

Exploring Effective Ways to Reduce Turnover Intention Among Female Employees: The Case of U.S. Federal Employees

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This study explores what aspects of workplace characteristics have more effects on turnover intention among female employees. Unlike extant turnover studies that focused on the effects of a few selected contextual factors, this study takes a comprehensive review of workplace contextual factors and analyzes the effect of each contextual factor on female employees' turnover intention. According to the findings, female employees' turnover intention was differently affected by most workplace contextual factors, compared to male employees' turnover intention. OLS regression analyses showed that female employees' turnover intention was most affected by the 'opportunities for growth and development' factor and least affected by the 'feeling valued and trusted' factor and the 'coworker support and the spirit of camaraderie' factor. The results can help to develop proper human resource management policies and practices for female employees and avoid unwanted voluntary turnover.

Keywords: Turnover Intention, Female Employees, Workplace Contextual Factors

Introduction

Women have increased their participation in the labor force. For example, in the U.S., women's labor force participation was at a rate of 33.9% in 1950 and reached a peak of 60% in 1999. In other words, six in ten women aged 16 and older worked outside the home. Now women comprise nearly half of the U.S. labor force at 46.8% (U.S. Bureau of Labor Statistics, 2015). Scholars and practitioners have paid special attention to why employees leave since the early 20th century because of huge costs associated with employee turnover (Hom, Lee, Shaw, & Hausknecht, 2017). According to the recent meta-analysis of voluntary turnover studies (Holtom, Mitchell, Lee, & Eberly, 2008), at least 50 broad antecedents have been identified to have scientific value in predicting voluntary turnover. However, our knowledge about why female employees leave their organizations is very limited. This is remarkable, given that female employees comprise a substantial portion of the workforce.

This study explores what aspects of workplace characteristics have more effects on turnover intention among female employees. Unlike extant turnover studies that focused on the effects of a few selected contextual factors such as organizational justice (Nadiri & Tanova, 2010; Parker & Kohlmeyer III, 2005), trust (Seona Kim & Park, 2014; Zeffane & Melhem, 2017), and organizational culture (Egan, Yang, & Bartlett, 2004; J. Kim, 2015), this study takes a

comprehensive review of workplace contextual factors and analyzes the effect of each contextual factor on female employees' turnover intention. The results can help to develop proper human resource management policies and practices for female employees and avoid unwanted voluntary turnover.

Theoretical Background

Turnover can be defined as a degree of individual movement across the membership boundary of a social system (Price, 1977, P. 3). When an employee decides to move across the membership boundary of an organization, it is called voluntary turnover, whereas involuntary turnover is when an employer makes this decision (i.e., firing, layoffs). This study focuses on voluntary turnover, and turnover intention is adopted as a proxy for voluntary turnover. Turnover intention is an individual's thoughts about leaving the current organization. Turnover intention may not lead to actual turnover, but turnover intention is significantly related to actual turnover (Griffeth, Hom, & Gaertner, 2000), and turnover intention is suggested as an alternative in measuring actual turnover (Price, 2001). In fact, turnover intention has been commonly used as a proxy for actual voluntary turnover among turnover researchers in both public and private sector settings (Bertelli, 2007; Bright, 2008; Cho & Song, 2017; Griffeth et al., 2000; J. Kim, 2015; Seona Kim & Park, 2014; G. Lee & Jimenez, 2011; Rubenstein, Eberly, Lee, & Mitchell, 2018). In the sections that follow, gender diversity & turnover, major determinants of voluntary turnover, and contextual factor studies are reviewed. Later, hypotheses are proposed for this study, based on the research findings about the effects of extracted factors.

Gender Diversity & Turnover

Although a large body of literature describes how underrepresented women are in workplaces and suggest ideas that lead to increased female representativeness in the workplace (Bowling, Kelleher, Jones, & Wright, 2006; Hsieh & Winslow, 2006; McCabe & Stream, 2000; Pynes, 2000), growing conflicts among diversity groups can be an issue when workforces become more diversified (e.g., Chatman & Flynn, 2001; Polzer, Milton, & William B. Swann, 2002; Schippers, Hartog, Koopman, & Wienk, 2003). Employees in different diversity groups may not be willing to cooperate with each other due to conflicts. Employees in conflicting situations could be easily demotivated, and even decide to leave their organizations in the end. Consequently, organizational productivity would decline.

Traditionally it has been hypothesized that female employees are more likely to quit their jobs because of familial commitments and demands of balancing work and family (Schwartz, 1989; Stier, Lewin-Epstein, & Braun, 2001), in addition to conflicts with male counterparts. However, recent empirical studies found no difference in turnover rates between male and female employees (I.-C. Huang, Chuang, & Lin, 2003; Kellough & Osuna, 1995; Soonhee Kim, 2005; Moynihan & Landuyt, 2008). It seems that female employees do not have to leave their organizations to meet their familial responsibilities because many organizations have introduced supportive policies for working mothers (e.g., Stier et al., 2001) and effective diversity management practices (e.g., Ely & Thomas, 2001). Still, it is critical for managers to figure out better ways to retain employees, regardless of their gender due to huge costs related to employee replacement.

Determinants of Voluntary Turnover

To replace leaving employees, it may take about twice as much as their annual salaries (Allen, Bryant, & Vardaman, 2010). Because of this huge cost, over the last 100 years, researchers have made efforts to understand why employees leave (Hom et al., 2017). As a result, more than 1,500 academic studies have addressed this topic, and 50 broad antecedents of voluntary

turnover are identified (Holtom et al., 2008). Major determinants of voluntary turnover can be categorized into external environmental factors, work-related organizational factors, and individual characteristic factors (Mobley, Griffeth, Hand, & Meglino, 1979; Pettman, 1973; Rubenstein et al., 2018). External environmental factors include perceived alternatives (i.e., job availability) and unemployment rate (e.g., Carsten & Spector, 1987; Fields, 1976). Researchers found that employees' turnover and turnover intention are positively correlated with job availability and negatively correlated with unemployment rate (Arnold & Feldman, 1982). With respect to work-related organizational factors, researchers pay attention to a wide range of aspects such as job satisfaction (e.g., Lambert, Hogan, & Barton, 2001; Porter, Steers, Mowday, & Boulian, 1974), development & growth opportunities (e.g., Rahman & Nas, 2013; Weng & McElroy, 2012), promotion (e.g., Ali, 2008; Johnston, Griffeth, Burton, & Carson, 1993), pay (e.g., Lum, Kervin, Clark, Reid, & Sirola, 1998; Zenger, 1992), perceived autonomy (e.g., Dysvik & Kuvaas, 2013; Liu, Zhang, Wang, & Lee, 2011), goal clarity (e.g., Caillier, 2016; Jung, 2014), and job stress (e.g., Arshadi & Damiri, 2013; Mosadeghrad, 2013). Researchers generally found that turnover or turnover intention decreases as employees experience high job satisfaction, more development & growth opportunities, more promotion opportunities, better pay, high autonomy, clear goals, or low job stress (Griffeth et al., 2000). Individual characteristic factors include demographic variables such as gender (e.g., Hyosu Kim & Kao, 2014; Moynihan & Landuyt, 2008), education level (e.g., Hyosu Kim & Kao, 2014; Medina, 2012), tenure (e.g., Hansung Kim & Stoner, 2008; Trimble, 2006), race (e.g., Jones & Harter, 2005; Medina, 2012), age (e.g., Emiroğlu, Akova, & Tanriverdi, 2015; Pitts, Marvel, & Fernandez, 2011), and marital status (e.g., Lu, Lin, Wu, Hsieh, & Chang, 2002; Tsai & Wu, 2010). Researchers generally found that turnover or turnover intention decreases as employees are female, less educated, long-tenured, White, older, or married (Griffeth et al., 2000).

Surprisingly, employee turnover in public sector settings was not seriously examined until the beginning of the new millennium (G. Lee & Jimenez, 2011). It is known that public employees' turnover is mainly affected by job characteristics (Soonhee Kim, 2005; Y. J. Lee, Kim, & Lee, 2015), human resource management practices (Cesário & Magalhães, 2017; Soonhee Kim, 2012), person-organizational fit (Jin, McDonald, & Park, 2018; Moynihan & Pandey, 2008), and public service motivation (Bao & Zhong, 2021; Bright, 2008).

Contextual Factor Studies

The organizational context did not get turnover researchers' attention until recently (Rubenstein et al., 2018, p. 38) although context affects the occurrence and meaning of organizational behavior (Johns, 2006). Turnover researchers usually examined the effects of a few selected contextual factors on voluntary turnover, and these studies have focused on organizational context level or person-context interface (Holtom et al., 2008; Rubenstein et al., 2018). Organizational context level factors that hold turnover researchers' attention include organizational support (Chordiya, 2019; Galletta, Portoghese, Penna, Battistelli, & Saiani, 2011), engagement aggregated (Harter, Schmidt, & Hayes, 2002), organizational citizenship behavior (Coyne & Ong, 2007), organizational size (Guan, Zhou, Ye, Jiang, & Zhou, 2015), diversity level (Choi, 2009), and work-life balance (Yu, 2019). Researchers generally found that turnover or turnover intention decreases when employees experience high organizational support, employees' engagement is high, organizational citizenship behaviors exist, organizational size increases, diversity level is low, or work-life balance is satisfied.

Researchers also found that employees' turnover or turnover intention decreases when employees are satisfied with rewards (Nazir, Shafi, Qun, Nazir, & Tran, 2016); justice (Nadiri & Tanova, 2010; Parker & Kohlmeyer III, 2005) and trust (Seona Kim & Park, 2014; Zeffane & Melhem, 2017) exist in their organization; or positive organizational culture such as high performing or learning culture exists (Egan et al., 2004; J. Kim, 2015).

Workplace Contextual Factors and Their Effects

This study used the Merit Principles Survey 2016 Data that provided diverse aspects of the workplace. Using exploratory factor analysis, 20 workplace variables were categorized into four factors as explained below. More details about factor analysis are explained later in the methods section.

Happy and innovative working climate (Factor 1): when employees had a feeling of being appreciated, their turnover intention decreased (Odland & Ruzicka, 2009; Peterson, 2004). For example, expatriate teachers tended to stay at current schools when they worked in a happy working climate that includes a feeling of being appreciated by colleagues and administration (Odland & Ruzicka, 2009). Employees are encouraged to experiment with new ideas in an innovative working climate (Wang & Ma, 2013), which leads to a high level of psychological empowerment and job satisfaction (Thomas & Velthouse, 1990). As a result, innovate working climate decreases turnover intention (Yeun & Han, 2016).

Feeling valued & trusted (Factor 2): if employees perceived low support, they tend not to feel valued, which is associated with high turnover among retail sector employees (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002). 'Not feeling valued' is also one of main reasons for voluntary turnover among U.S. child welfare employees (Nittoli, 2003). When employees feel trusted, they feel high levels of autonomy and desire to stay in their current organizations (Dirks & Ferrin, 2002; Spector & Jex, 1998).

Coworker support and the spirit of camaraderie (Factor 3): a relationship with coworkers and their support are important in deciding to leave organizations (Feeley, Moon, Kozey, & Slowe, 2010; Griffeth et al., 2000). Employees who had good relationships with coworkers and received support from coworkers showed low turnover intention (Ducharme, Knudsen, & Roman, 2007). The spirit of camaraderie also reduces turnover intention (Bertelli, 2007; Lopes Morrison, 2005).

Opportunities for growth and development (Factor 4): employees tend to leave organizations to pursue better opportunities for growth and development (Nouri & Parker, 2013; Weng & McElroy, 2012). For example, career growth opportunities in current organizations leads to organizational commitment, which can result in a low level of turnover intention among employees of public accounting firms (Nouri & Parker, 2013).

Overall, employees' turnover intention would be affected by workplace contextual factors. As the first exploratory endeavor with a focus on the effect of workplace contextual factors on female employees' turnover intention, this study proposed four hypotheses as below.

H1: Happy and innovative working climate (Factor 1) has a different effect on female employees' turnover intention, compared to its effect on male counterparts' turnover intention.

H2: Feeling valued and trusted (Factor 2) has a different effect on female employees' turnover intention, compared to its effect on male counterparts' turnover intention.

H3: Coworker support and the spirit of camaraderie (Factor 3) has a different effect on female employees' turnover intention, compared to its effect on male counterparts' turnover intention.

H4: Opportunities for growth and development (Factor 4) has a different effect on female employees' turnover intention, compared to its effect on male counterparts' turnover intention.

Methods

This study tested which aspects of workplace characteristics have more effects on turnover intention, using ordinary least squares (OLS) regression analyses. Before conducting OLS regression, exploratory factor analysis was run with 20 workplace variables to figure out underlying factors among them.

Of three distinct 2016 Merit Principles Surveys (MPS) (i.e., Path 1, Path 2, and Path L), 'Path 2' was used in this study. Path 1 and Path 2 were directed to both line employees and supervisors and collected data about different topics, respectively. Path L was directed to supervisors only. The Merit System Protection Board has statutory responsibility to assess the health of federal merit systems and the 2016 MPS data is the most recent data available to the public when this study was conducted. The sample was drawn from 24 federal agencies, and 14,473 full-time civilian federal employees participated in the survey for the data set 'Path 2' with 38.7% response rate (Merit System Protection Board, 2016).

Dependent Variable

Turnover intention was used as a dependent variable in this study. Although turnover intention is not equal to actual turnover, there exists a high correlation between turnover and turnover intention (Dalton, Daily, Johnson, & Ellstrand, 1999), and turnover intention has been a mainstay of the turnover research (Cohen, Blake, & Goodman, 2016). In fact, turnover intention is a frequently used surrogate measure for actual turnover in public administration literature (Bertelli, 2007; Bright, 2008; Cho & Song, 2017; Moynihan & Landuyt, 2008), as well as in general turnover studies (Griffeth et al., 2000; Hyosu Kim & Kao, 2014; Soojin Kim, Tam, Kim, & Rhee, 2017). In the 2016 MPS data set, survey participants were asked to indicate the level of agreement about a plan to move to a different occupation or line of work (1: strongly disagree, ..., 5: strongly agree).

Independent Variables

Diverse contextual factors of workplaces were used as independent variables. U.S. federal employees were asked to indicate the level of agreement about workplace variables (1: strongly disagree, ..., 5: strongly agree). Exploratory factor analysis was conducted to identify underlying dimensions among 20 workplace variables.

Before deciding how many extracted factors would be attained in this study, both eigenvalues and a eigenvalue scree plot were considered as methodologists suggested (Ferguson & Cox, 1993; Hayton, Allen, & Scarpello, 2004). One factor showed greater than one in eigenvalue (See Appendix 1, Table A), but the eigenvalue scree plot illustrated that the slope of the graph did not change much after the fourth factor (See Appendix 1, Figure A). According to the guideline of the scree test (DeCoster, 1998; Yong & Pearce, 2013), it is recommended to attain all factors until the slope did not change much. In this study, four factors were finally attained. More details in the factor analysis can be found in Appendix 1. After factor analysis, reasonable names were given to extracted factors although the given names may not fully contain the meaning of all component variables in each factor. Below are the attained four factors of the factor analysis. The component variables of each factor can be found in Appendix 1, Table B.

- Factor 1 (happy and innovative working climate)
- Factor 2 (feeling valued and trusted)
- Factor 3 (coworker support and the spirit of camaraderie)
- Factor 4 (opportunities for growth and development)

Internal consistency or reliability of these four factors was also checked by computing Cronbach's alpha value. The Cronbach's alpha values for all four factors were between 0.85

and 0.95 (see Appendix 1, Table B). According to the criteria for internal consistency (Cronbach, 1951; Nunnally, 1978), a set of variables is considered to have sufficient internal consistency or reliability when Cronbach's alpha value is greater than 0.7.

Demographic Variables

In this study, several demographic factors were used in regression analyses. If an employee has a longer tenure (Cotton & Tuttle, 1986; Ju & Li, 2019), a managerial status (Dreher, 1982; Stumpf & Dawley, 1981), higher salary (Gattiker, 1989; Trevor, Gerhart, & Boudreau, 1997), an older age (Carless & Arnup, 2011; Kellough & Osuna, 1995), union membership, or a teleworker status (Gajendran & Harrison, 2007; Hunton & Norman, 2010), they tend to show a low level of turnover intention. However, turnover intention tends to increase if an employee is female (M.-H. Huang & Cheng, 2012; Moynihan & Landuyt, 2008), racial minority (Doede, 2017; Tsui, Egan, & O'Reilly III, 1992), or more educated (Emiroğlu et al., 2015; Hyosu Kim & Kao, 2014). In this study, it is assumed that female employees' turnover intention is differently affected by demographic factors, compared to male counterparts' turnover intention. In each demographic factor of this study, numbers were assigned as seen in Appendix 2, Table A.

Findings

Descriptive Statistics and Correlations

Mean values and standard deviations (SD) for workplace variables and demographic variables are summarized in Tables 1 and 2. All correlations between workplace variables were significant and positive ($p < 0.01$), and all correlations between workplace variables and turnover intention were significant and negative ($p < 0.01$)—correlations were not displayed in Table 1. That is, turnover intention seems to decrease if employees agree or strongly agree with any workplace variables.

On average, federal employees did not have a high level of turnover intention (i.e., mean was 2.33 out of 5) and there was no significant difference in turnover intention between male and female employees (mean of males=2.31, mean of females=2.35, $t=1.63$, not shown in the table). Although working conditions and rewards for female employees are usually inferior (e.g., lower pay, less opportunities for promotion, less authority) to those for male counterparts, researchers found that female employees showed a higher level of job satisfaction than their male counterparts (Clark, 1997; Oshagbemi, 2000; Phelan, 1994; Sloane & Williams, 2000; Sousa-Poza & Sousa-Poza, 2003)—it is called a “grateful slave phenomenon” (Hakim, 1991, p. 103). Therefore, it is not surprising that female employees did not report a significantly higher level of turnover intention than male counterparts.

Of 20 workplace variables, the top five variables that employees reported a high level of agreement about were, “I understand how I contribute to my agency's mission” (w18, mean=4.17 out of 5), “My judgment is trusted and relied on at work” (w6, mean=3.93), “I feel needed and depended on at work” (w4, mean=3.88), “I like the quality of relationships I have with my coworkers” (w13, mean=3.82), and “I feel comfortable being myself at work” (w17, mean=3.78). Of these top five variables, three variables (w18, w6, and w4) were from Factor 2 (Feeling valued and trusted), whereas no variables were from Factor 4 (Opportunities for growth and development). Bottom five variables that employees reported a low level of agreement about were, “I am able to share my true thoughts and feelings at work” (w11, mean=3.38), “I feel encouraged to try new things in my work” (w10, mean=3.43), “I feel fully appreciated at work” (w9, mean=3.44), “There is a culture of openness and support for new or different perspectives in my work unit” (w3, mean=3.45), and “I feel cared about personally at work” (w12, mean=3.46). Of these bottom five variables, four variables (w11, w10, w9, and w12) were from Factor 1 (Happy and innovative working climate).

Table 1. Descriptive Statistics for Turnover and Workplace Variables

Factor	Variable	Mean	SD	Variable	Mean	SD
	Turnover	2.33	1.22			
F1	w9	3.44	1.19	F2	w5	3.75
	w10	3.43	1.16		w6	3.93
	w11	3.38	1.20		w7	3.68
	w12	3.46	1.16		w18	4.17
	w14	3.68	1.23	F3	w1	3.75
	w16	3.52	1.18		w3	3.45
	w17	3.78	1.05		w8	3.73
F2	w2	3.67	1.11	w13	3.82	
	w4	3.88	1.03	w15	3.51	
				w19	3.57	
			F4	w20	3.49	

Notes: Variables are displayed in the order of factor numbers (F1–F4): factor 1 (w9, w10, w11, w12, w14, w16, w17), factor 2 (w2, w4, w5, w6, w7, w18), factor 3 (w1, w3, w8, w13, w15), and factor 4 (w19, w20). Meanings of workplace variables (w1–w20) can be found in Appendix 1, Table B. Correlation coefficients are available upon request.

As seen in Table 2, survey participants stayed in their current agencies for more than 4 years on average and held a team leader or higher managerial status (mean=2.25). Of survey participants, 15% were union members, 33% were racial minorities, 42% were female, and 56% were able to telework. In addition, salary levels were between \$75,000 and \$150,000 on average; their ages were older than 40 on average; and education level was Associate of Arts (AA) or Bachelor of Arts (BA) degree on average.

Workplace Variables, Demographic Variables, and Turnover Intention

OLS regression analyses were conducted with males and females, respectively (see Table 3). Variance inflation factor (VIF) was checked when regressions were run because there might be a multicollinearity issue due to high correlations among workplace variables. If there exists a severe multicollinearity issue in the regression analysis, the statistical significance of each independent variable will be undermined, and results become unreliable (Mansfield & Helms, 1982). It turned out that the average VIF was under 3. According to the suggested guideline (Mansfield & Helms, 1982; Miles, 2005), the multicollinearity cannot be an issue in the regression analysis if average VIF value is less than 10.

The effects of demographic factors on turnover intention were very similar among male and female employees except an education level. For both male and female employees, turnover intention increased when they were promoted to higher managerial positions or when they were racial/ethnic minorities. For both male and female employees, turnover intention decreased when salary went up or when they became older. However, only female employees showed decreased turnover intention when they were more educated.

Factor 1 (happy and innovative working climate) generally showed a significant difference in its effect on turnover intention between female and male employees. Only female employees showed decreased turnover intention when they felt fully appreciated at work (w9) or when they felt encouraged to try new things in their work (w10). Only male employees showed

Table 2. Descriptive Statistics for Demographic Variables

Variable	Mean	SD
Years with current agency (1: 3 years or less, 2: 4 years or more)	1.91	0.28
Managerial status (1: non-supervisor, 2: team leader, ..., 5: executive)	2.25	1.29
Union membership (0: non-member, 1: member)	0.15	0.36
Salary (1: \$74,999 or less, 2: \$75,000–\$99,999, 3: \$100,000–\$149,999, 4: \$150,000 or more)	2.52	1.03
Racial minority (0: non-minority, 1: minority)	0.33	0.47
Gender (0: male, 1: female)	0.42	0.49
Age group (1: 39 and under, 2: 40 and over)	1.86	0.35
Education level (1: less than AA degree, 2: AA or BA degree 3: graduate degree)	2.21	0.73
Telework status (0: non-teleworker, 1: teleworker)	0.56	0.50

decreased turnover intention when they felt comfortable being themselves at work (w17). When they felt comfortable talking to their supervisor about the things that matter to them at work (w14), both male and female employees showed decreased turnover intention. Overall, H1 was partially supported.

Factor 2 (feeling valued and trusted) showed some different effects on female employees' turnover intention. Only female employees showed decreased turnover intention when they understood how they contribute to their agency's mission (w18), whereas only male employees showed decreased turnover intention when they felt valued at work (w7). Surprisingly, male employees' turnover intention increased when their judgment was trusted and relied on at work (w6). Overall, H2 was partially supported.

Factor 3 (coworker support and the spirit of camaraderie) showed similar effects on turnover intention among female and male employees. Only female employees showed decreased turnover intention when they liked the quality of relationships they had with their coworkers (w13). Overall, H3 was not supported.

Factor 4 (Opportunities for growth and development) showed some different effects on female employees' turnover intention. Only female employees showed decreased turnover intention when they had an opportunity to develop their character in their organizations (w20), whereas both male and female employees showed decreased turnover intention when they thrived at work (w19). Overall, H4 was partially supported.

Discussion and Conclusion

This study attempted to identify what workplace contextual factors would reduce female employees' turnover intention. As seen in the hypothesis testing, female employees' turnover intention was differently affected by many workplace contextual factors, compared to male

Table 3. Regression Analysis Results (DV: Turnover Intention)

	Variable	Females Only		Males Only	
		Coefficients	SE	Coefficients	SE
Demographic Factors	Tenure with current agency	-0.084	0.07	-0.111	0.06
	Managerial status	0.064***	0.02	0.044**	0.02
	Union membership	0.080	0.05	0.054	0.05
	Salary	-0.148***	0.02	-0.154***	0.02
	Racial minority	0.442***	0.04	0.240***	0.04
	Age group	-0.140*	0.06	-0.095*	0.05
	Education level	-0.057*	0.03	0.000	0.02
	Telework status	-0.027	0.04	-0.027	0.03
Factor 1	I feel fully appreciated at work (w9)	-0.065*	0.03	-0.024	0.03
	I feel encouraged to try new things in my work (w10)	-0.053+	0.03	0.005	0.03
	I am able to share my true thoughts and feelings at work (w11)	0.010	0.03	0.047+	0.03
	I feel cared about personally at work (w12)	-0.001	0.03	-0.034	0.03
	I feel comfortable talking to my supervisor about the things that matter to me at work (w14)	-0.054*	0.03	-0.046*	0.02
	I am able to openly express my concerns at work (w16)	0.038	0.03	-0.005	0.03
	I feel comfortable being myself at work (w17)	-0.045	0.03	-0.071**	0.03
Factor 2	I am empowered to do my work the way I see best (w2)	0.033	0.03	-0.017	0.02
	I feel needed and depended on at work (w4)	0.005	0.03	-0.015	0.03
	My perspective is sought on important work matters (w5)	-0.010	0.03	0.029	0.03
	My judgment is trusted and relied on at work (w6)	-0.001	0.03	0.083**	0.03
	I feel valued at work (w7)	-0.055	0.04	-0.142***	0.03
	I understand how I contribute to my agency's mission (w18)	-0.058*	0.03	-0.021	0.02
Factor 3	There is a spirit of friendship and camaraderie in my work unit (w1)	-0.008	0.03	-0.008	0.03
	There is a culture of openness and support for new or different perspectives in my work unit (w3)	0.024	0.03	-0.017	0.03
	There is a culture of helping and supporting one another in my work unit (w8)	0.048	0.03	0.008	0.03
	I like the quality of relationships I have with my coworkers (w13)	-0.058*	0.03	-0.033	0.03
	There is a spirit of trust in my work unit (w15)	0.023	0.03	-0.002	0.03
Factor 4	I thrive at work (w19)	-0.113***	0.03	-0.184***	0.03
	I have an opportunity to develop my character in my organization (w20)	-0.106***	0.03	-0.009	0.03
Number of Observations		3,665		5,166	
R-squared		0.181		0.153	
F-value		28.68		33.15	

Notes. Unstandardized coefficients are displayed. + p < .10, * p < .05, ** p < .01, *** p < .001

employees' turnover intention. OLS regression analyses also showed that female employees' turnover intention was most affected by Factor 4 (opportunities for growth and development) and least affected by Factor 2 (feeling valued and trusted) and Factor 3 (coworker support and the spirit of camaraderie). For male employees, Factor 1 (happy and innovative working climate) had the biggest effect on turnover intention, whereas Factor 3 (coworker support and the spirit of camaraderie) had the least effect on turnover intention.

This study also examined the effects of major demographic variables on turnover intention. For both male and female employees, employees with high salary or older age showed a lower level of turnover intention, and employees with racial minority status showed a higher level of turnover intention as predicted in the literature. However, turnover intention increased when employees were promoted to higher managerial positions, contrary to the prediction of the literature. Researchers explain that managers tend to stay in the current organizations because they have higher investment in the current organizations than non-managers (Dreher, 1982; Stumpf & Dawley, 1981). When employees are promoted to higher managerial positions, their stress level tends to increase (Cavanaugh, Boswell, Roehling, & Boudreau, 2000). If the stress level exceeds their perceived value of the investment in the current organizations, they might decide to resign. Unlike male employees, female employees' turnover intention was also affected by the education level. As female employees were more educated, turnover intention decreased, which is contrary to the general prediction about educational effect (Emiroğlu et al., 2015; Hyosu Kim & Kao, 2014). In fact, compared to the private sector, prospective public employees with more educational backgrounds can be more likely to be hired in governments (Blank, 1985), and the pay gap between male and female employees is smaller in governments (Asher & Popkin, 1984; Perloff & Wachter, 1984). Furthermore, governments have bans on discrimination against women and minorities (Lewis & Frank, 2002). Therefore, it is not surprising that more educated female employees showed less turnover intention.

As one of the first attempts to comprehensively investigate the effects of workplace contextual factors on female employees' turnover intention, this study made some noteworthy contributions to the current literature. First, the findings in this study can be used as practical guidelines for human resource management (HRM) practices that can reduce turnover and turnover intention among female and male employees. According to the findings in this study, some workplace contextual factors had more significant effects on female employees' turnover intention than others. Secondly, this study filled the gap in the turnover literature by focusing on the effects of diverse organizational contextual factors that did not get turnover researchers' attention until recently. With a large-N sample, this study could investigate the effects of contextual factors on female employees' turnover intention in a more comprehensive manner. Unlike extant studies that only focused on a few selected contextual factors such as organizational justice (Nadiri & Tanova, 2010; Parker & Kohlmeyer III, 2005) and organizational culture (Egan et al., 2004; J. Kim, 2015), this study took into consideration all contextual factors at the same time. Therefore, this study could identify some contextual factors that were more effective in reducing female employees' turnover intention.

However, some caution needs to be exercised when interpreting the findings in this study. First, although it is helpful to focus on the effects of a few workplace contextual factors on employees' turnover intention, there are no commonly agreed definitions of workplace contextual factors. They may be differently defined, depending on what questions are asked in the survey. Studies in diverse settings should be conducted to develop more common workplace contextual factors. Secondly, what this study found may not be similarly applicable to all female public employees with diverse racial/ethnic backgrounds because this study did not control for racial/ethnic backgrounds of survey participants. Thirdly, we are not sure whether the findings in this study can be applicable to public employees at other levels of governments such as state and local governments or in different countries because only federal employees in the U.S. were surveyed in the MPS data. More research should be conducted in

the future and these limitations need to be taken care of before generalizing the findings of this study.

Disclosure Statement

The author(s) declare that there are no conflicts of interest that relate to the research, authorship, or publication of this article.

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Appendix 1. Factor Analysis of Workplace Contextual Variables

Table 1A. Eigenvalues and Explained Proportion of Variance

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	12.61	11.89	0.92	0.92
Factor 2	0.73	0.27	0.05	0.97
Factor 3	0.46	0.16	0.03	1.00
Factor 4	0.30	0.07	0.02	1.02

Figure A. Scree Plot of Eigenvalues after Factor Analysis

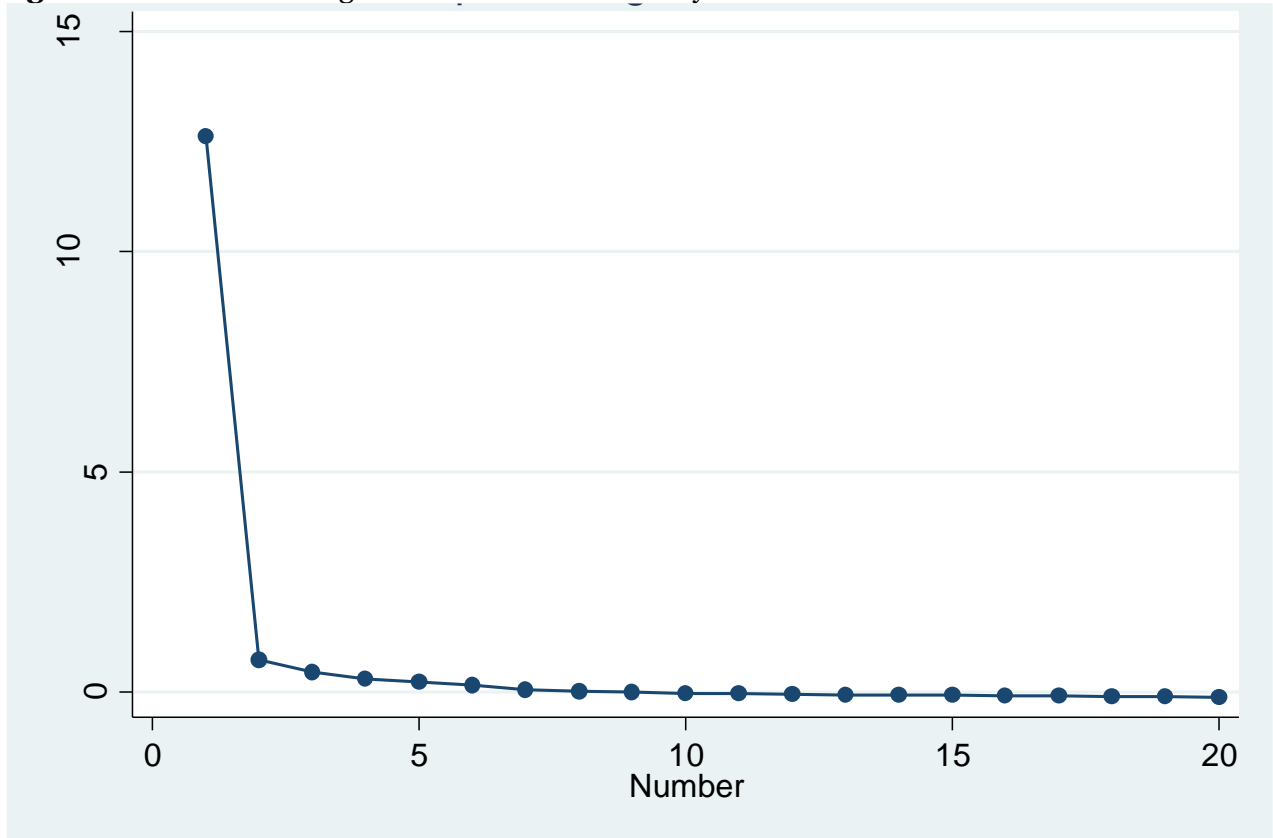


Table 1B. Factor Loadings and Alpha Values for Factors

Factor	Component variable	Factor Loading	Alpha
Factor 1	I feel fully appreciated at work (w9)	0.51	0.95
	I feel encouraged to try new things in my work (w10)	0.50	
	I am able to share my true thoughts and feelings at work (w11)	0.67	
	I feel cared about personally at work (w12)	0.55	
	I feel comfortable talking to my supervisor about the things that matter to me at work (w14)	0.65	
	I am able to openly express my concerns at work (w16)	0.74	
	I feel comfortable being myself at work (w17)	0.56	
Factor 2	I am empowered to do my work the way I see best (w2)	0.44	0.91
	I feel needed and depended on at work (w4)	0.66	
	My perspective is sought on important work matters (w5)	0.72	
	My judgment is trusted and relied on at work (w6)	0.72	
	I feel valued at work (w7)	0.64	
	I understand how I contribute to my agency's mission (w18)	0.42	
Factor 3	There is a spirit of friendship and camaraderie in my work unit (w1)	0.75	0.92
	There is a culture of openness and support for new or different perspectives in my work unit (w3)	0.49	
	There is a culture of helping and supporting one another in my work unit (w8)	0.71	
	I like the quality of relationships I have with my coworkers (w13)	0.65	
	There is a spirit of trust in my work unit (w15)	0.63	
Factor 4	I thrive at work (w19)	0.54	0.85
	I have an opportunity to develop my character in my organization (w20)	0.52	

Appendix 2

Table 2A. Demographic Variables

Demographic Variable	Assigned number
Years with current agency	1: 3 years or less 2: 4 years or more
Supervisory status	1: non-supervisor 2: team leader 3: supervisor 4: manager 5: executive
Union membership	0: non-union membership 1: dues-paying union membership
Salary level	1: \$74,999 or less 2: \$75,000–\$99,999 3: \$100,000–\$149,999 4: \$150,000 or more
Racial minority	0: non-minority 1: minority
Gender	0: male 1: female
Age group	1: 39 and under 2: 40 and over
Education level	1: less than AA degree 2: AA or BA degree 3: graduate degree
Teleworker status	0: non-teleworker 1: teleworker