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The Role of Mentoring and Supervisor Support for State IT Employees' Affective Organizational Commitment

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This article assesses the effects of psychosocial and career mentoring, leader-member exchange (LMX), and gender on the affective organizational commitment (AOC) of information technology (IT) employees working in one state government. Few studies have examined the relationship between mentoring and associated antecedents of the AOC of IT employees, and none has examined these relationships for public-sector workforces. The research finds that when both psychosocial and career mentoring are considered, only psychosocial mentoring was significant in predicting the AOC of state government IT employees. When considering just LMX, it was significant in predicting AOC. Neither psychosocial mentoring nor career mentoring was significant in predicting AOC if LMX is also considered. No gender differences were found for any of the variables examined.

Keywords: *mentoring; affective organizational commitment; leader-member exchange; public-sector IT employees*

Attracting and retaining information technology (IT) employees is vital to the success of public-sector organizations (National Academy of Public Administration, 2001). Most U.S. state governments (87%) lack the IT personnel they need, and the gap is expected to grow because of the impending retirement of a sizable portion of the public-sector workforce (Department of Information Resources, 2003; Young, 2003). In the face of stiff private-sector competition for qualified IT employees, and consistent with other researchers (e.g., Lewis & Frank, 2002), this study focuses on the role key interpersonal relationships within the workplace can play in increasing employees' commitment to their public-sector employers.

When exploring issues related to employee retention in the private sector, researchers have consistently found a strong negative relationship between voluntary organizational turnover and affective organizational commitment (AOC; e.g., Abbott,

White, & Charles, 2005; Meyer, Stanley, Herscovitch, & Topolnysky, 2002). Because AOC is a key proximal precursor in explaining voluntary turnover intentions (Griffith, Hom, & Gaertner, 2000), it is an important variable to study. Therefore, AOC is the dependent variable in the current study. To date, we know little about the AOC of the IT segment of the state government workforce (for exceptions, see T. Lee & Maurer, 1997; Nyhan, 1999; Reid, Allen, Riemenschneider, & Armstrong, in press). More information on how to retain these employees is extremely important, given their growing shortage and the critical nature of what they do in state government. Therefore, the first goal of this study is to bring attention to the AOC of this segment of the state government workforce.

Two types of interpersonal relationships are investigated in this study because of their established relationship with AOC and their potential relevance to retaining employees: mentoring and leader-member exchange (LMX). Both mentoring (Joiner, Bartram, & Garreffa, 2004) and high-quality LMX relationships (J. Lee, 2005) are conducive to enhancing employees' AOC, which in turn indirectly affects their intentions to stay with an organization (Vecchio & Norris, 1996). It is important to examine the effects of mentoring in conjunction with LMX and AOC (Burke & McKeen, 1997), because currently it is unclear if the two key mentoring dimensions (i.e., psychosocial and career) and LMX produce comparable organizational outcomes (e.g., similarly influence AOC; McManus & Russell, 1997) when measured simultaneously. Although the effects of mentoring and LMX have been researched in the private sector as antecedents of AOC, they have received little attention from researchers in the public sector (for exceptions, see Bhatta & Washington, 2003; Payne & Huffman, 2005). Therefore, the second goal of this study is to investigate simultaneously the role of two key mentoring dimensions and LMX on AOC within the IT segment of a public-sector organization.

Given the growing demand for IT employees in the public sector, it is important to identify if different segments of that workforce have different workplace experiences that might influence their AOC and ultimately their retention. Although IT is a male-dominated field where the number of women in the field is declining (Arnold & Niederman, 2001; Kaminski & Reilly, 2004), state governments, along with other levels of government, are known to be gender-friendly workplaces (Durst, 1999; Hoyman & Duer, 2004; Saltzstein, Ting, & Saltzstein, 2001). Therefore, the third goal of this study is to enhance our understanding of potential gender differences in the relationship between key interpersonal contacts within the workplace and the AOC of state government IT employees.

Theoretical Background, Research Questions, and Hypotheses

IT: Employee Characteristics and Work Environment

IT employees are the focus of the current study because of their importance to organizational operations and their serious shortage in both public- and private-sector

organizations (Kaminski & Reilly, 2004). IT personnel are critical to government's ability to serve the public and to manage complex programs (National Academy of Public Administration, 2001), yet public organizations have struggled to retain them (International Personnel Management Association, 2002).

IT employees are somewhat unique when compared to many other employee groups, having a higher need for challenging work and a lower need for social interaction (Couger & Zawacki, 1978). They are more ambitious, logical, and conservative than population norms (Wynekoop & Walz, 1998). They "possess a unique sense of identity, attitudes, interests . . . and work consciousness" (Orlikowski & Baroudi, 1989, p. 23). Also, they face long hours, late nights, after-hours meetings, on-call duty, a continual state of "rush" or crisis situations, and rapid technological change where skills quickly become obsolete (Ahuja, 2002).

Even though the IT work settings and job demands may be somewhat similar across the public and private sectors, researchers have found the institutional environments to be very different (e.g., DeMers, 2002; Elliott & Tevavichulada, 1999; McAdam & Reid, 2000; Ward & Mitchell, 2004). When compared to private-sector IT environments, public-sector IT departments often face a shorter planning horizon, are required to achieve quick results that can undermine long-term IT objectives, are often "crisis"-driven, and are influenced by political cycles. IT public-sector managers face more stringent accountability measures, which may increase project time, and greater levels of interdependence across organizational boundaries, which, in turn, lead to less control and increase the number of decision makers and constituents that must be considered. In addition, less flexible public-sector hiring practices and pay scales have been identified as major barriers influencing the public sector's ability to compete for IT personnel (Soni, 2004). Public-sector employees tend to have extensive interactions with their environments that further intensify likely stresses they might already experience in their workplaces (Kim & Wright, 2007). Constraints in clearly connecting rewards and activities, as well as tight budgets for technology support, often further reduce the ability of public agencies to retain their best employees (Ehrenhalt, 1999).

If IT employees decide to work in public-sector organizations, it is likely that they do so partly because they are attracted by work conditions in public-sector environments (e.g., stability, family-friendly policies) as well as by public-sector goals (Perry & Wise, 1990). This leads us to explore whether the AOC of IT employees working in state government is linked to the support they receive from their supervisor and/or from mentors in their workplace. The IT employee characteristics reviewed earlier suggest they might find career mentoring most important to their AOC given their high need for challenge and professional growth. However, the realities of the public-sector IT work setting and job demands (e.g., short planning horizons and political cycles) suggest psychosocial mentoring might be equally, if not more, important to state government IT employees' AOC. The next section briefly reviews the literature on associations between AOC and mentoring.

Affective Organizational Commitment and Mentoring

Porter and colleagues (e.g., Mowday, Steers, & Porter, 1979) defined AOC as a strong belief in and acceptance of an organization's goals and values and a willingness to expend efforts on behalf of the organization. According to Stallworth (2003), AOC has been linked with an employee's likelihood to stay with the organization and with multiple prosocial behaviors that benefit employers (see Meyer & Allen, 1997, for a review of benefits). Only a few studies have focused on AOC in public-sector settings, and the findings have been mixed (e.g., Kim, 2005; Selden & Moynihan, 2000; Thatcher, Bennett, Stepina, & Boyle, 2002). Although some evidence suggests that relevant differences exist between private- and public-sector employees in terms of AOC (e.g., Nyhan, 1999), several researchers (e.g., Balfour & Wechsler, 1996; Steinhilber & Perry, 1996) did not find general sector differences.

Mentoring is an activity that organizations can use to enhance an employee's AOC, career and job satisfaction, and expectations of career progression, as well as to reduce role stress and turnover (Allen, Eby, Poteet, Lentz, & Lima, 2004; Noe, Greenberger, & Wang, 2002; Sosik & Godshalk, 2000; Viator, 2001). Formal mentoring is defined as "a deliberate pairing of a more skilled or experienced person with a lesser skilled or experienced one, with the agreed-upon goal of having the lesser skilled person grow and develop specific competencies" (Murray, 1991, p. xi). Certainly, informal mentoring relationships also exist in organizations where formal mentoring programs may or may not be available. Both scholarly and practitioner-based authors have noted the beneficial effects of mentoring to the protégé and the organization (e.g., Forret & de Janasz, 2005; Payne & Huffman, 2005; Tonidandel, Avery, & Phillips, 2006).

Researchers have conceptualized mentoring as consisting of two dimensions: career and psychosocial (e.g., Kram, 1985; Noe et al., 2002). Career mentoring includes functions such as coaching, sponsorship, and protection (Baugh, Lankau, & Scandura, 1996). Psychosocial mentoring includes functions such as acceptance, role modeling, counseling, and friendship (Dreher & Ash, 1990; Siebert, 1999). The differential effects of the psychosocial and career mentoring dimensions on AOC have found mixed support in the literature. Researchers have noted positive correlations between one or the other of the mentoring dimensions and AOC (e.g., Ragins, Cotton, & Miller, 2000; Siebert, 1999), and Joiner et al. (2004) hypothesized that AOC displays a natural convergence with both psychosocial and career mentoring. Several researchers (e.g., Joiner et al., 2004; Payne & Huffman, 2005) contend that the relationships between the two main mentoring dimensions and AOC remain underresearched.

Public-sector mentoring research is extremely limited (for exceptions, see Lortie-Lussier & Rinfret, 2005; Tharenou, 2005). Payne and Huffman's (2005) study of army officers found that protégés displayed higher commitment (both affective and continuance) than officers without mentors, and that those individuals with supervisors as their mentors had higher levels of commitment than those who did not. The

authors found no differences between the type of mentoring received (i.e., career, psychosocial) but acknowledge that the types of measures used may have affected that outcome. Likewise, little research has been conducted on the impact of mentoring in the IT context (for an exception, see Swap, Leonard, Shields, & Abrams, 2001). No empirical research was identified exploring the relationship between mentoring and the AOC of IT employees.

One reason IT employees might decide to work in the public sector may be because of characteristics of the work environment. Additionally, as discussed earlier, public-sector IT managers face constraints (e.g., limited resources, short planning horizons, “crisis”-driven activities) that potentially limit their ability to provide career mentoring opportunities. Given the stresses described earlier that are inherent in working in public-sector IT, psychosocial mentoring, which focuses on communicating acceptance of and support for the employee, counseling, and friendship may be more important to public-sector IT employees’ AOC than is career mentoring. Therefore, we propose two hypotheses and ask one research question:

Hypothesis 1a: Psychosocial mentoring is positively related to the AOC of state government IT personnel.

Hypothesis 1b: Career mentoring is positively related to the AOC of state government IT personnel.

Research Question 1: Is psychosocial mentoring more closely associated with the AOC of state government IT personnel than is career mentoring?

LMX and Psychosocial and Career Mentoring

According to Yukl (1989), LMX is situated within a transactional leadership approach and refers to how “leaders use their position power [organizational resources] to develop different exchange relationships with different employees” (p. 40). The relationship between a supervisor and a subordinate “develops as a result of work-related exchanges between these two individuals” (Morrow, Suzuki, Crum, Ruben, & Pautsch, 2005, p. 682). LMX theory (Dansereau, Graen, & Haga, 1975) describes how subordinates may belong to a supervisor’s in-group (where high-quality social exchanges occur) or a supervisor’s out-group (where low-quality exchanges focus on adherence to formal work role interactions). Low-quality LMXs are largely confined to monitoring employees’ work and lack the emotional support of high-quality exchanges (J. Lee, 2005). High-quality LMX relationships are based on exchanges that extend beyond basic work interactions, and are characterized by high levels of mutual trust and respect that can help with employee–organization integration, reduce the impact of various organizational stressors on employees (Dunegan, Uhl-Bien, & Duchon, 2002), and reduce voluntary turnover (Vecchio & Norris, 1996) by increasing organizational commitment (J. Lee, 2005). Because many individuals see their supervisor as a spokesperson for the organization, it is logical to expect those who report high LMX to be more committed to their organization.

In public-sector organizations, changes may often occur quickly because of budgetary or political factors. Downsizing pressures have further eroded public-sector organizations' ability to respond strategically to ongoing challenges, challenges that are especially severe in the IT area (Rusaw, 2004). Managers can form a crucial buffer to mitigate the adverse impacts of such developments. In the private sector, employees who perceive that their managers keep them abreast of the changes, reduce associated uncertainty, and help them deal with these changes are more likely to express commitment to their organization (Baker, Israel, & Schurman, 1996; Berman, West, & Richter, 2002; Lim, 1996). Therefore, we hypothesize the following:

Hypothesis 2: LMX is positively related to the AOC of state government IT personnel.

It is important to examine LMX in conjunction with the various mentoring functions (Chao, 1998) and their impacts on AOC (Burke & McKeen, 1997). LMX and mentoring are complementary but empirically distinct constructs (Scandura & Schriesheim, 1994). "What remains to be tested is the relative contribution of each type of relationship [mentoring and LMX] to the other important outcomes for subordinates and protégés" (McManus & Russell, 1997, p. 147), because they are likely to have differential effects (Thibodeaux & Lowe, 1996). Scandura and Schriesheim (1994) suggested that researchers should distinguish between the effects of transactional exchanges between leaders and subordinates (typically tapped by LMX) and long-term commitments to developing an employee's potential typically associated with mentoring (e.g., Burke, 1984). Scandura and Schriesheim noted that even high-quality LMX managers may not manifest a long-term commitment to an employee's development. The length of the mentoring engagement has been linked to mentoring functions for protégés (e.g., Allen & Eby, 2004; Baugh & Fagenson-Eland, 2005) and increased protégé performance (Kram, 1983). In the only public sector study identified that focused on both concepts simultaneously, Allen, Poteet, Russell, and Dobbins (1997) found that LMX was positively related to a supervisor's intent to mentor and negatively related to barriers to mentoring.

Given that few state governments may have formal mentoring programs because of budgetary pressures, LMX may have more of an impact on the working lives of state government IT employees. Based on Scandura and Schriesheim's (1994) suggestion that researchers distinguish between LMX and mentoring, we explore the relative contributions of psychosocial mentoring, career mentoring, and LMX to the AOC of state government IT personnel. Our second research question is:

Research Question 2: Is there a difference in the relative contribution of psychosocial mentoring, career mentoring, and LMX to the AOC of state government IT personnel?

Gender Differences

The current research explores whether gender differences exist in the relative contribution of mentoring and LMX to explaining AOC. State governments are often characterized as gender-friendly workplaces with clearly defined jobs, career progression plans, and relative gender parity of employees holding similar professional roles. Nonetheless, the progress of women in the public-sector workplace has been uneven (Connell, 2006; Kerr, Miller, & Reid, 2002). Furthermore, conflicting findings regarding gender differences in AOC, mentoring, and LMX do exist in the literature discussing private-sector studies. Foley, Hang-Yue, and Wong (2005) found that women had a lower level of AOC than men, whereas other researchers (e.g., Karrasch, 2003; van der Velde, Bossink, & Jansen, 2003) found no gender differences in AOC. In the few public-sector studies on AOC, some researchers found gender differences (e.g., Obeng & Ugboro, 2003) and others did not (e.g., Nyhan, 1999). We could not locate extant research investigating gender differences in the AOC of state government IT employees.

Research focusing on gender differences and mentoring also has produced conflicting results (e.g., Levesque, O'Neill, Nelson, & Dumas, 2005). Although both males and females benefit from mentoring, Eddleston, Baldrige, & Veiga (2004) found that mentored men received more promotions than their female counterparts. Some research suggests women perceive or have less access to mentoring relationships than do men (e.g., Walsh & Borkowski, 1999), and that mentoring may be especially important for female professionals (e.g., Tharenou, 2005). Underhill (2006) wrote, "More studies are needed that contribute information about the differential effect mentoring has for males and females" (p. 303).

When looking at the dimensions of mentoring, some research indicates that psychosocial support is equally beneficial for both men and women (e.g., Schor, 1997), whereas other researchers found psychosocial mentoring benefits men more (e.g., Kirchmeyer, 1998), and still others found that psychosocial mentoring benefited women more (Burke, 1984). However, most mentoring research in public-sector organizations has focused on career success (e.g., Fox & Schuhmann, 2001; Lortie-Lussier & Rinfret, 2005) rather than on AOC. In a study of both the public and private sectors, Tharenou (2005) contended that women's career advancement benefited from career mentoring more than did men's.

Limited research was identified that focused on gender differences in LMX, and none of it focused on IT employees. Some researchers investigated whether same-sex gender composition in the superior-subordinate dyad influenced the quality of the LMX relationship, finding no influence (e.g., Bauer & Green, 1996; Epitropaki & Martin, 1999) or finding a positive bias toward same-sex subordinates (e.g., Varma & Stroh, 2001). Somech (2003) found that when the superior-subordinate relationship was new, gender differences were not found. As identified earlier, LMX

is equated with more transactional exchanges, whereas mentoring is more identified as a long-term commitment to an employee. Therefore, we ask:

Research Question 3: Are there gender differences in the relative contribution of career mentoring, psychosocial mentoring, and LMX to the AOC of state government IT personnel?

Method

Data and Sample

All IT employees working in various governmental departments in one south-central state were invited by their chief information officer (CIO) to complete an online survey. The respondent sampling frame included 297 individuals with 109 responses being returned, for a response rate of 36.7%. Slightly more than half (53%) of the respondents were male. Most were married (69%), although 17% were single and 12% were divorced. Almost two thirds (69%) had children ($M = 2$; $SD = .76$). Most were White (91%), although 7% were African American. They ranged in age from 22 to 72 ($M = 46$, $SD = 9.18$) and had worked for the state from 1 to 35 years ($M = 12$, $SD = 9.7$). In terms of education, 46% had an associate's degree or less, 49% had a bachelor's degree or higher, and 5% did not answer the question. Only one third (33%) had a formal IT-related degree. Almost half (49%) made less than \$55,000, 30% made between \$55,000 and \$69,999, and 16% made \$70,000 or more, with 5% not answering. In terms of job function, 28% were systems analysts, 17% were information systems managers, 15% were project leaders, 12% were application programmers, 9% were software engineers, 4% were systems programmers, and 5% did not answer.

Procedure

The research team contacted the state's CIO, who was interested in increasing IT employee retention. The CIO identified the respondent pool and sent out an e-mail to all of the state IT employees, giving them the URL for the survey Web site and encouraging them to complete the survey. A reminder e-mail was sent out 2 weeks later. The online survey consisted of 145 questions and took approximately 20 min to complete. No personal identification data were collected from the participants to maintain individual anonymity.

Measures

All survey items came from previously validated scales and were tested for reliability (Cronbach, 1951). Where appropriate, the survey wording was modified to substitute "state government" for "my organization." Responses were recorded using one of two 7-point Likert-type scales (1 = *strongly disagree*, 7 = *strongly agree*; or 1 = *not important*,

7 = *important*) or a 7-point frequency-of-occurrence scale (1 = *not at all*, 7 = *to a large extent*).

AOC (Mowday et al., 1979) was measured using seven items ($\alpha = .88$), including "I am willing to put in a great deal of effort beyond that normally expected in order to help government be successful" and "I really care about the fate of state government." LMX (Wayne, Shore, & Liden, 1997) was measured using seven questions ($\alpha = .95$), including "I can count on my manager to 'bail me out' even at his or her own expense, when I really need it" and "My manager has enough confidence in me that he/she would defend and justify my decisions if I was not present to do so." The mentoring scales were drawn from Dreher and Ash (1990). Psychosocial mentoring was measured using eight questions ($\alpha = .96$), including "To what extent have you had a mentor who has . . . 'conveyed feelings of respect for you as an individual' and 'encouraged you to talk openly about anxiety and fears that might detract from your work?'" Career mentoring was measured using seven questions ($\alpha = .94$), including "To what extent have you had a mentor who has . . . 'given or recommended you for challenging assignments that present opportunities to learn new skills' and 'given or recommended you for assignments that increased your contact with higher level managers?'" The state had both a formal mentoring program that was administered by the human resources office within the state department of information systems and an informal mentoring program.¹

Results

Data Preparation

Initially, a four-factor confirmatory factor analysis using principal components analysis with varimax rotation was run that included all the items measuring concepts of interest in this study, excluding gender, and explained 73.08% of the variance. The eigenvalues were 12.60 for Factor 1 (AOC), 4.02 for Factor 2 (LMX), 2.37 for Factor 3 (Psychosocial Mentoring), and 1.72 for Factor 4 (Career Mentoring). (See Table 1 for the results of the factor analysis.)

We ascertained that the assumptions of data normality, linearity, homoscedasticity, or independence were not violated. Harman's (1967) single-factor test was used to test for any common-method variance, where all variables are entered together using exploratory factor analysis to determine if they load on one factor. The results indicated common method variance is not a concern. Next, descriptive statistics, Pearson's product-moment correlations, hierarchical regression analysis, and *t* tests were run (see Tables 2 and 3). When conducting hierarchical regression, all variables were standardized, and following previous research (e.g., Allen, Day, & Lentz, 2005; Ragins & Cotton, 1993), we controlled for variables theoretically linked to mentoring. Tolerance statistics indicated multicollinearity was not a problem for the affective commitment, LMX, psychosocial mentoring, and career mentoring variables. To test Hypotheses 1 and 2 and explore Research Questions 1

Table 1
Results of Confirmatory Factor Analysis of Affective Organizational
Commitment, Psychosocial and Career Mentoring, and Leader–Member
Exchange Questions

Variable	Factor			
	1	2	3	4
Affective commitment				
Put in effort	–.027	.055	.286	.472
Care about state government	–.106	.111	.302	.524
Glad I chose state government	.026	.128	.155	.838
Talk up employment	.202	.111	.155	.847
Proud to tell others	.161	.133	.173	.745
Similar values	.287	.001	.182	.702
Best of all organizations	.244	–.014	.076	.752
Leader–member exchange				
Know where stand	.297	–.128	.738	.261
Manager defends me	.176	.100	.873	.205
Effective relationship	.260	.009	.848	.272
Manager understands me	.348	.157	.751	.276
Can count on manager	.295	.245	.834	.170
Manager sees potential	.313	.052	.824	.132
Manager helps	.220	.217	.647	.268
Psychosocial mentoring				
Convey respect	.620	.530	.303	.156
Convey empathy	.744	.272	.324	.173
Talk about anxiety	.813	.206	.346	.115
Share personal experience	.842	.205	.264	.145
Discuss questions	.825	.278	.173	.119
Share history	.817	.194	.185	.153
Provide suggestions	.785	.312	.276	.077
Display similar values	.697	.291	.362	.165
Career mentoring				
New skills	.289	.856	.101	.109
Contact different supervisors	.054	.927	.038	.086
Recommend assignments	.189	.895	.099	.080
New colleagues	.164	.929	.026	.037
Help finish tasks	.384	.687	.047	.012
Reduce risks	.434	.548	.136	.072
Higher position	.360	.732	.138	.213

through 3, in Step 1, three control variables (i.e., age, length of time working for that state government, and gender, where *women* = 0 and *men* = 1) were entered into each regression. During Step 2, the two mentoring variables were entered, and in Step 3, LMX was entered.

Table 2
Means, Standard Deviations, and Correlations of Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Mentoring, psychosocial	4.05	1.71	—	.63**	.62**	.38**
2. Mentoring, career	3.79	1.57		—	.33**	.25*
3. Leader–member exchange	4.57	1.55			—	.52**
4. Affective organizational commitment	4.83	1.09				—

Note: *N* = 109.

p* < .01. *p* < .0001.

Table 3
Hierarchical Regression Analysis for Psychosocial and Career Mentoring, Leader–Member Exchange, and Affective Organizational Commitment (*N* = 109)

Variable	<i>B</i>	<i>SE B</i>	β^a	<i>t</i>
Step 1				
Age	.00	.01	.03	.28
Length of employment	.02	.01	.16	1.40
Gender (<i>female</i> = 0, <i>male</i> = 1)	−.24	.21	−.11	−1.16
Step 2				
Age	.01	.01	.06	.56
Length of employment	.02	.01	.13	1.22
Gender	−.09	.20	−.04	−.46
Career mentoring	−.01	.08	−.02	−.16
Psychosocial mentoring	.26	.07	.42	3.63**
Step 3				
Age	.00	.01	.03	.32
Length of employment	.02	.01	.16	1.55
Gender	−.00	.18	.00	−.00
Career mentoring	.01	.08	.02	.17
Psychosocial mentoring	.08	.08	.13	.97
Leader–member exchange	.30	.07	.44	4.10**

Note: Adjusted R^2 = .017 for Step 1; Step 2 Δ adjusted R^2 = .148 (*ps* < .0001); Step 3 Δ adjusted R^2 = .116 (*ps* < .0001). Final adjusted R^2 = .28.

a. Standardized beta coefficients.

***p* < .0001.

Tests of Hypotheses and Results of Research Question

As shown in a dependent *t* test, respondents reported receiving significantly more psychosocial ($M = 4.05$) than career mentoring ($M = 3.79$; $t(109) = 1.94$, $p < .05$). Both psychosocial and career mentoring were positively correlated with AOC ($r = .38$, $p < .001$, and $r = .25$, $p < .01$, respectively), which indicates Hypothesis 1a and

Hypothesis 1b were supported (see Table 2). To investigate Research Question 1, we conducted a hierarchical regression analysis controlling for age, length of tenure in the focal organization, and gender in Step 1. It accounted for 1.7% of the variance ($F = 1.59, p = .20$). Only psychosocial mentoring was significant (in Step 2), although working together, the two mentoring variables explained an additional 14.8% of the variance in AOC ($F = 5.06, p < .0001$). (See Table 3.) Hypothesis 2 proposed that LMX is positively related to AOC. That hypothesis was supported ($r = .52, p < .0001$). (See Table 2.) Research Question 2 was, "Is there a difference in the relative contribution of psychosocial mentoring, career mentoring, and LMX to the AOC of state government IT personnel?" When LMX was entered in the regression with the two mentoring variables, an additional 11.6% of the variance in AOC was explained ($F = 7.70, p < .0001$); however, the only significant beta was from LMX (see Table 3). The descriptive statistics suggest that employees report higher levels of LMX than either psychosocial or career mentoring (see Table 2).

Based on the arguments posed earlier, we investigated whether there were gender differences in the relative contribution of psychosocial mentoring, career mentoring, and LMX to the AOC of state government IT employees.² To test these relationships, three interaction terms were calculated (Gender \times Career Mentoring, Gender \times Psychosocial Mentoring, Gender \times LMX). None of these interaction terms was significant, indicating there were no gender differences in the relative contribution of career mentoring, psychosocial mentoring, and LMX to the AOC of state government IT personnel (see Table 4).

Discussion

One of the major contributions of the current study is that it adds to a handful of studies that have investigated public-sector employees' AOC, and is one of the first to focus specifically on state government IT employees. Given the shortage of IT employees and their importance to the successful functioning of state governments, the current study makes a valuable contribution to the existing research.

Mentoring and LMX relationships are both important yet distinct interpersonal relationships within the workplace, and they have important implications for the AOC and ultimate retention of IT employees. Based on calls by previous researchers (e.g., McManus & Russell, 1997), the current study simultaneously investigated the relationship between both dimensions of mentoring and LMX and our outcome variable of AOC.

As hypothesized, and despite IT employees' higher need for challenging work, lower need for social interaction (Couger & Zawacki, 1978), and high levels of ambition (Wynekoop & Walz, 1998), when compared to career mentoring, it was psychosocial mentoring that was more closely related to the AOC of state government IT personnel. It may be that public-sector mentors adopt a role more akin to a

Table 4
Hierarchical Regression Analysis for Psychosocial and Career
Mentoring, Leader–Member Exchange (LMX), Gender Interaction Terms,
and Affective Organizational Commitment (*N* = 109)

Variable	<i>B</i>	<i>SE B</i>	β^a	<i>t</i>
Age	.00	.01	.03	.32
Length of employment	.02	.01	.16	1.57
Gender (<i>female</i> = 0, <i>male</i> = 1)	.00	.19	.00	.02
Career mentoring	.02	.11	.03	.20
Psychosocial mentoring	.13	.11	.21	1.17
LMX	.28	.11	.41	2.64*
Gender \times Career Mentoring	-.01	.15	-.01	-.05
Gender \times Psychosocial Mentoring	-.11	.17	-.13	-.65
Gender \times LMX	.06	.15	.06	.39

Note: Final adjusted R^2 = .263.

a. Standardized beta coefficients.

* $p < .01$.

coach (Ritchie & Connolly, 1993). Or, the stronger relationship between psychosocial mentoring and AOC might be an artifact of the motivations of the IT employees who choose the state government working environment.

IT jobs are inherently stressful regardless of whether employees work in the public or private sector, making the interpersonal concern and caring conveyed through psychosocial mentoring especially important. In the IT environment we studied, employees reported receiving more psychosocial than career mentoring. This may be because tight state government budgets and task demands limit an IT department's ability to provide formal career mentoring for employees. The state under study has both a formal mentoring program that was administered by the human resources office within the state department of information systems and an informal mentoring program.

Although formal mentoring programs are not the norm in state government, some state IT departments are recognizing the importance of mentoring for the retention of their IT employees. For example, the state of Delaware has a goal in its strategic annual report to become the employer of choice with a workforce that is empowered, capable, supportive, and accountable (Department of Technology and Information, 2004). That state seeks to provide IT employees with the opportunity to grow professionally and personally, to improve communication throughout the organization, and to improve the performance management and compensation plans.

As predicted by Hypothesis 2, LMX was significantly related to the IT employees' AOC, which supports previous research (e.g., J. Lee, 2005). Research Question 2 allowed us to investigate simultaneously the relative contribution of LMX and the two mentoring variables to our outcome variable, AOC. LMX emerged as a more

significant predictor of AOC than either psychosocial mentoring or career mentoring. IT employees reported higher LMX than mentoring scores. The superior-subordinate relationship is the primary career-building experience to which most employees are exposed. In the state discussed in this study, IT employees were scattered throughout agencies within state government. This meant that an employee was likely to have more regular interaction with his or her supervisor than with a mentor who might not even be in his or her physical location. Therefore, it seems logical that LMX had a stronger relationship than mentoring with the AOC of state government IT employees.

In private-sector IT environments, the gender gap appears to be widening, and gender discrimination exists (Ahuja, 2002). Generally, state governments are thought to be more gender-friendly workplaces. In the state government we studied, there was near parity in the number of male and female IT employees, which made it an excellent setting for exploring potential gender differences in the relative contribution of mentoring and LMX to AOC. In the current study, no significant gender differences were found.

As in any study, there are a few limitations. The most obvious is that self-reported data were collected within only one state IT department at one point in time. However, given the enormous costs associated with the collection of national data, most studies in the public sector suffer from this limitation (e.g., Kim, 2005). Although valid and reliable scales were used, our understanding of the roles of LMX and mentoring would have been enhanced if interview data had also been gathered. Finally, the data were cross-sectional, meaning causal relationships cannot be identified.

Implications and Future Research

With the impending retirement of many public-sector top managers, coupled with an increasingly uncertain workplace environment, public agencies increasingly must examine ways to engender commitment among their employees. We considered the effect of both the psychosocial and career aspects of mentoring, LMX, and gender on the affective organizational commitment (AOC) of IT employees working in one state government. Although formal mentoring programs are not the norm in state government, state IT departments need to recognize the importance of mentoring for the retention of their critical IT employees. We believe the combination of psychosocial and career mentoring and managers trained to recognize and build strong LMX relationships can also positively influence the commitment of private-sector employees to their employing organization.

The research has some potentially important implications for state government employers concerned with attracting and retaining IT employees. Our findings reiterate the importance of using various types of interpersonal relationships to mitigate the stresses inherent in IT jobs, as well as the state government's institutional environment. Working together, strong mentoring programs, which focus simultaneously on psychosocial and career mentoring, and managers trained in providing

LMX-type leadership can strongly influence the AOC of IT employees. Once IT employees decide to work in public-sector organizations, their retention can be enhanced by creating a working environment where their psychosocial and career needs are met either through mentoring or by excellent managers and supervisors.

Given the dearth of research on this topic, additional studies are needed. Future research might replicate this study using IT departments in several state governments, one with a formal mentoring program and one without, to investigate the relative contribution of each type of mentoring to important employee outcomes. Interview data gathered from management and employees in these departments should provide additional insights into the relative importance of each type of mentoring for employees, given the unique characteristics of IT employees and of state government employees. Some mentoring literature also recommends including both the mentor's and protégé's gender to determine if one or the other type of mentoring supports or hinders women's (or men's) advancement or affective commitment (Tharenou, 2005).

Notes

1. This information was obtained through personal correspondence with the state's director of information systems.

2. Space constraints limit inclusion of the descriptive statistics by gender, although they are available from the author of correspondence. There were no gender differences in the levels of these variables.

References

- Abbott, G. N., White, F. A., & Charles, M. A. (2005). Linking values and organizational commitment: A correlational and experimental investigation in two organizations. *Journal of Occupational and Organizational Psychology*, 78, 531-552.
- Ahuja, M. K. (2002). Women in the information technology profession: A literature review, synthesis and research agenda. *European Journal of Information Systems*, 11, 20-34.
- Allen, T. D., Day, R., & Lentz, E. (2005). The role of interpersonal comfort in mentoring relationships. *Journal of Career Development*, 31, 155-169.
- Allen, T. D., & Eby, L. T. (2004). Factors related to mentor reports of mentoring functions provided: Gender and relational characteristics. *Sex Roles*, 50, 129-139.
- Allen, T. D., Eby, L. T., Poteet, M. L., Lentz, E., & Lima, L. (2004). Career benefits associated with mentoring for protégé: A meta-analysis. *Journal of Applied Psychology*, 89, 127-136.
- Allen, T. D., Poteet, M. L., Russell, J. E. A., & Dobbins, G. H. (1997). A field study of factors related to supervisors' willingness to mentor others. *Journal of Vocational Behavior*, 50, 1-22.
- Arnold, D., & Niederman, F. (2001). The global IT work force. *Communications of the ACM*, 44, 30-34.
- Baker, E., Israel, B., & Schurman, S. (1996). Role of control and support in occupational stress: An integrated model. *Social Science and Medicine*, 43, 1145-1159.
- Balfour, D., & Wechsler, B. (1996). Organizational commitment: Antecedents and outcomes in public organizations. *Public Productivity and Management Review*, 9, 256-277.
- Bauer, T. N., & Green, S. G. (1996). Development of leader-member exchange: A longitudinal test. *Academy of Management Journal*, 39, 1538-1568.
- Baugh, S. G., & Fagenson-Eland, E. A. (2005). Boundariless mentoring: An exploratory study of the functions provided by internal versus external organizational mentors. *Journal of Applied Social Psychology*, 35, 939-955.

- Baugh, S. G., Lankau, M. J., & Scandura, T. A. (1996). An investigation of the effects of protégé gender on responses to mentoring. *Journal of Vocational Behavior*, 49, 309-323.
- Berman, E. M., West, J. P., & Richter, M. N. (2002). Workplace relations: Friendship patterns and consequences (according to managers). *Public Administration Review*, 62, 217-230.
- Bhatta, G., & Washington, S. (2003). "Hands up": Mentoring in New Zealand public service. *Public Personnel Management*, 32, 211-227.
- Burke, R. J. (1984). Mentors in organizations. *Group and Organization Studies*, 9, 353-372.
- Burke, R. J., & McKeen, C. (1997). Not every managerial woman who makes it has a mentor. *Women in Management Review*, 12, 136-139.
- Chao, G. T. (1998). Invited reaction: Challenging research in mentoring. *Human Resource Development Quarterly*, 9, 333-338.
- Connell, R. (2006). The experience of gender change in public sector organizations. *Gender, Work and Organization*, 13, 435-452.
- Couger, J. D., & Zawacki, R. A. (1978). What motivates DP professionals? *Datamation*, 24, 116-123.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tasks. *Psychometrika*, 16, 297-334.
- Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of role making processes. *Organizational Behavior and Human Performance*, 13, 46-76.
- DeMers, A. (2002). Solutions and strategies for IT recruitment and retention: A manager's guide. *Public Personnel Management*, 31, 27-40.
- Department of Information Resources. (2003). *Agency strategic plan for fiscal years 2003-2007*. Retrieved November 14, 2004, from <http://www.dir.state.tx.us/pubs/ssp2003/ssp2003.pdf>
- Department of Technology and Information. (2004). *2005-2007 strategic plan*. Retrieved March 1, 2006, from http://dti.delaware.gov/pdfs/strategicplan/06DTIPlan_KeyStrategies_Dec04.pdf
- Dreher, G. F., & Ash, R. A. (1990). A comparative study of mentoring among men and women in managerial, professional and technical positions. *Journal of Applied Psychology*, 75, 529-546.
- Dunegan, K. J., Uhl-Bien, M., & Duchon, D. (2002). LMX and subordinate performance: The moderating effects of task characteristics. *Journal of Business and Psychology*, 17, 275-285.
- Durst, S. L. (1999). Assessing the effect of family-friendly programs on public organizations. *Review of Public Personnel Administration*, 19, 19-33.
- Eddleston, K. A., Baldridge, D. C., & Veiga, J. F. (2004). Toward modeling the predictors of managerial career success: Does gender matter? *Journal of Managerial Psychology*, 19, 360-385.
- Ehrenhalt, S. M. (1999). *The quiet crisis: Recruitment and retention in the public sector*. Retrieved December 20, 2006, from http://www.aft.org/pubs-reports/pubemps/Quiet_Crisis.pdf
- Elliott, R. H., & Tevavichulada, S. (1999). Computer literacy and human resource management: A public/private sector comparison. *Public Personnel Management*, 28, 259-274.
- Epitropaki, O., & Martin, R. (1999). The impact of relational demography on the quality of leader-member exchanges and employees' work attitudes and well-being. *Journal of Occupational and Organizational Psychology*, 72, 237-241.
- Foley, S., Hang-Yue, N., & Wong, A. (2005). Perceptions of discrimination and justice: Are there gender differences in outcomes? *Group and Organization Management*, 30, 421-451.
- Forret, M., & de Janasz, S. (2005). Perceptions of an organization's culture for work and family: Do mentors make a difference? *Career Development International*, 10, 478-492.
- Fox, R. L., & Schuhmann, R. A. (2001). Mentoring experiences of women city managers: Are women disadvantaged? *American Review of Public Administration*, 31, 381-392.
- Griffith, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management*, 26, 463-488.
- Harman, H. H. (1967). *Modern factor analysis*. Chicago: University of Chicago Press.
- Hoyman, M., & Duer, H. (2004). A typology of workplace policies. *Review of Public Personnel Administration*, 24, 113-132.

- International Personnel Management Association. (2002). *2002 IPMA turnover/retention statistical report*. Washington, DC: Author.
- Joiner, T. A., Bartram, T., & Garreffa, T. (2004). The effects of mentoring on perceived career success, commitment and turnover intentions. *Journal of American Academy of Business*, 5, 164-170.
- Kaminski, J. A. M., & Reilly, H. R. (2004). Career development of women in information technology. *S.A.M. Advanced Management Journal*, 69, 20-29.
- Karrasch, A. I. (2003). Antecedents and consequences of organizational commitment. *Military Psychology*, 15, 225-236.
- Kerr, B., Miller, W., & Reid, M. (2002). Sex-based occupational segregation in U.S. state bureaucracies, 1987-97. *Public Administration Review*, 62, 412-423.
- Kim, S. (2005). Factors affecting state government IT employee turnover intentions. *American Review of Public Administration*, 35, 137-156.
- Kim, S., & Wright, B. E. (2007). IT employee work exhaustion: Toward an integrated model of antecedents and consequences. *Review of Public Personnel Administration*, 27, 147-170.
- Kirchmeyer, C. (1998). Determinants of managerial career success: Evidence and explanation of male/female differences. *Journal of Management*, 24, 673-692.
- Kram, K. E. (1983). Phases of the mentor relationship. *The Academy of Management Journal*, 26, 608-625.
- Kram, K. E. (1985). *Mentoring at work: Developmental relationships in organizational life*. Glenview, IL: Scott Foresman.
- Lee, J. (2005). Effects of leadership and leader-member exchange on commitment. *Leadership and Organization Development Journal*, 26, 655-672.
- Lee, T., & Maurer, S. D. (1997). The retention of knowledge workers with the unfolding model of voluntary turnover. *Human Resources Management Review*, 7, 247-275.
- Levesque, L. L., O'Neill, R. M., Nelson, T., & Dumas, C. (2005). Sex differences in the perceived importance of mentoring functions. *Career Development International*, 10, 429-443.
- Lewis, G. B., & Frank, S. A. (2002). Who wants to work for government? *Public Administration Review*, 62, 395-404.
- Lim, V. K. G. (1996). Job insecurity and its outcomes: Moderating effects of work-based and nonwork-based social support. *Human Relations*, 49, 171-194.
- Lortie-Lussier, M., & Rinfret, N. (2005). Determinants of objective and subjective success of men and women. *International Review of Administrative Sciences*, 71, 607-624.
- McAdam, R., & Reid, R. (2000). A comparison of public and private sector perceptions and use of knowledge management. *Journal of European Industrial Training*, 24, 317-320.
- McManus, S. E., & Russell, J. (1997). New directions for mentoring research: An examination of related constructs. *Journal of Vocational Behavior*, 51, 145-161.
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Newbury Park, CA: Sage.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61, 20-52.
- Morrow, P. C., Suzuki, Y., Crum, M. R., Ruben, R., & Pautsch, G. (2005). The role of leader-member exchange in high turnover work environments. *Journal of Managerial Psychology*, 20, 681-694.
- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 14, 224-247.
- Murray, M. (1991). *Beyond the myths and magic of mentoring*. San Francisco: Jossey-Bass.
- National Academy of Public Administration. (2001). *The transforming power of information technology: Making the federal government an employer of choice for IT employees*. Washington, DC: Author.
- Noe, R. A., Greenberger, D. B., & Wang, S. (2002). Mentoring: What we know and where we might go. In G. R. Ferris & J. J. Martocchio (Eds.), *Research in personnel and human resources management* (pp. 129-174). New York: JAI Press.

- Nyhan, R. C. (1999). Increasing affective organizational commitment in public organizations. *Review of Public Personnel Administration, 19*, 58-70.
- Obeng, K., & Ugboro, I. (2003). Organizational commitment among public transit employees: An assessment study. *Transportation Quarterly, 57*, 83-98.
- Orlikowski, W., & Baroudi, J. J. (1989). The information systems profession: Myth or reality? *Information Technology and People, 4*, 13-31.
- Payne, S. C., & Huffman, A. H. (2005). A longitudinal examination of the influence of mentoring on organizational commitment and turnover. *Academy of Management Journal, 48*, 158-168.
- Perry, J. L., & Wise, L. R. (1990). The motivational bases of public service. *Public Administration Review, 50*, 367-373.
- Ragins, B. R., & Cotton, J. L. (1993). Gender and willingness to mentor in organizations. *Journal of Management, 19*, 97-111.
- Ragins, B. R., Cotton, J., & Miller, J. (2000). Marginal mentoring: The effects of type of mentor, quality of relationship, and program design on work and career attitudes. *Academy of Management Journal, 43*, 1177-1193.
- Reid, M., Allen, M., Riemenschneider, C., & Armstrong, D. (in press). Affective organizational commitment in state government: The case of IT professionals. *American Review of Public Administration*.
- Ritchie, N., & Connolly, M. (1993). Mentoring in public sector management: Confronting accountability and control. *Management Education and Development, 24*, 266-279.
- Rusaw, A. C. (2004). How downsizing affects organizational memory in government: Some implications for professional and organizational development. *Public Administration Quarterly, 28*, 482-500.
- Saltzstein, A. L., Ting, Y., & Saltzstein, G. C. (2001). Work-family balance and job satisfaction: The impact of family-friendly policies on attitudes of federal government employees. *Public Administration Review, 61*, 452-467.
- Scandura, T., & Schriesheim, C. (1994). Leader-member exchange and supervisor career mentoring as complementary constructs in leadership research. *Academy of Management Journal, 37*, 1588-1602.
- Schor, S. M. (1997). Separate and unequal. *Business Horizons, 40*, 51-58.
- Selden, S. C., & Moynihan, D. (2000). A model of voluntary turnover in state government. *Review of Public Personnel Administration, 20*, 63-74.
- Siebert, S. (1999). The effectiveness of facilitated mentoring: A longitudinal quasi-experiment. *Journal of Vocational Behavior, 54*, 483-502.
- Somech, A. (2003). Relationships of participative leadership with relational demography variables: A multi-level perspective. *Journal of Organizational Behavior, 24*, 1003-1018.
- Soni, V. (2004). From crisis to opportunity: Human resource challenges for the public sector in the twenty-first century. *Review of Policy Research, 21*, 157-178.
- Sosik, J. J., & Godshalk, V. M. (2000). Leadership styles, mentoring functions received, and job-related stress: A conceptual model and preliminary study. *Journal of Organizational Behavior, 21*, 365-390.
- Stallworth, H. L. (2003). Mentoring, organizational commitment and intentions to leave public accounting. *Managerial Auditing Journal, 18*, 405-418.
- Steinhaus, C. S., & Perry, J. L. (1996). Organizational commitment: Does sector matter? *Public Productivity and Management Review, 19*, 278-288.
- Swap, W., Leonard, D., Shields, M., & Abrams, L. (2001). Using mentoring and storytelling to transfer knowledge in the workplace. *Journal of Management Information Systems, 18*, 95-114.
- Tharenou, P. (2005). Does mentor support increase women's career advancement more than men's? The differential effects of career and psychosocial support. *Australian Journal of Management, 30*, 77-109.
- Thatcher, J. B., Bennett, S., Stepina, L. P., & Boyle, R. J. (2002). Turnover of information technology workers: Examining empirically the influence of attitudes, job characteristics, and external markets. *Journal of Management Information Systems, 19*, 231-261.
- Thibodeaux, H. F., & Lowe, R. H. (1996). Convergence of leader-member exchange and mentoring: An investigation of social influence patterns. *Journal of Social Behavior and Personality, 11*, 97-114.

- Tonidandel, S., Avery, D. R., & Phillips, M. G. (2006). Maximizing returns on mentoring: Factors affecting subsequent protégé performance. *Journal of Organizational Behavior*, 28, 89-110.
- Underhill, C. (2006). The effectiveness of mentoring programs in corporate settings: A meta-analytical review of the literature. *Journal of Vocational Behavior*, 68, 292-307.
- van der Velde, M. E. G., Bossink, C. J. H., & Jansen, P. G. W. (2003). Gender differences in the influence of professional tenure on work attitudes. *Sex Roles*, 49, 153-160.
- Varma, A., & Stroh, L. K. (2001). The impact of same-sex LMX dyads on performance evaluations. *Human Resource Management*, 40, 309-320.
- Vecchio, R., & Norris, W. (1996). Predicting employee turnover from performance, satisfaction, and LMX. *Journal of Business and Psychology*, 11, 113-125.
- Viator, R. E. (2001). The association of formal and informal public accounting mentoring with role stress and related job outcomes. *Accounting, Organizations and Society*, 26, 73-93.
- Walsh, A. M., & Borkowski, S. C. (1999). Cross-gender mentoring and career development in the health care industry. *Health Care Management Review*, 24, 7-17.
- Ward, M., & Mitchell, S. (2004). A comparison of the strategic priorities of public and private sector information resource management executives. *Government Information Quarterly*, 21, 284-304.
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40, 82-111.
- Wynekoop, J. L., & Walz, D. B. (1998). Revisiting the perennial question: Are IS people different? *The DATA BASE for Advances in Information Systems*, 29, 62-72.
- Young, M. B. (2003). *The aging-and-retiring government workforce: How serious is the challenge*. Retrieved December 20, 2006, from http://www.cps.ca.gov/AboutUs/documents/CPS_AgeBubble_ExecutiveSummary.pdf
- Yukl, G. A. (1989) *Leadership in organizations* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

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