findings of this study support assertions that shared leadership occurs in organizational crises that create unpredictable, dramatic, dynamic, and uncertain changes within and outside public organizations (Bryson & Crosby, 1992; Denhardt & Denhardt, 2003).

This study finds that information technology is significantly and positively associated with shared leadership. The results of this study tend to confirm assertions that organizational dependence on highly advanced technology contributes to shaping shared leadership (Bryson & Crosby, 1992). Using advanced technology, shared leadership stimulates information sharing and power sharing because advanced technology distributes information and leadership to every member in the organization (Luke, 1998).

The findings of this study show that the relationship between innovative culture and shared leadership is contrary to prediction. The results are the most striking findings for understanding and interpreting the relationships between innovative culture and shared leadership in public organizations, especially with the view from the literature that innovation and entrepreneurship have potentially negative impacts on public organizations and democratic values. Entrepreneurship as the source of innovation and reinvention is criticized in the public administration literature because entrepreneurship creates conflicts with political and ethical dimensions of public administration as well as the principles of democracy (deLeon & Denhardt, 2000; Denhardt, 2004; Frederickson, 1996; Mitchell & Scott, 1987; Terry, 2003).

The findings of this study tend to support previous research in the private sector. Pearce and Conger (2003) asserted that shared leadership is closely related to innovation in the private sector. Ensley et al. (2003) also argued that teams in the organization enjoy greater amounts of innovation with shared leadership in the private sector because team empowerment promotes innovation. However, in their research on an information technology company, Shadur et al. (1999) found that innovative culture in the organization is not a significant predictor of

participation in decision making, teamwork, and communication, all of which are also closely related to the characteristics of shared leadership.

These inconsistent leadership studies reflect that there are different relationships between innovative culture and shared leadership. The findings of this study suggest that innovation as a source of entrepreneurship cannot be solely viewed as a negative impact on public organizations and democratic values. The concept of innovation should be modified to link a positive impact to public organizations unless the impact creates conflicts with the principles of democracy in public administration. Future study is warranted to examine both positive and negative impacts of innovative culture on shared leadership and public organizations.

Implications and Conclusion

This study tests the effects of organizational factors on shared leadership. There is limited empirical research that has explicitly focused on the impact of the differences of hierarchical position on leadership according to personal and organizational factors (Van Engen, Van der Leeden, & Willemsen, 2001). Further, there has been little research to explicitly investigate the emergence of shared leadership from personal and organizational factors despite its increasing attention in the both public and private sectors (Pearce & Conger, 2003).

The findings of this study have several implications for the development of shared leadership in the public sector. First, the findings present public employees' reflections that the horizontal perspective on leadership coexists with the hierarchical perspective on leadership in bureaucratic organizations. The reality of leadership is that leadership sharing appears in public employees' consciousness within current bureaucratic organizations. The findings of this study support arguments that "leadership is increasingly being thought of not as a position in a hierarchy, but as a process that occurs throughout organization" (Denhardt & Denhardt, 2003, p. 140). With respect to the possibilities, this study, at least, implies that public employees in every position are able to perceive shared leadership despite the different perceived levels of shared leadership between the public employees at lower and higher positions. Therefore, future leadership research in the public sector should be considered to apply the horizontal perspective of shared leadership that is more shared and distributed hierarchically.

Second, the findings about the relationship between organizational crisis and shared leadership have implications. At the time of organizational crisis, centralization is impossible because many dynamic, situation-specific, and urgent problems arise at different places, and because in reality, crisis-response efforts depend on many people in many networks (Boin & t' Hart, 2003). Friel (2002) further argued that in times of organizational crisis, "federal agencies and managers must break out of their bureaucratic cocoons and become social butterflies" (p. 32). Therefore, the study suggests that in times of organizational crisis, shared leadership—which enhances information sharing, feedback sharing, vision sharing, leadership sharing, and power sharing through collaboration and information technology among organizational members—might enable them to deal with the crisis.

Third, the findings about the relationship between years of education and shared leadership have also implications. This study supports previous research in which leadership behavior has a significantly positive relationship with years of education (Fagenson, 1990; Yammarino & Dubinsky, 1988). One study reveals that leadership behavior for lower levels may be blocked by a lack of appropriate training and development (Coad, 2000). The current study suggests that for lower public employees, shared leadership seems to be congruent with better

education and training that might help them accomplish a leadership role in public organizations. Thus, this study suggests that for the development of shared leadership for lower level public employees, providing more education and more training programs as well as information technology and innovative culture is essential.

Finally, although this study contained a broad sampling of the public employees' perceptions from entry to top levels in 60 diverse organizations within the local government across 20 cities, the study was limited to a single local government and may not fully represent other public organizations. In other words, the findings and results of this study might reflect public employees' idiosyncratic perceptions in the local government. Therefore, the findings should be viewed with some degree of caution in terms of their generalizability. Consequently, future research should obtain data from a broad range of local governments in order to improve the ability to generalize research findings and results.

In sum, the emergence of shared leadership is partially affected by organizational structure, culture, and context factors. Organizational crisis, information technology, innovative culture, and hierarchy of position are significantly associated with shared leadership. This study implies that public employees in lower positions might not rely on leadership from the top but instead recognize their potential capability for leadership responsibility to create a shared phenomenon within their organizations. The discussion of the results leads to the conclusion that every public employee displays and shares leadership under specific organizational dimensions.

About the Author

Dr. Sanghan Choi earned his Ph. D. in Public Administration from Florida Atlantic University and currently is a research associate of the Public Procurement Research Center at the university in Boca Raton, Florida. He taught at Florida Atlantic University and Nova Southeastern University. His research interests include public leadership, public and nonprofit management, organization theory, and globalization.

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Notes

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Appendix

Measures for Dependent and Independent Variables

1. Dependent Variable (Shared Leadership Index)

The following items are measured on a five point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The word *others* means the member of your division.

Table 3: Factor Analysis of Shared Leadership Index Item^a ($N = 261$; Principal Component Analysis, Varimax Method)

Item	Factor Loadings
1. I share my division's vision with others.	.74
1. I share feedback with others.	.78
2. I share in identifying public policy problems with others.	.76
3. I share leadership responsibility with others.	.75
4. I share information with others.	.66

^aEigenvalues = 2.76; Percent of Common Variance = 55.32.

2. Independent Variables

Organizational Structure Dimension

Hierarchy of Position: Measured on a five point scale ranging from (1) entry level; (2) upper-entry level; (3) middle level; (4) upper-middle level; and (5) top level.

Organizational Culture Dimensions

Bureaucratic and innovative cultures are measured on a four-point scale ranging from 0 (does not describe my organization) to 3 (describes my organization most of the time), given 8 adjective items.

Bureaucratic culture: (1) Hierarchical; (2) Procedural; (3) Structured; (4) Ordered; (5) Regulated; (6) Established, solid; (7) Cautious; and (8) Power-oriented.

Innovative culture: (1) Risk-taking; (2) Result-oriented; (3) Creative; (4) Pressurized; (5) Stimulating; (6) Challenging; (7) Enterprising; and (8) Driving.

Organizational Context Dimensions

Information Technology: The measurement of information technology developed in this study is based on the following three statements in a five-point scale ranging from strongly disagree (1) to strongly agree (5).

1. Technology makes my job more efficient.
2. I frequently use technology on my job.
3. I openly communicate or transact business on my job with others using e-mail or other computer-based systems.

Organizational Crisis: Measured on a five-point scale ranging from not at all (0) to frequently (4), given three items. Respondents are asked to indicate how the following three items have occurred in the organization during the previous two years: (1) Intense scrutiny from news media; (2) Being at the center of a political controversy; and (3) Intense scrutiny from state/federal regulators.

Control variables

Gender: 0= Female; 1= Male

Education: Respondents' years of education

Government service: Respondents' years of government