

The Relationship between Job Demands, Job Resources, Employee Burnout, and Employee Engagement in Municipal Government Workers

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Abstract

The question of what motivates engagement in the workplace has received a great deal of research attention. The role of job stressors and demands as well as job resources is detailed by the Job Demands Resources (JD-R) theory and has been used to predict burnout, engagement, work enjoyment and performance, and overall employee wellbeing. Although research based on the JD-R has been conducted in many settings, prior to this study, municipal government workers were frequently left out. A quantitative, correlational survey study was conducted with the employees of a city in the southwestern United States ($N = 352$) using three research instruments: the Maslach Burnout Inventory (MBI), the Utrecht Work Engagement Scale (UWES), and the Jobs Demands-Resources Scale (JD-RS). Analysis of the data using Pearson's r received indicated a significant positive correlation between job demands and employee burnout ($r(350) = .443, p < .05$), a significant positive correlation between job resources and employee engagement ($r(350) = .580, p < .05$), and a significant negative correlation between job resources and employee burnout ($r(350) = -.482, p < .05$), but interestingly, no correlation was found between job demands and employee engagement. Results are discussed in terms of applicability to JD-R theory and practical benefits. Future directions for research are discussed.

Keywords

Job Demands, Job Resources, Employee Burnout, Employee Engagement, Municipal Government

1. Introduction

What motivates employees? Why are some employees disengaged, burned out,

while others enjoy their work so much that they spend *extra* time on the job? These questions have plagued organizations and researchers alike for decades. Trends in both the workplace and in society at large are requiring all organizations, including governmental ones, to expect more effort, motivation, and productivity from their employees than in times past (Avanzi, Zaniboni, Balducci, & Fraccaroli, 2014). These high levels of productivity and customer service are only attainable when employees are engaged in their work (Rama & Nagini, 2013).

Yet, recent research has found that nearly 20% of employees are actively disengaged or in a state referred to as burnout (Reilly, 2014; Van den Broeck et al., 2017). Those suffering from burnout generally exhibit long-term emotional exhaustion, diminished interest, and cynicism (Berg, Harshbarger, Ahlers-Schmidt, & Lippoldt, 2016; ten Brummelhuis, ter Hoeven, Bakker, & Peper, 2011) which lead to the depletion of both energy and motivation, as well as detachment and lowered effectiveness (Berg et al., 2016; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Burnout, a state antithetical to engagement, causes organizations and individuals to fall short of goals and potentials (Swider & Zimmerman, 2010). Organizations with burnt out employees have decreased financial performance, increased attendance issues, and difficulty in maintaining adequate staffing levels (Raftopoulos, Charalambous, & Talias, 2012).

The potential of workplace relationships between the four variables of job demands, job resources, burnout, and engagement was initially hypothesized in seminal research by Demerouti, Bakker, Nachreiner, and Schaufeli (2001). This research resulted in the formulation of the Job Demands-Resources Theory (JD-R) which, contrary to other historical theories of job design, proposes causal effects of burned-out employees on job demands and engaged employees on job resources (Bakker & Demerouti, 2017). Since then, the list of occupations studied in relation to these variables has included migrant agricultural workers (Qin, Hom, Xu, & Ju, 2014), teleworkers (Sardeshmukh, Sharma, & Golden, 2012), healthcare workers including nurses (Yom, 2013), radiation oncologists (Bragard, Hansez, & Coucke, 2014), and pharmacists (Gaither & Nadkarni, 2012), teachers in both college and high school (Baka, 2015; Mérida-López, Extremera, & Rey, 2017) and university (Boyd et al., 2011), paramilitary personnel (Ojedokun & Idemudia, 2014), and religious workers (Bickerton, Miner, Dowson, & Griffin, 2014).

However, municipal government workers differ from these contexts in important ways. First, employee demographics are different for municipal government employment vs non-government employment. In non-government employment, the percent of the workforce over the age of 55 and nearing retirement is about 15%. In city government employment that percentage is over 25% (Risher, 2016). Additionally, many young people hold negative views of government employment and the number of them that consider it an acceptable career option is in a steady decline (Bright, 2018). This viewpoint is found even among students obtaining advanced degrees in public administration. Some data

show that while the current percent of the workforce employed by city governments is 9% (Dippold et al., 2020; Bureau of Labor Statistics, 2021) just 6% of college graduates plan to work in any form of government employment, indicating a shortage of interested employees (Jin & McDonald, 2017). Governmental entities are not immune to the same problems with burnout in other industries (Hao, Hong, Xu, Zhou, & Xie, 2015). Government workplaces have been shown to be particularly resistant to change and full of bureaucratic red tape (Brewer & Walker, 2013; Giauque, Ritz, Varone, & Anderfuhren-Biget, 2012; Murphy, 2017), variables that have been linked to greater employee stress (Kroll & Vogel, 2021; Quratulain & Khan, 2015). There have been calls for research to explore any potential relationships between the variables of job demands and job resources with employee burnout, employee engagement and motivation in public employment (Borst, Kruven, & Lako, 2017; Vandenabeele, Brewer, & Ritz, 2014), noting that the effects of job demands and job resources on public employees have “context dependency” (Borst, 2018: p. 308; Bakker & Demerouti, 2017).

Understanding the relationships between these variables might be particularly important for governmental organizations funded by taxpayer dollars. More than 14 million people, or just over 9% of the total workforce, are employed in municipal governments across the US (Dippold et al., 2020; Bureau of Labor Statistics, 2021). This amount represents a sizeable increase of more than 25% from the nearly 11 million people employed by local governments just over a decade before (Ellickson, 2002). However, little workplace research has been conducted about government employees in general and the subset of employees in municipal governments, which in the United States is nearly twice as large as the combined total of state and federal employees, was studied the least (Ellickson, 2002). If there is a high level of burnout in the employees of a municipal government organizations, citizens are funding an organization operating in an inefficient and potentially wasteful manner (Chong, La Porta, Lopez-de-Silanes, & Shleifer, 2014). It is vital for municipal government workplaces to not only understand burnout and its symptoms, but also to understand what may lead to burnout and what they can do to prevent it from affecting their employees and workplace.

Four research questions directed this study:

RQ1: Is there a statistically significant relationship between job demands, as measured by the Job Demands-Resources Scale (JDRS), and employee burnout, as measured by the Maslach Burnout Inventory (MBI), in the employees of a city government?

RQ2: Is there a statistically significant relationship between job resources, as measured by the JDRS, and employee engagement, as measured by the Utrecht Work Engagement Scale (UWES), in the employees of a city government?

RQ3: Is there a statistically significant relationship between job demands, as measured by the JDRS, and employee engagement, as measured by the UWES, in the employees of a city government?

RQ4: Is there a statistically significant relationship between job resources, as measured by the JDRS, and employee burnout, as measured by the MBI, in the employees of a city government?

2. Method

2.1. Sample and Procedures

The population of interest for this study was the city employees of a city in the southwestern United States with over 400,000 residents. The city that was studied employs approximately 3600 employees in a range of professions including police officers and firefighters, referred to as “sworn” employees, those who care for the city’s physical infrastructure, water and sewer lines and streets, city airport employees, and those who work in an administrative or clerical function.

According to G^* Power, the size of the sample needed for sufficient power was at least 102 employees (2.83% of the population) for a correlation analysis (Faul, Erdfelder, Buchner, & Lang, 2009). All 3600 city employees were invited to participate in the study via email with an attached link to the informed consent form and survey. Data collection lasted for 16 days after the initial distribution of the email invitation to participate in the study to city employees. One week after the initial email, the city sent an additional email to remind employees of the opportunity to voluntarily participate in the study. Anonymity of the participants was ensured and no identifiable information was collected by either the researcher or the city in this procedure.

Out of 3600 city employees, 423 responded (11.75%) and accessed the Survey Monkey study. One employee did not agree to the conditions in the Informed Consent document and did not proceed (.03%). Seventy participants did not fully complete the survey, resulting in a total sample of 352 (9.78% of the total workforce) who completed all parts of the study. Post-hoc power testing of the data using the actual sample size ($N = 352$), resulted in a power of .99. Demographics of the resulting sample are presented in **Tables 1-3**.

2.2. Research Context

The city whose employees participated in this study is in a state that has declared several revenue failures within the past two years, resulting in a variety of cut-backs, including support for its cities. These revenue challenges, along with the ever-present fiscal challenges faced in municipal governments, make it difficult for the city to competitively pay its employees, to provide them with training or

Table 1. Gender makeup of survey respondents.

Gender	<i>N</i> = 352	Percentage
Male	203	57.67%
Female	146	41.48%
No Answer	3	0.85%

Table 2. Age makeup of survey respondents.

Age Range in Years	N= 352	Percentage
18 - 24	4	1.11%
25 - 34	39	11.08%
35 - 44	80	22.73%
45 - 54	101	28.69%
55 - 64	104	29.55%
75 and Older	1	0.28%
No Answer	23	6.53%

Table 3. Racial/ethnic makeup of survey respondents.

Ethnicity/Race	N= 352	Percentage
White/Caucasian	255	72.44%
American Indian/Alaskan Native	56	15.91%
African American/Black	17	4.83%
Hispanic/Latino	7	1.99%
Other	6	1.70%
Middle Eastern	4	1.14%
No Answer	4	1.14%
Asian	3	0.085%

new workplace equipment and tools, and to fully staff many positions and departments. City leaders are concerned that their staff may not be engaged and that there may be increasing burnout in their employees.

There are some unique elements in the functions performed by the target city that may give it a different set of employees from other cities. For example, operating primary schools is not a city function; there are no educators on the city payroll. The city does not operate its own jail or local public library system, as those functions are handled by the county government. Lastly, the city operates the local international airport.

2.3. Measures

The survey consisted of a 76-question amalgamation that combined the Maslach Burnout Inventory (MBI), the Utrecht Work Engagement Scale (UWES), and the Jobs Demands-Resources Scale (JDERS), employees provided self-reports of the demands of their jobs, the resources at their disposal, their level of burnout, and their level of engagement. These instruments use Likert scales, have been used extensively, and have been shown to have high validity and reliability for measuring the studies constructs. Cronbach α was used to test the reliability of all three instruments.

These instruments have often been used in tandem with each other to study hypotheses that include these variables, including research conducted by D'Emiljo and du Preez (2017), De Braine and Roodt (2011), Meyer (2012), Narainsamy and Van der Westhuizen (2013), and Ojedokun and Idemudia (2014).

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The Maslach Burnout Inventory. The MBI, used to measure burnout, has been noted as the instrument most frequently used in research of burnout (Bianchi, 2015). Using a 7-point Likert scale (with potential answers ranging from “never” to “everyday”), it measures burnout via 16 questions each connected to one of the three primary factors of burnout, exhaustion, cynicism, and reduced professional efficacy (Maslach, Jackson, & Leiter, 2016; Schutte, Toppinen, Kalimo, & Schaufeli, 2000). The questions related to exhaustion are 1, 2, 3, 4, 5, and 6. The questions related to cynicism are 5, 8, 9, 13, 14, and 15. The questions related to reduced efficacy are 5, 6, 7, 10, 11, 16, 16. Even though the instrument can generate a score for each element of burnout, the authors recommend combining the scores of all of the questions into a burnout index score, with a higher score indicating a greater level of burnout. The validity of the MBI was confirmed in several studies using comparative fit index (CFI) and root mean square residuals (RMSEA). The CFI values ranged between .92 and .974 (de la Fuente et al., 2014; Mészáros, Ádám, Szabó, Szigeti, & Urbán, 2014; Mostert, Pienaar, Gauche, & Jackson, 2007) and the RMSEA values ranged between .039 and .06 (de la Fuente et al., 2014; Mészáros et al., 2014); (Mostert et al., 2007). Cronbach α reliability coefficients have been obtained between .88 and .90 (de la Fuente et al., 2014; Plat-sidou & Daniilidou, 2016). The MBI was purchased for independent research use.

The Utrecht Work Engagement Scale. The UWES, used to measure employee engagement, was constructed and validated by one of the principal theorists of the relationships between these variables (Schaufeli & Bakker, 2003). It is the instrument most commonly used in the study of workplace engagement (Bailey et al., 2015; Fletcher et al., 2014). It uses a 7-point Likert scale, with answers ranging from “never” to “every day” to assess engagement via focus on vigor and dedication, considered the direct opposites of the first two areas of burnout, as well as on absorption (Lekutle & Nel, 2012). The items associated with vigor are 1, 4,

8, 12, 15, and 17. The items associated with dedication are 2, 5, 7, 10, and 13. The items associated with absorption are 3, 6, 9, 11, 14, and 16. Analysis of the results of the UWES utilizes the summed scores from the all questions in the instrument with higher scores indicating a higher level of engagement. The validity of the UWES was also confirmed in studying using the CFI and the RMSEA with values ranging between .94 and .97 for the CFI and between .035 and .067 for the RMSEA (Extremera, Sánchez-García, Durán, & Rey, 2012; Mostert et al., 2007; Seppala et al., 2009). Cronbach α reliability coefficients included .89, .90, and .92 (De Bruin & Henn, 2013; Lekutle & Nel, 2012; Storm & Rothmann, 2003).

The UWES was available for use at no charge for non-commercial, scientific research, provided that all data obtained from the use of this instrument was shared in an aggregate form with the instrument's developer.

The Jobs Demands-Resources Scale. The instrument used to measure both job demands and job resources, the JDRS, was introduced in 2005 by Jackson and Rothmann based on their literature review of previous studies of these variables. It was designed to be used as an instrument in future research (Jackson & Rothmann, 2005; Pillay, Buitendach, & Kanengoni, 2014). Its 42 questions are grouped into five factors: growth opportunities, organizational support, advancement, overload, and job insecurity and answered on a four-point Likert scale, with answers ranging from "never" to "always" (Rothmann, Mostert, & Strydom, 2006). Scoring for job demands with the JDRS is derived from the summed scores of the individual questions in the overload, items 1 through 8, and job insecurity, items 34 - 36, groupings. By adding these scores from these factors together, the job demands score that will be used in the correlation analysis will be obtained. Job resources will also be measured by the JDRS using questions within the factors of growth opportunities, items 16 - 33, organizational support, items, 9 - 15, and advancement, items 37 - 42 (Rothmann et al., 2006). As with job demands, job resources data is calculated by summing the individual questions within these three categories to obtain a single score for job resources for analysis. For both the job demands and the job resources scores, higher values indicate a greater level of either demands or resources. For the JDRS, Tucker's phi was used to confirm its validity with resulting ranging between .94 and .99 (Lorenzo-Seva & ten Berge, 2006). The JDRS also had values of Cronbach α reliability coefficients at and near .90 (Field & Buitendach, 2012; Narainsamy & Van der Westhuizen, 2013; Rothmann et al., 2006).

Usage rights for the use of the JDRS for this study were obtained in personal correspondence between the researcher and co-author (Jackson) of the instrument with the request that all data obtained from the use of this instrument was shared in an aggregate form with the instrument's developer.

2.4. Variables

Variable 1: Job demands.

This variable refers to the sustained effort, physical and/or mental, needed for

the performance of specific job-required tasks. In addition to this sustained physical and psychological effort, it includes administrative, personal/emotional, and role requirements (Crawford, LePine, & Rich, 2010; Nahrgang, Morgeson, & Hofmann, 2011). Workload, time pressure, and the challenges of the physical environment are also elements of job demands. This interval data variable was measured by the Job Demands-Resources Scale (JDERS). It was written specifically for use in research with the variables of job demands and job resources (Pillay et al., 2014) via 40 questions about workplace issues grouped into factors overload, job insecurity, and control, answered on a Likert scale with answers ranging from 1, never to 4, always (Rothmann et al., 2006).

Variable 2: Job resources.

This variable refers to workplace elements that aid in the achievement of work goals, potentially while stimulating personal growth and reducing job demands. Examples include training, supervisor support, job control, task variety, autonomy, participation in decision making, feedback, and a supportive work environment (Crawford et al., 2010; Nahrgang et al., 2011). This interval data variable was also measured by the Job Demands-Resources Scale (JDERS) on a four-point Likert scale with questions about workplace factors such as organizational support, relationship with colleagues, and rewards (Rothmann et al., 2006). Answers range between 1, never, and 4, always.

Variable 3: Employee burnout.

This variable refers to a state of being resulting from prolonged exposure to workplace stress with three common areas of manifestation: exhaustion, cynicism, and reduced personal efficacy (Schutte et al., 2000). It has been said to be the outcome of a long-term mismatch between job demands and resources (Bianchi, Schonfeld, & Laurent, 2015). Seminal research on burnout painted the picture of a worker dreading the prospect of another day on the job (Cordes & Dougherty, 1993). This interval data variable was measured by the Maslach Burnout Inventory (MBI) which measures burnout from employee responses to 16 questions divided among the three aforementioned common components of burnout (Maslach & Jackson, 1981; Schutte et al., 2000). The format is a Likert scale with responses in a range from 1, never, to 7, every day.

Variable 4: Employee engagement.

The foundational definition of this variable is that engagement stems from the psychological conditions of availability, meaningfulness, and safety resulting in a worker expressing his or her connection to work effectively, cognitively, and physically (Kahn, 1990). High emotion and energy with focused attention are seen in an engaged worker (Byrne, Peters, & Weston, 2016). This interval data variable was measured by the Utrecht Work Engagement Scale (UWES). It assesses engagement via focus on vigor and dedication, considered the direct opposites of the first two areas of burnout as well as on absorption via a Likert scale with responses ranging from 0, never to 6, Always (Schaufeli & Bakker, 2003).

2.5. Results

Tests of Assumptions

The data collected and analyzed in this study met the 5 assumptions for the use of a Pearson r (Laerd Statistics, 2017). First, there were two continuous variables in each research question. Second, the variables were paired. Third, the variables have a linear relationship. Fourth, there were no significant outliers in the data. Fifth and finally, there was the assumption of normality in the data, which was verified by testing within SPSS. Results of testing for normality are presented in **Table 4**.

Reliability

Cronbach's α was used to test the data received for reliability. All of the Cronbach's α values were in accordance with the results obtained when the study instruments were tested for reliability. For the MBI, used in this study to measure employee burnout, Cronbach's α values obtained during tests for reliability in previous studies ranged from .88 and .90 (de la Fuente et al., 2014; Platidou & Daniilidou, 2016). The burnout data for this study obtained a Cronbach's α value of .89. For the UWES, used to measure employee engagement in this study, Cronbach's α values reported from reliability testing in previous studies included .89, .90, and .92 (De Bruin & Henn, 2013; Lekutle & Nel, 2012; Storm & Rothmann, 2003). The data for this study was .91. The JDRS, used to measure both job demands and job resources in this study also had Cronbach's α values at and near .90 when evaluated for reliability in previous studies (Field & Buitendach, 2012; Narainsamy & Van der Westhuizen, 2013; Rothmann et al., 2006). Data for this study was .905.

RQ1: Relationship between Job Demands and Employee Burnout

Research question one asked: Is there a statistically significant relationship between job demands, as measured by the JDRS, and employee burnout, as measured by the MBI, in the employees of a city government? The null hypothesis was that there is no significant relationship between job demands and employee burnout while the alternative hypothesis was that there is a significant relationship between job demands and employee burnout. The null hypothesis was rejected and the conclusion was made that job demands had a statistically significant correlation with employee burnout, $r(350) = .443, p < .05$. The Pearson's r value of .443 indicates a medium effect size. The results are shown graphically in **Figure 1**.

Table 4. Results of normalcy testing for survey data.

Variable	Maximum Possible Range	Actual Data Range	Skewness	Cronbach's α
Burnout	96	87	.267	.889
Engagement	84	72	-.462	.862
Demands	55	39	.160	.786
Resources	155	115	.008	.941

RQ2: Relationship between Job Resources and Employee Engagement

Research question two asked if there was a statistically significant relationship between job resources, as measured by the JDRS, and employee engagement, as measured by the UWES, in the employees of a city government? The null hypothesis was that there is no significant relationship between job resources and employee engagement while the alternative hypothesis was that there is a significant relationship between job resources and employee engagement. The null hypothesis was rejected and the conclusion was made that job resources had a statistically significant correlation with employee engagement, $r(350) = .580$, $p < .05$. The Pearson's r value of .580 indicates a medium effect size. The results are shown graphically in **Figure 2**.

RQ3: Relationship between Job Demands and Employee Engagement

Research question three asked if there was a statistically significant relationship between job demands, as measured by the JDRS, and employee engagement, as measured by the UWES, in the employees of a city government? The null hypothesis was that there is no significant relationship between job demands



Figure 1. Scatter plot of the effect of job demands on employee burnout.

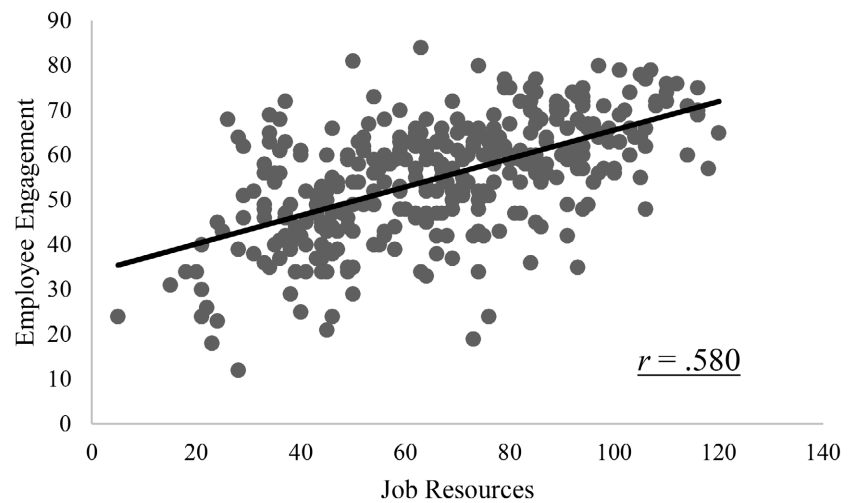


Figure 2. Scatter plot of the effect of job resources on employee engagement.

and employee engagement while the alternative hypothesis was that there is a significant relationship between job demands and employee engagement. The null hypothesis was not rejected and the conclusion was made that job demands did not have a statistically significant correlation with employee engagement, $r(350) = -.022, p > .05$. The results are shown graphically in **Figure 3**.

RQ4: Relationship between Job Resources and Employee Burnout

Research question four asked if there was a statistically significant relationship between job resources, as measured by the JDRS, and employee burnout, as measured by the MBI, in the employees of a city government? The null hypothesis was that there is no significant relationship between job resources and employee burnout while the alternative hypothesis was that there is a significant relationship between job resources and employee burnout. The null hypothesis was rejected and the conclusion was made that job resources had a statistically significant correlation with employee burnout, $r(350) = -.482, p < .05$. The Pearson's r value of $-.482$ indicates a medium effect size. The results are shown graphically in **Figure 4**.

2.6. Summary of Findings

In summary, all four research questions were answered. Significant positive correlations were found between job demands and employee burnout, as well as between job resources and employee engagement. A significant negative correlation was found between job resources and employee burnout. No correlation was found between job demands and employee engagement. A summary of the results obtained by the correlation testing is in **Table 4** and **Table 5**.

3. Discussion

The finding of a significant relationship between job demands and employee

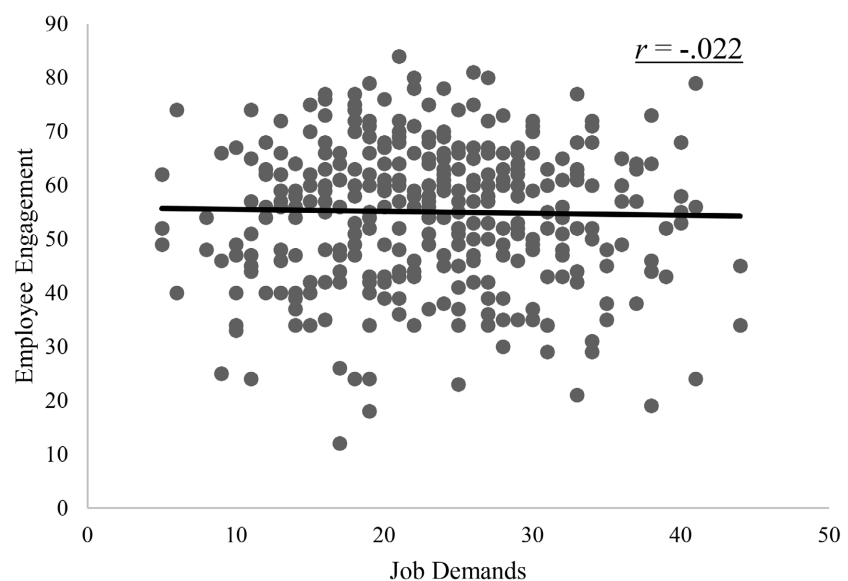


Figure 3. Scatter plot of the effect of job demands on employee engagement.

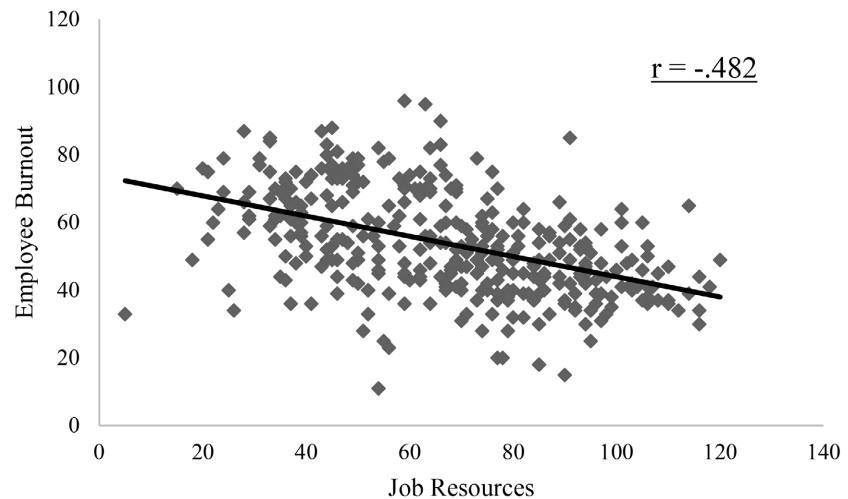


Figure 4. Scatter plot of the effect of job resources on employee burnout.

Table 5. Summary of results of correlation testing.

		Employee Engagement	Employee Burnout
Job Resources	Pearson Correlation (r)	.580*	-.467*
	Sig. (2-tailed)	.001	.001
	N	352	352
Job Demands	Pearson Correlation (r)	-.022	.443*
	Sig. (2-tailed)	.679	.001
	N	352	352

Note. *Correlation is significant at the .01 level (2-tailed).

burnout and between job resources and employee engagement extends the Job Demands-Resources Theory to the city government workplace. Higher levels of job resources were associated with higher levels of engagement and lower levels of burnout. Higher levels of job resources and lower job demands were related to lower levels of employee burnout.

No relationship was found, however, between job demands and employee engagement. No level of job demands, high or low, was found to show a relationship with employee engagement. The implication with this finding is that employee engagement is separate and distinct from levels of job demands. It might be that engagement in the workplace is better predicted by numerous other variables, perhaps interest, personality factors, relationships to superiors and colleagues, ability to control attention, etc.

The practical application is that investing in job resources may be associated with two payoffs: a reduction in employee burnout and an increase in employee engagement. While modifying job demands may have a desirable effect on employee burnout, it does not have a relationship with employee engagement. In preventing burnout, it seems that the best investment is in providing access to job resources, rather than reducing job demands. This is likely a welcome find-

ing for industry, especially municipal ones that have little leeway in modification of job duties.

3.1. Strengths and Limitations

This study has several strengths. The survey instruments used have also been used in previously published, peer-reviewed research with a great variety of positions and professions. They have demonstrated validity and reliability, both of which add to the credibility of the research. This study could be replicated with relative ease in the same or different cities to observe the consistency of the results obtained as is recommended to verify results in different settings (Brunsdon, 2016; Leppink, 2017). There was a minimal risk of data error since data input by the study participants was only allowable in the values specified in the study instruments due to the on-line delivery of them. The data were then exported and copied into Excel where they were summed by variable and copied into SPSS without further manipulation. Further, data was anonymously collected, enhancing the potential for individuals to self-report accurately without any fear of reprisal or being affected by self-presentation biases. The findings of this study translate easily to action items that can be readily applied in the workplace. Direct supervisors should be able to identify both the job demands and job resources for each job in their organizations and adjust these things for their employees.

There are some limitations of the study. First, this study cannot assert causal relationships between the variables, due to the use of correlational design. In this case, job demands and job resources would logically occur prior to employee burnout and engagement; however, the study did not look if there were other workplace factors that are present that may be the actual causes of burnout or engagement and directionality of the relationship cannot be concluded. Second, there are some limitations related to the self-report nature of the data. Employees may have been leery of answering questions that indicate, for example, that their workloads (i.e. job demands) are too high or that they are dealing with any of the symptoms of burnout, despite the assurance that the data are collected anonymously; or, the recency effect may have skewed some of the data, where a single, recent bad experience may have influenced their answers negatively even though overall the work experience has been a predominantly good one. However, studies have shown that the recency effect has limited influence on workplace studies (Bakker & Demerouti, 2017; Ilies, Aw, & Pluut, 2015), it is still a possibility (Bakker, 2014). Thirdly, some departments within city government may have been under- or over-represented and this is not known due to the focus on providing anonymity to employees who chose to respond. There is simply no way to know which departments were represented in the data received or compare to population parameters.

Two factors about the participating city may limit the generalizability of its findings. The first factor is the size of the city. With a metropolitan population of

more than half million people and a workforce of approximately 3600, different results may have been found in other size cities. The size of the population being served and the number of employees on staff may affect the dynamics of the study variables. Additionally, while many of them are common, there are different functions performed by each city government that may change the job demands and job resources as well as the composition of their workforces. This city, for example, operates both a zoo and an international airport. It does not operate any public schools. Other cities, with a different set of functions, may have different workplace dynamics, limiting the generalizability of this study's findings to other cities.

3.2. Directions for Future Research

Given the results of this research, it is recommended that future research address several lingering questions. First, are the results similar in other research settings? While not an element in this research, studies contrasting the relationships between these variables between cities with varying levels of union representation/support might be warranted. As a role of unions is to put a limit on the demands of employees and to increase their resources, union support may be a mediating or moderating variable in the relationships. Do active unions lower employee perceptions of job demands and increase employee perceptions of job resources? If these two areas are seen as influenced by the union rather than city management, would they still have as strong a relationship with burnout and engagement as in a city without active unions? Other related factors that may be important to look at are employee tenure and age. In this study, more than half were employed by the city for more than 10 years and most were over 45 years of age. In a setting with a younger workforce, would the observed relationships be different?

An additional recommendation would be to include some degree of departmentalization in the research. This study would expand on the practical applications of the results obtained and addresses one of the major weaknesses of this research. Suppose the future study shows some areas of elevated burnout in one department or another. In that case, more specific action can be taken in those areas of the organization rather than the whole organization. If higher levels of engagement are seen, it would direct management to see what contributing factors are present and if they can be replicated in other areas of the city. This recommendation does come with some caution because with each step into greater specificity in the surveying process, there is a greater potential for employees to feel like their identity might be uncovered. Without the promise of anonymity, the honesty of the answers and the value of the data would be lowered.

Experimental research should be conducted to determine causality and provide practical benefit for engagement. Additional quantitative research using regression analysis or sequential equations might lead to a greater understanding of directionality of the relationships or reveal the presence of mediating or mod-

erating variables. Qualitative research might be employed to understand the “why” behind the “what” that was noted in this study.

Additionally, further investigation of other variables that are linked to engagement is warranted, including perhaps interest, personality factors, relationships to superiors and colleagues, ability to control attention, etc.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Avanzi, L., Zaniboni, S., Balducci, C., & Fraccaroli, F. (2014). The Relation between Overcommitment and Burnout: Does It Depend on Employee Job Satisfaction? *Anxiety, Stress & Coping*, *27*, 455-465.
https://www.researchgate.net/institution/Universita_degli_Studi_di_Trento/departmen/Department_of_Psychology_and_Cognitive_Science/publications?nav=overview&v=dep_pub
<https://doi.org/10.1080/10615806.2013.866230>
- Bailey, C., Madden, A., Alfes, K., Fletcher, L., Robinson, D., Holmes, J., Buzzeo, J., & Currie, G. (2015). Evaluating the Evidence on Employee Engagement and Its Potential Benefits to NHS Staff: A Synthesis of the Literature. *NIHR Health Services and Delivery Research*, *3*. <https://doi.org/10.3310/hsdr03260>
- Baka, L. (2015). Does Job Burnout Mediate Negative Effects of Job Demands on Mental and Physical Health in a Group of Teachers? Testing the Energetic Process of Job Demands-Resources Model. *International Journal of Occupational Medicine and Environmental Health*, *28*, 335-346. <https://doi.org/10.13075/ijomeh.1896.00246>
- Bakker, A. B. (2014). Daily Fluctuations in Work Engagement: An Overview and Current Directions. *European Psychologist*, *19*, 227-236.
<https://doi.org/10.1027/1016-9040/a000160>
- Bakker, A. B., & Demerouti, E. (2017). Job Demands-Resources Theory: Taking Stock and Looking Forward. *Journal of Occupational Health Psychology*, *22*, 273-285.
<https://doi.org/10.1037/ocp0000056>
- Berg, G. M., Harshbarger, J. L., Ahlers-Schmidt, C. R., & Lippoldt, D. (2016). Exposing Compassion Fatigue and Burnout Syndrome in a Trauma Team: A Qualitative Study. *Journal of Trauma Nursing*, *23*, 3-10. <https://doi.org/10.1097/JTN.0000000000000172>
- Bianchi, R. (2015). What Is “Severe Burnout” and Can Its Prevalence Be Assessed? *Intensive Care Medicine*, *41*, 166. <https://doi.org/10.1007/s00134-014-3534-y>
- Bianchi, R., Schonfeld, I. S., & Laurent, E. (2015). Burnout-Depression Overlap: A Review. *Clinical Psychology Review*, *36*, 28-41. <https://doi.org/10.1016/j.cpr.2015.01.004>
- Bickerton, G. R., Miner, M. H., Dowson, M., & Griffin, B. (2014). Spiritual Resources and Work Engagement among Religious Workers: A Three-Wave Longitudinal Study. *Journal of Occupational and Organizational Psychology*, *87*, 370-391.
<https://doi.org/10.1111/joop.12052>
- Borst, R. T. (2018). Comparing Work Engagement in People-Changing and People-Processing Service Providers: A Mediation Model with Red Tape, Autonomy, Dimensions of PSM, and Performance. *Public Personnel Management*, *47*, 287-313.
<https://doi.org/10.1177/0091026018770225>

- Borst, R. T., Krueger, P. M., & Lako, C. J. (2017). Exploring the Job Demands-Resources Model of Work Engagement in Government: Bringing in a Psychological Perspective. *Review of Public Personnel Administration, 39*, 372-397. <https://doi.org/10.1177/0734371X17729870>
- Boyd, C. M., Bakker, A. B., Pignata, S., Winefield, A. H., Gillespie, N., & Stough, C. (2011). A Longitudinal Test of the Job Demands-Resources Model among Australian University Academics. *Applied Psychology: An International Review, 60*, 112-140. <https://doi.org/10.1111/j.1464-0597.2010.00429.x>
- Bragard, I., Hansez, I., & Coucke, P. (2014). Working Conditions, Job Strain and Work Engagement among Belgian Radiation Oncologists. *Cancer/Radiothérapie, 18*, 723-729. <https://doi.org/10.1016/j.canrad.2014.06.024>
- Brewer, G. A., & Walker, R. M. (2013). Personnel Constraints in Public Organizations: The Impact of Reward and Punishment on Organizational Performance. *Public Administration Review, 73*, 121-131. <https://doi.org/10.1111/j.1540-6210.2012.02681.x>
- Bright, L. (2018). Government Career Interests, Perceptions of Fit, and Degree Orientations: Exploring Their Relationship in Public Administration Graduate Programs. *Teaching Public Administration, 36*, 63-80. <https://doi.org/10.1177/0144739417738955>
- Brunsdon, C. (2016). Quantitative Methods I: Reproducible Research and Quantitative Geography. *Progress in Human Geography, 40*, 687-696. <https://doi.org/10.1177/0309132515599625>
- Bureau of Labor Statistics (2021). *Employment Status of the Civilian Population by Sex and Age*. Monthly Labor Review. U.S. Bureau of Labor Statistics. <https://www.bls.gov/news.release/empsit.t01.htm>
- Byrne, Z. S., Peters, J. M., & Weston, J. W. (2016). The Struggle with Employee Engagement: Measures and Construct Clarification Using Five Samples. *Journal of Applied Psychology, 101*, 1201-1227. <https://doi.org/10.1037/apl0000124>
- Chong, A., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2014). Letter Grading Government Efficiency. *Journal of the European Economic Association, 12*, 277-298. <https://doi.org/10.1111/jeea.12076>
- Cordes, C. L., & Dougherty, T. W. (1993). A Review and an Integration of Research on Job Burnout. *Academy of Management Review, 18*, 621-656. <https://doi.org/10.2307/258593>
- Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking Job Demands and Resources to Employee Engagement and Burnout: A Theoretical Extension and Meta-Analytic Test. *Journal of Applied Psychology, 95*, 834-848. <https://doi.org/10.1037/a0019364>
- D'Emiljo, A., & du Preez, R. (2017). Job Demands and Resources as Antecedents of Work Engagement: A Diagnostic Survey of Nursing Practitioners. *Africa Journal of Nursing and Midwifery, 19*, 69-87. <https://doi.org/10.25159/2520-5293/475>
- De Braine, R., & Roodt, G. (2011). The Job Demands-Resources Model as Predictor of Work Identity and Work Engagement: A Comparative Analysis. *South African Journal of Industrial Psychology, 37*, 52-62. <https://doi.org/10.4102/sajip.v37i2.889>
- De Bruin, G. P., & Henn, C. M. (2013). Dimensionality of the 9-Item Utrecht Work Engagement Scale (UWES-9). *Psychological Reports, 112*, 788-799. <https://doi.org/10.2466/01.03.PR0.112.3.788-799>
- de la Fuente, C., San Luis, C., Lozano, L. M., Vargas, C., Garcia, I., & de la Fuente, E. (2014). Evidence for Factorial Validity of Maslach Burnout Inventory and Burnout Levels among Health Workers. *Revista Latinoamericana de Psicología, 46*, 44-52. http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-05342014000100005&lng=en&tlng=en

- [https://doi.org/10.1016/S0120-0534\(14\)70005-6](https://doi.org/10.1016/S0120-0534(14)70005-6)
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The Job Demands-Resources Model of Burnout. *Journal of Applied Psychology, 86*, 499-512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Dippold, E., Pome, E., Mayo, R., Saxon, N., Villena, P., & Wilburn, S. (2020). *Annual Survey of Public Employment & Payroll Summary Report: 2019*. https://www.census.gov/content/dam/Census/library/publications/2020/econ/2019_summary.pdf
- Ellickson, M. C. (2002). Determinants of Job Satisfaction of Municipal Government Employees. *Public Personnel Management, 31*, 343-358. <https://doi.org/10.1177/009102600203100307>
<http://journals.sagepub.com/doi/abs/10.1177/009102600203100307>
- Extremera, N., Sánchez-García, M., Durán, M. A., & Rey, L. (2012). Examining the Psychometric Properties of the Utrecht Work Engagement Scale in Two Spanish Multi-Occupational Samples. *International Journal of Selection & Assessment, 20*, 105-110. <https://doi.org/10.1111/j.1468-2389.2012.00583.x>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical Power Analyses Using G*Power 3.1: Tests for Correlation and Regression Analyses. *Behavior Research Methods, 41*, 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Field, L. K., & Buitendach, J. H. (2012). Work Engagement, Organisational Commitment, Job Resources and Job Demands of Teachers Working within Disadvantaged High Schools in Kwazulu-Natal, South Africa. *Journal of Psychology in Africa, 22*, 87-95. <https://doi.org/10.1080/14330237.2012.10874525>
- Fletcher, L., Robinson, D., Bailey, C., Alfes, K., Holmes, J., Madden, A., Buzzeo, J., & Currie, G. (2014). *Measuring Employee Engagement and Interpreting Survey Results*. The Institute for Employment Studies. https://www.researchgate.net/publication/280234309_Measuring_Employee_Engagement_and_Interpreting_Survey_Results
- Gaither, C. A., & Nadkarni, A. (2012). Interpersonal Interactions, Job Demands and Work-Related Outcomes in Pharmacy. *International Journal of Pharmacy Practice, 20*, 80-89. <https://doi.org/10.1111/j.2042-7174.2011.00165.x>
- Giauque, D., Ritz, A., Varone, F., & Anderfuhren-Biget, S. (2012). Resigned but Satisfied: The Negative Impact of Public Service Motivation and Red Tape on Work Satisfaction. *Public Administration, 90*, 175-193. <https://doi.org/10.1111/j.1467-9299.2011.01953.x>
- Hao, S., Hong, W., Xu, H., Zhou, L., & Xie, Z. (2015). Relationship between Resilience, Stress and Burnout among Civil Servants in Beijing, China: Mediating and Moderating Effect Analysis. *Personality and Individual Differences, 83*, 65-71. <https://doi.org/10.1016/j.paid.2015.03.048>
- Ilies, R., Aw, S. S. Y., & Pluut, H. (2015). Intraindividual Models of Employee Well-Being: What Have We Learned and Where Do We Go from Here? *European Journal of Work and Organizational Psychology, 24*, 827-838. <https://doi.org/10.1080/1359432X.2015.1071422>
- Jackson, L., & Rothmann, S. (2005). Work-Related Well-Being of Educators in a District of the North-West Province. *Perspectives in Education, 23*, 107-122. https://www.researchgate.net/profile/Leon_Jackson2/publication/234661047_Work-Related_Well-Being_of_Educators_in_a_District_of_the_North-West_Province/links/53d8c99a0cf2631430c3526b.pdf
- Jin, M. H., & McDonald, B. (2017). Understanding Employee Engagement in the Public Sector: The Role of Immediate Supervisor, Perceived Organizational Support, and Learn-

- ing Opportunities. *American Review of Public Administration*, 47, 881-897.
<https://doi.org/10.1177/0275074016643817>
- Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *Academy of Management Journal*, 33, 692-724.
<https://doi.org/10.2307/256287>
- Kroll, A., & Vogel, D. (2021). Why Public Employees Manipulate Performance Data: Prosocial Impact, Job Stress, and Red Tape. *International Public Management Journal*, 24, 164-182. <https://doi.org/10.1080/10967494.2021.1874579>
- Laerd Statistics (2017). *Pearson's Product-Movement Correlation Using SPSS Statistics. Statistical Tutorials and Software Guides*. <https://statistics.laerd.com>
- Lekutle, M., & Nel, J. A. (2012). Psychometric Evaluation of the Utrecht Work Engagement Scale (UWES) and Oldenburg Burnout Inventory (OLBI) within a CEMENT FACTORY. *Journal of Psychology in Africa*, 22, 641-647.
<https://www.tandfonline.com/doi/abs/10.1080/14330237.2012.10820580?journalCode=rpia20>
<https://doi.org/10.1080/14330237.2012.10820580>
- Leppink, J. P. (2017). Revisiting the Quantitative-Qualitative-Mixed Methods Labels: Research Questions, Developments, and the Need for Replication. *Journal of Taibah University Medical Sciences*, 12, 97-101. <https://doi.org/10.1016/j.jtumed.2016.11.008>
- Lorenzo-Seva, U., & ten Berge, J. M. F. (2006). Tucker's Congruence Coefficient as a Meaningful Index of Factor Similarity. *Methodology*, 2, 57-64.
<https://doi.org/10.1027/1614-2241.2.2.57>
- Maslach, C., Jackson, S. E., & Leiter, M. P. (2016). *Maslach Burnout Inventory Manual*. Consulting Psychologists Press.
- Maslach, C., & Jackson, S. E. (1981). MBI: Maslach Burnout Inventory. *Palo Alto*, 1, 49-78.
- Mérida-López, S., Extremera, N., & Rey, L. (2017). Contributions of Work-Related Stress and Emotional Intelligence to Teacher Engagement: Additive and Interactive Effects. *International Journal of Environmental Research and Public Health*, 14, Article No. 1156. <https://doi.org/10.3390/ijerph14101156>
- Mészáros, V., Ádám, S., Szabó, M., Szigeti, R., & Urbán, R. (2014). The Bifactor Model of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS)—An Alternative Measurement Model of Burnout. *Stress & Health*, 30, 82-88.
<https://doi.org/10.1002/smi.2481>
- Meyer, N. (2012). *Job Resources, Job Demands, Burnout and Work Engagement of Employees in the Public Sector*. MSc. Thesis, University of the Western Cape.
<http://etd.uwc.ac.za/handle/11394/4474>
- Mostert, K., Pienaar, J., Gauche, C., & Jackson, L. B. (2007). Burnout and Engagement in University Students: A Psychometric Analysis of the MBI-SS and UWES-S. *South African Journal of Higher Education*, 21, 147-162.
<https://doi.org/10.4314/sajhe.v21i1.25608>
<https://journals.co.za/content/high/21/1/EJC37307>
- Murphy, C. (2017). Four Steps toward Fostering a High-Performing Culture in Government. *Kennedy School Review*, 17, 71-76.
https://issuu.com/harvardkennedyschoolreview/docs/ksr_2017__1_/70
- Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at Work: A Meta-Analytic Investigation of the Link between Job Demands, Job Resources, Burnout, Engagement, and Safety Outcomes. *Journal of Applied Psychology*, 96, 71-94.
<https://doi.org/10.1037/a0021484>

- Narainsamy, K., & Van der Westhuizen, S. (2013). Work Related Well-Being: Burnout, Work Engagement, Occupational Stress and Job Satisfaction within a Medical Laboratory Setting. *Journal of Psychology in Africa, 23*, 467-474.
<https://doi.org/10.1080/14330237.2013.10820653>
<http://uir.unisa.ac.za/bitstream/handle/10500/18429/Work-related%20well-being%20Burnout%20work%20engagement.pdf?sequence=3>
- Ojedokun, O., & Idemudia, E. (2014). Burnout among Paramilitary Personnel in Nigeria: A Perspective from Conservation of Resources Theory. *South African Journal of Psychology, 44*, 106-117. <https://doi.org/10.1177/0081246313516256>
- Pillay, K., Buitendach, J., & Kanengoni, H. (2014). Psychological Capital, Job Demands and Organisational Commitment of Employees in a Call Centre in Durban, South Africa. *South African Journal of Human Resource Management, 12*, a599.
<https://doi.org/10.4102/sajhrm.v12i1.599>
- Platsidou, M., & Daniilidou, A. (2016). Three Scales to Measure Burnout of Primary School Teachers: Empirical Evidence on Their Adequacy. *International Journal of Educational Psychology, 5*, 164-186. <https://doi.org/10.17583/ijep.2016.1810>
- Qin, X., Hom, P., Xu, M., & Ju, D. (2014). Applying the Job Demands-Resources Model to Migrant Workers: Exploring How and When Geographical Distance Increases Quit Propensity. *Journal of Occupational & Organizational Psychology, 87*, 303-328.
<https://doi.org/10.1111/joop.12047>
- Quratulain, S., & Khan, A. K. (2015). Red Tape, Resigned Satisfaction, Public Service Motivation, and Negative Employee Attitudes and Behaviors: Testing a Model of Moderated Mediation. *Review of Public Personnel Administration, 35*, 307-332.
<https://doi.org/10.1177/0734371X13511646>
- Raftopoulos, V., Charalambous, A., & Talias, M. (2012). The Factors Associated with the Burnout Syndrome and Fatigue in Cypriot Nurses: A Census Report. *BMC Public Health, 12*, Article No. 457. <https://doi.org/10.1186/1471-2458-12-457>
- Rama, D. V., & Nagini, A. (2013). Work-Life Balance and Burnout as Predictors of Job Satisfaction in Private Banking Sector. *Skyline Business Journal, 9*, 50-53.
<http://go.galegroup.com/ps/anonymouse?id=GALE%7CA408916799&sid=googleScholar&v=2.1&it=r&linkaccess=fulltext&issn=19983425&p=AONE&sw=w&authCount=1&isAnonymousEntry=true>
- Reilly, R. (2014). *Five Ways to Improve Employee Engagement Now*.
<https://www.gallup.com/workplace/231581/five-ways-improve-employee-engagement.aspx>
- Risher, H. (2016). Losing Experienced Workers Is Costly. *Public Management, 99*, 12-14.
<https://icma.org/articles/pm-magazine/losing-experienced-workers-costly>
- Rothmann, S., Mostert, K., & Strydom, M. (2006). A Psychometric Evaluation of the Job Demands Resources Scale in South Africa. *South African Journal of Industrial Psychology, 32*, 76-86. <https://doi.org/10.4102/sajip.v32i4.239>
- Sardeshmukh, S. R., Sharma, D., & Golden, T. D. (2012). Impact of Telework on Exhaustion and Job Engagement: A Job Demands and Job Resources Model. *New Technology, Work & Employment, 27*, 193-207. <https://doi.org/10.1111/j.1468-005X.2012.00284.x>
- Schaufeli, W., & Bakker, A. (2003). *Utrecht Work Engagement Scale: Preliminary Manual*. UWES.
http://www.beanmanaged.com/doc/pdf/arnoldbakker/articles/articles_arnold_bakker_87.pdf
- Schutte, N., Toppinen, S., Kalimo, R., & Schaufeli, W. (2000). The Factorial Validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across Occupational Groups

- and Nations. *Journal of Occupational & Organizational Psychology*, 73, 53-66.
<https://doi.org/10.1348/096317900166877>
- Seppala, P., Mauno, S., Feldt, T., Hakanen, J., Kinnunen, U., Tolvanen, A., & Schaufeli, W. (2009). The Construct Validity of the Utrecht Work Engagement Scale: Multisample and Longitudinal Evidence. *Journal of Happiness Studies*, 10, 459-481.
<https://doi.org/10.1007/s10902-008-9100-y>
- Storm, K., & Rothmann, S. (2003). The Relationship between Burnout, Personality Traits and Coping Strategies in a Corporate Pharmaceutical Group. *South African Journal of Industrial Psychology*, 29, 35-42. <https://doi.org/10.4102/sajip.v29i4.128>
<https://journals.co.za/content/psyc/29/4/EJC88979>
- Swider, B. W., & Zimmerman, R. D. (2010). Born to Burnout: A Meta-Analytic Path Model of Personality, Job Burnout, and Work Outcomes. *Journal of Vocational Behavior*, 76, 487-506. <https://doi.org/10.1016/j.jvb.2010.01.003>
- ten Brummelhuis, L. L., ter Hoeven, C. L., Bakker, A. B., & Peper, B. (2011). Breaking through the Loss Cycle of Burnout: The Role of Motivation. *Journal of Occupational & Organizational Psychology*, 84, 268-287.
<https://doi.org/10.1111/j.2044-8325.2011.02019.x>
- Van den Broeck, A., Vander Elst, T., Baillien, E., Sercu, M., Schouteden, M., De Witte, H., & Godderis, L. (2017). Job Demands, Job Resources, Burnout, Work Engagement, and Their Relationships: An Analysis across Sectors. *Journal of Occupational and Environmental Medicine*, 59, 369-376. <https://doi.org/10.1097/JOM.0000000000000964>
- Vandenabeele, W., Brewer, G. A., & Ritz, A. (2014). Past, Present, and Future of Public Service Motivation Research. *Public Administration*, 92, 790-806.
<https://doi.org/10.1111/padm.12136>
- Yom, Y.-H. (2013). Analysis of Burnout and Job Satisfaction among Nurses Based on the Job Demand-Resource Model. *Journal of Korean Academy of Nursing*, 43, 114-122.
<https://doi.org/10.4040/jkan.2013.43.1.114>