Using the job demands-resources model (JD-R) (Bakker & Demerouti, 2007), this study explored Veterans Health Administration (VHA) employees’ perceptions of job demands and resources, and their relation to employees’ organizational engagement. Mixed-method analyses included two quantitative survey samples: 7600 employees across VHA representing five distinct occupations (respiratory therapy, police, human resources, fiscal services, and dental services) and 472 VHA employees from specific workplaces within those same five occupations, in addition to a separate qualitative sample of 350 employee interviews derived from VHA workgroups associated with the five distinct occupations. Interview data were coded into 11 themes conceptualizing perceptions of job demands and resources. Quantitative results showed that job resources and overall job satisfaction best predicted employee engagement. Qualitative analyses showed that employees experience job demands and resources as ‘helpful’ or ‘hindering’ pending their situational context. For example, coworker relationships or supervision might prompt job demands in one situation and job resources in another, depending on whether the interaction was experienced as helpful or as hindering. Conceptual implications, possibilities for future research, and OD applications are discussed.

Why do we work? Sometimes the answer to this age-old question is primal: to survive—to pay the bills, the mortgage, the college tuition, and to pay for food and gas. Others might take a more existential perspective: For meaning—to make an impact on those being served, to make a difference in the larger scheme of things, to leave behind some type of legacy or impression in an otherwise piece-of-sand-in-the-ocean existence. I was speaking with a close friend about her recent quest for work. Some background: an advertising manager in Atlanta who was laid-off in 2008 at age 62, she went on unemployment because of financial necessity. However, her age (she could have started her social security benefits early) did not prevent her from continually looking for a job over the course of the next three years. I asked her why she did this, when it seemed easier to just cash in the social security benefits and be done with it (the whole job thing) and she said, “I miss the work. I miss being with my peeps, my people. I just miss being part of something larger than myself.” A similar sentiment is shared by a fireman interviewed for Working (Terkel, 1974). He says:

But the firemen, you actually see them produce. You see them put out a fire. You see them come out with babies in their hands. You see them give mouth-to-mouth when a guy’s dying. You can’t get around that shit. That’s real. For me, that’s what I want to be.

I worked in a bank. You know, it’s just paper. It’s not real. Nine to five and it’s shit. You’re lookin’ at numbers. But I can look back and say, ‘I helped put out a fire. I helped save somebody.’ It shows something I did on this earth (xxiv).
A practical nurse in a nursing home had this to say:

The work don’t leave my mind. I have been so long with her (elderly patient) that it became a part of me. In my mind it’s always working: “How’s she getting along?” I worry what happened to her between those hours before the night nurse report. If I go off on a trip, I’ll be talking about her. I’ll say, “I wonder what happened to my baby.” My girl friend will say, “Which baby are you talking about?” I’ll say, “My patient.” (Laughs.) I went to Las Vegas. I spent a week there. Every night I called. Because if she has these convulsions… (Terkel, 1974, p. X).

The working life of a healthcare worker is almost automatically designed for inspiring self-worth and meaning. You are caring for another individual. You play a role in helping them get better or preventing them from getting worse. With this type of job, however, goes an enormous amount of responsibility, creating psychological job demands both at work and at home, because who could put a sick patient completely out of their mind after leaving the hospital for the day?

The working life of a Veterans Health Administration (VHA) employee is experienced in much the same way. Whether the job is clinical or administrative, VHA employees come to work with a shared mission and mindset: caring for Veterans. The qualitative interviews in this study reveal this commonality across VHA employees in police services, fiscal services, human resources, and clinical care who emanate messages that they are here for the Veteran; they want to improve their workplace to direct more attention to the Veteran; the Veteran is their primary focus; and so forth. This concern for Veterans creates almost a meta-demand quality to VHA employment that goes beyond employees’ basic occupational duties. What makes the VHA workforce great (and a noted ‘Best Places to Work’ in the federal government: Best Places to Work in the Federal Government, 2011) is its employees’ psychological investment in their jobs, if for no other reason than to provide care for those who have served this nation, therefore making VHA work simultaneously highly engaging and highly demanding.

Engagement among VHA employees may be best illustrated by consistently high self-reports to the statement “I feel a strong personal connection with the mission of VA”, which is assessed annually in a confidential, census workforce survey across VA. This ‘connection’ to VA is likely shaped by the client/patient population VA employees serve—U.S. Veterans. For VHA employees, the Veteran patient population poses more treatment challenges than does the private sector patient population including greater socioeconomic disadvantage, more comorbid illness, and poorer self-reported health (Kizer, Demakis, & Feussner, 2000). VHA employees regularly treat patients with musculoskeletal injuries, loss of one or more limbs, spinal cord injuries, sensory loss, burns, chronic pain, brain injuries, and mental health issues such as post-traumatic stress disorder and major depression (Congressional Budget Office, 2009). Still, for about the same amount of pay (e.g., private sectors RNs earn $68,000/year vs. VHA RNs earn $65,000/year, Proclarity; Bureau of Labor Statistics, 2010), clinical and administrative staff seek employment in VHA, knowing they must go the extra mile in treating a more burdened and difficult patient population than found in the private sector. This extra mile likely indicates greater engagement in one’s job. An additional indicator of engagement may be illustrated by the percentage of VHA employees who closely identify with their patient population by being
former Veterans themselves; approximately 30% of VHA employees are Veterans (VA employee demographics; Proclarity; Bureau of Labor Statistics, 2010). Veterans treating their own often have greater self-identification with their work, and therefore greater engagement in it (Leiter & Bakker, 2010; van Knippenberg & van Schie, 2000).

Likewise, demands among VHA employees may be best illustrated by competing resources, such as an influx of Veteran mental health needs after two wars on available mental health staff, coupled with public sector bureaucracy. According to the widely supported job demands-resources (JD-R) model (Bakker, Demerouti, & Schaufeli, 2003, Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Schaufeli, Bakker, & Van Rehenen, 2009; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007), ample resources must offset the strain of the demands for a demanding job to also be engaging. Without this balance, workers are likely to experience burnout (Bakker & Demerouti, 2007). Adding to this balance, however, is the type of job demand: whereas some job demands are seen as challenging and result in greater engagement, others are perceived as hindrances and lead to energy depletion (Crawford, LePine, & Rich, 2010). To understand the mechanisms of high work engagement therefore requires examining both the balance of job demands and resources and the specific types of demands that employees experience.

**Job Demands-Resources (JD-R) Model**

_Job demands_ occur when aspects of the job require psychological, physical, or emotional effort. _Job resources_ exist when aspects of the job are either instrumental to doing it, provide a buffer from job demands, or create growth (Bakker & Demerouti, 2007). This distinction is critical: it is not the work element itself, but rather its impact on the employee that conceptually creates a difference between demands and resources. For a demanding job to be motivating, it must be accompanied by a high level of resources (Bakker & Demerouti, 2007). Motivating jobs (i.e., high demands and high resources) are less likely to create burnout and more likely to create positive work outcomes, such as organizational commitment (Bakker, van Veldhoven, & Xanthopoulou, 2010). Jobs that cause strain, however, are characterized as high in demands and also lacking necessary resources to buffer those demands (Bakker & Demerouti, 2007). Demanding work leads to employee burnout (Schaufeli et al., 2009).

Recent research using the JD-R model highlighted the difference between various types of job demands relative to outcomes such as work engagement. Crawford et al. (2010) found a negative relationship between job resources and burnout, as well as positive relationships between job demands and burnout and between job resources and work engagement. Importantly, the type of job demand determined whether employees were engaged in their jobs; less engagement occurred when a demand was seen as a hindrance, and more engagement occurred when a demand was perceived as a challenge. Examples of job challenges include workload pressure, time pressure, and cognitive demand (Van den Broeck, De Cuyper, De Witte, and Vansteenkiste, 2010), whereas job hindrances might include role ambiguity, job insecurity, constraints, and interpersonal conflicts.
**Current Study**

Using these parameters of the JD-R model, we explored, using quantitative survey data, whether challenging job demands, hindering job demands, and access to job resources would predict work engagement in the VHA sample similar to previous studies of the model (e.g. Crawford et al., 2010). The JD-R model also suggests that ample workplace resources are needed to offset job demands in order to support employee work engagement. Applying this concept, we explored whether, given the high work engagement of VHA employees, they would likely experience their job demands primarily as motivating challenges rather than as negative hindrances. To investigate this, we used qualitative interview data to examine how VHA employees describe their job demands and resources. This analysis intended to supplement the conceptual tools and heuristics provided by the JD-R model to practicing managers, by illustrating how specifically VHA employees experience the model’s key concepts. Qualitatively enriching theoretical concepts used in the I/O literature by saturating them with experiential data from workplace participants is a broadly recommended but typically under-utilized strategy within organizational research in general and more specifically within organizational research of healthcare (e.g., Bate & Robert, 2007; Schein, 2006; Weick, 2001).

In sum, this exploratory study describes VHA employees’ working experience, with a particular focus on what is salient to them as job demands or job resources. Additionally, this study examines the extent to which job demands and job resources are predictive of work engagement. Healthcare is a high stress industry. Job-related stress causes direct personal costs to employees (e.g., burnout: Cordes & Dougherty, 1993; Wright, Banas, Besserabova, & Bernard, 2010) and indirect costs to patients (e.g., poorer quality care, less healthcare satisfaction: Garman, Corrigan, & Morris, 2002). One strategy to combat high stress and its residual outcomes is engagement; engaged workers report less burnout, greater organizational identity, and more enthusiasm about their work, each of which improves their performance (Christian, Garza, Slaughter, 2011; Leiter & Bakker, 2010). By acquiring greater knowledge of job demands and job resources facing healthcare employees, employers can strengthen their ability to enhance work engagement, thus creating a happier, more productive workforce.

The study’s theoretical framework is the job demands-resource model (Bakker & Demerouti, 2007). This model directly addressed our topic of interest: job demands and resources and the interaction between them relative to engagement. Although previously tested in healthcare settings (Hakanen, Schaufeli, & Ahola, 2008; Jourdain & Chênevert, 2010; Mauno, Kinnunen, & Ruokolainen, 2007), the model has not been applied to VHA. In addition to being a nationwide healthcare system, VHA is also a dynamic healthcare environment supported not only by healthcare professionals (54% of staff), but also by administrative personnel (31%) and labor and resource staff (15%). This allows assessing the model in a wide range of healthcare occupational groups that experience high demands but also high work engagement.

Methodologically, we first quantitatively assessed the impact of challenging job demands, hindering job demands, and job resources on engagement. We measured engagement in two ways: attitudinally (assessing the extent of stated support for the VA mission) and
behaviorally (assessing levels of employees’ intention to leave their job due to dissatisfaction). Second, we explored employees’ perspective of the work environment within VHA through qualitative interview data, focusing specifically on their experience of job demands and job resources. Third, we qualitatively investigated employees’ perceptions of their job demands as challenging or hindering. We believe that reporting a qualitative account of how employees experience theoretical concepts within the specific context of their workplace helps enhance the usefulness of these concepts for practice applications in the field, such as managers structuring the work or organizational consultants developing assessments and interventions.

### Study Design

The current study used a mixed-methods approach, combining quantitative survey data and qualitative interviews. To comprehensively sample employees’ perspectives, we included several occupations—both clinical (respiratory therapy, dental services) and administrative (fiscal services, human resources, and police). These occupations were chosen because of their distinctive character—job tasks in one occupation were likely different from those in another.

For quantitative analyses, items from the VHA All Employee Survey (AES; Department of Veterans Affairs, 2010) were used to assess whether challenging job demands, hindering job demands, or job resources best predicted work engagement. The AES is a self-report, voluntary census survey of employee attitudes which includes measures of individual satisfaction with job aspects and workgroup climate perceptions. The specific AES measures used are explained in the Method section. General linear model regressions were used to test two sets of models. In the first set, predictors (VHA employee AES ratings) specifically represented challenging (i.e., workload) or hindering (i.e., interpersonal conflict) job demands, or job resources (i.e., co-worker support, cooperation, rewards). These predictors were tested using the 2010 AES data from all VHA respondents in the five selected occupations. In the second set of models, the same predictors were tested on a VHA subset containing AES data from 17 workplaces for which both quantitative survey data and qualitative data of employee interviews were available; these data included years 2007-2010.

The qualitative data were collected in the context of open-ended interviews with employees conducted during organizational assessments of their VA facilities. We refer to these as workplace assessments (WPAs) data, described in greater detail in the Method section. The qualitative analysis strategy involved creating themes based both on topics suggested to be relevant in past research and on key terms and phrases that appeared in the interview responses. The themes summarized 350 employee perceptions of job demands and resources within the 17 workplaces from the five occupations. The interview excerpts containing passages with these themes were further explored to qualitatively examine the pattern of relationships between these employees’ perceptions of their job demands and resources.
Method

Quantitative

Participants. The first set of quantitative models used 2010 AES survey data from 7600 VHA employees representing the selected five occupations (respiratory therapy, police, human resources, dental services, fiscal services). The AES is a confidential census survey, annually administered to all VA employees via Internet, phone, or paper (participants’ chosen modality) and widely marketed within VA to ensure high employee participation. Annual participation rates in VA facilities averaged 70% in the last 6 years; AES respondents have been shown to be demographically similar to VA employees (Teclaw, Osatuke, Yanovsky, Moore & Dyrenforth, 2010). Data for the second set of qualitative models came from 472 VHA employees from 17 workplaces that had matching WPA interview data and AES survey data in any year (2007 to 2010).

Materials and measures. Engagement (outcome) was measured as an attitudinal construct – levels of stated commitment to the VA mission (“I feel a strong personal connection with the mission of the VA”), and also as a behavioral construct – levels of stated intention to leave one’s job due to dissatisfaction (“If I were able, I would leave my current job because I am dissatisfied”). The seven predictors measured workplace resources and job demands. Resource predictors included: satisfaction with amount of work (“Compared to how you think it should be, what is your current overall level of satisfaction with your job”); rewards (“My supervisor is fair in recognizing individual accomplishments”; “My supervisor is fair in recognizing team accomplishments”; “In my work group, employees are rewarded for providing high quality products and services to customers”); satisfaction with coworkers (“Compared to what you think it should be, how satisfied are you with the relationships you have with your coworkers”); coworker support (“The people I work with take a personal interest in me;” “The people I work with can be relied on when I need help”); and cooperation (“People treat each other with respect in my work group”; “A spirit of cooperation and teamwork exists in my work group”). Job demand predictors included conflict resolution, a hindering job demand (“Disputes or conflicts are resolved fairly in my work group”); and job demands, a challenging job demand (“My job demands that I work very fast”). All items were scored on a 5-point Likert scale (1=Not at all satisfied; 5=Very satisfied, OR 1=Strongly disagree; 5=Strongly agree). The AES has a response rate of averaging 70%. (Note: The discrepancy between the qualitative and quantitative sample sizes in the 17 workplaces is due to fewer employees volunteering to participate in the WPAs.)

Data analysis. General linear model regression analyses (PROC GLM, SAS) were used to assess the predictive effect of challenging job demands (i.e., workload), hindering job demands (i.e., conflict resolution), and job resources (i.e., cooperation) on work engagement, as measured by both an attitudinal measure, as well as a behavioral measure (intention to leave one’s job due to dissatisfaction). In Models 3-4, workplace was entered into the model as a fixed effect because the study population was clustered within 17 workplaces. Each level of workplace became a dummy variable in the analysis. A mixed or hierarchical model with workplace as a random effect could also have been used, but the number of workplaces was deemed too low. The significance level for P-values was ≤.05. Partial omega-squared was used.
as the effect size for the independent variables. Ninety percent confidence intervals were used for the partial omega to ensure that inferences at the 0.05 level were consistent with the lower confidence limit.

Qualitative

Qualitative data consisted of verbatim interview data obtained during workplace assessments (WPAs) conducted by staff of the VHA National Center for Organization Development (NCOD), an internal organizational development consultant and research office serving VA facilities and staff. WPAs involve interviewing employees within their workplace or facility to understand what issues might be affecting the organization’s functioning. These services are performed only by request and workplace management contact NCOD to coordinate an assessment. Sometimes the workplace or facility is highly functioning, and the workplace assessment primarily serves as a routine check-up. Most WPAs, however, involve assessing dysfunctional workplaces/facilities with issues regarding civility, psychological safety, and/or performance.

Workplace assessments are administered by a team of OD practitioners with advanced degrees in clinical psychology (PhD or PsyD). Assessments typically occur over two or three days. For workplace assessments (the purpose of this study), all employees are invited to participate and these staff typically come from a shared workgroup or occupation within a facility (i.e., police department, mental health). Participation is entirely voluntary and data are recorded confidentially. Response rates ranged from 70% to 100% of invited participants. Reasons employees decline include confidentiality concerns or beliefs that the assessment will not produce discernable or meaningful changes. The workplace assessment process is intended (or designed) to inform subsequent intervention or planning, and AES data are used for these purposes as well.

Participants. Seventeen WPAs (out of 90 available in years 2007-2010) were selected for the qualitative analyses, the number of participants ranged from 15 to 50 per WPA (total N=472). Occupations were selected that had an adequate sample of WPAs and that were distinctive from each other (i.e. employees had unique, occupation-specific skills). In other words, we did not include nurses or physicians because it was not possible to get a large enough sample of those singular occupations. For example, nursing WPAs include specialty services of OR nursing, geriatric care nursing, and so forth; for this reason, they were not included in our sample. The selected occupations were police, human resources, fiscal services, respiratory therapy, and dental services. Each of these occupations have specialized skill sets and specific tasks that make them unique. Two to six workplaces from within each occupation were selected (the number selected depended on the number of available WPAs for that occupation). There were six WPAs for police, four for human resources, three for dental services, two for fiscal services, and two for respiratory therapy.

Data analysis. After selecting the sample, we used grounded theory (Glaser & Strauss, 1967) to develop themes for coding the interview data. This required reading through the
interviews multiple times, each time creating and refining themes that best represented the interviewee responses relative to the overall theme of the study until saturation was reached, i.e. no new themes emerged from examining more data. This is an iterative process and in the current study, two iterations were required until achieving saturation. Following the theme generation, data were coded according to the finalized themes, using software for qualitative analyses (NVivo 7.0) coding software program.

Results

Results from the quantitative analyses showed that rewards and satisfaction with amount of work were best predicted by both attitudinal engagement and behavioral engagement. The qualitative analyses provided rich descriptions of job demands and job resources in VHA. What follows is a more in-depth presentation of the quantitative results and qualitative conclusions.

Quantitative Results

The quantitative analyses examined challenging job demands (i.e., workload), hindering job demands (i.e., conflict resolution), or job resources (i.e., cooperation) as predictors of work engagement; engagement as measured attitudinally by commitment to the VA mission and behaviorally by intention to leave one’s job. General linear model regression analyses were used to test four models. All models specifically tested the effects of the two types of job demands – challenging vs. hindering – as well as job resources on work engagement. Model 1 used the broader, VHA sample within the five occupations and tested seven predictors (satisfaction with amount of work, rewards, satisfaction with coworkers, conflict resolution, job demands, coworker support, and cooperation) with attitudinal engagement as the outcome variable. Model 2 used the broader, VHA sample within the five occupations and tested seven predictors (satisfaction with amount of work, rewards, satisfaction with coworkers, conflict resolution, job demands, coworker support, and cooperation) with behavioral engagement as the outcome variable. Model 3 used the narrower subset of 17 workplaces comprised mostly or entirely by one of the five occupations and tested seven predictors (satisfaction with amount of work, rewards, satisfaction with coworkers, conflict resolution, job demands, coworker support, and cooperation) with attitudinal engagement as the outcome variable. Model 4 used the narrower subset of 17 workplaces comprised mostly or entirely by one of the five occupations and tested seven predictors (satisfaction with amount of work, rewards, satisfaction with coworkers, conflict resolution, job demands, coworker support, and cooperation) with behavioral engagement as the outcome variable.

Descriptive statistics are in Table 1. For all models, the null hypothesis that the overall model did not explain the variance of the dependent variable (work engagement) was rejected. All of the independent variables had statistically significant F-statistics, and none of the partial omega-squared lower confidence limits included zero (see Tables 2 through 5). The models with the independent variables accounted for more variation in the dependent variable than the models without them.
Table 1

Descriptive Statistics for Broad VHA Sample

<table>
<thead>
<tr>
<th></th>
<th>Respiratory</th>
<th>Police</th>
<th>Human Resources</th>
<th>Dental</th>
<th>Fiscal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 1036</td>
<td>n = 2198</td>
<td>n = 1628</td>
<td>n = 1534</td>
<td>n = 1445</td>
</tr>
<tr>
<td>Satisfaction with Coworkers</td>
<td>3.80 (1.12)</td>
<td>3.85 (1.13)</td>
<td>4.00 (1.13)</td>
<td>3.69 (1.14)</td>
<td>3.94 (1.08)</td>
</tr>
<tr>
<td>Coworker Support</td>
<td>3.50 (1.00)</td>
<td>3.58 (1.06)</td>
<td>3.64 (1.04)</td>
<td>3.61 (1.02)</td>
<td>3.56 (1.01)</td>
</tr>
<tr>
<td>Cooperation</td>
<td>3.32 (1.20)</td>
<td>3.41 (1.23)</td>
<td>3.54 (1.25)</td>
<td>3.50 (1.22)</td>
<td>3.51 (1.19)</td>
</tr>
<tr>
<td>Satisfaction with Amount of Work</td>
<td>3.83 (1.14)</td>
<td>3.88 (1.14)</td>
<td>3.48 (1.28)</td>
<td>3.92 (1.15)</td>
<td>3.58 (1.25)</td>
</tr>
<tr>
<td>Job Demands</td>
<td>3.43 (1.01)</td>
<td>3.28 (1.07)</td>
<td>3.83 (1.04)</td>
<td>3.50 (1.06)</td>
<td>3.72 (1.04)</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td>3.17 (1.38)</td>
<td>3.31 (1.38)</td>
<td>3.52 (1.38)</td>
<td>3.38 (1.37)</td>
<td>3.41 (1.35)</td>
</tr>
<tr>
<td>Rewards</td>
<td>3.35 (1.22)</td>
<td>3.46 (1.26)</td>
<td>3.46 (1.26)</td>
<td>3.53 (1.20)</td>
<td>3.44 (2.21)</td>
</tr>
</tbody>
</table>

Note: Standard deviations are in parentheses.

Tables 2 through 5 contain the results of the Models 1 through 4 tests. For Model 1, the amount of variance accounted for by the independent variables was $R^2 = .32$. For Model 2, the amount of variance accounted for was $R^2 = .40$. Based on the partial omega-square values, coworker support was the best predictor of attitudinal engagement whereas satisfaction with amount of work best predicted behavioral engagement and job satisfaction. For Models 3 and 4, the amount of variance accounted for by the independent variables was $R^2 = .29$ and $R^2 = .40$, respectively. Based on the partial omega-square values, rewards followed by satisfaction with amount of work were the best predictors of attitudinal engagement and behavioral engagement.
Table 2

Results of GLM Model #1 Testing Effect of Challenging Job Demands, Hindering Job Demands, and Job Resources on Attitudinal Engagement across Occupations in Broad VHA Sample.

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>Pr &gt; F</th>
<th>Partial Omega</th>
<th>90% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with Amount of Work</td>
<td>1</td>
<td>114.39</td>
<td>114.39</td>
<td>139.79</td>
<td>&lt;.0001</td>
<td>0.0182</td>
<td>0.0136 0.0237</td>
</tr>
<tr>
<td>Rewards</td>
<td>1</td>
<td>35.665</td>
<td>35.665</td>
<td>43.58</td>
<td>&lt;.0001</td>
<td>0.0056</td>
<td>0.0033 0.009</td>
</tr>
<tr>
<td>Satisfaction with Coworkers</td>
<td>1</td>
<td>7.6021</td>
<td>7.6021</td>
<td>9.29</td>
<td>0.0023</td>
<td>0.0011</td>
<td>0.0003 0.0029</td>
</tr>
<tr>
<td>Conflict resolution</td>
<td>1</td>
<td>0.4859</td>
<td>0.4859</td>
<td>0.59</td>
<td>0.441</td>
<td>-1E-04</td>
<td>0 0.0008</td>
</tr>
<tr>
<td>Job demands</td>
<td>1</td>
<td>97.265</td>
<td>97.265</td>
<td>118.86</td>
<td>&lt;.0001</td>
<td>0.0155</td>
<td>0.0113 0.0206</td>
</tr>
<tr>
<td>Coworker support</td>
<td>1</td>
<td>227.2</td>
<td>227.2</td>
<td>277.63</td>
<td>&lt;.0001</td>
<td>0.0356</td>
<td>0.0291 0.0429</td>
</tr>
<tr>
<td>Cooperation</td>
<td>1</td>
<td>2.7898</td>
<td>2.7898</td>
<td>3.41</td>
<td>0.0649</td>
<td>0.0003</td>
<td>0 0.0016</td>
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<tr>
<td>Occupation</td>
<td>1</td>
<td>0.4116</td>
<td>0.4116</td>
<td>0.5</td>
<td>0.4782</td>
<td>-1E-04</td>
<td>0 0.0007</td>
</tr>
<tr>
<td>Workplace</td>
<td>440</td>
<td>538.53</td>
<td>1.2239</td>
<td>1.5</td>
<td>&lt;.0001</td>
<td>0.0283</td>
<td>0.0197 0.0377</td>
</tr>
</tbody>
</table>

Note: Overall $R^2 = 0.32$
Table 3
Results of GLM Model #2 Testing Effect of Challenging Job Demands, Hindering Job Demands, and Job Resources on Behavioral Engagement across Occupations in Broad VHA Sample

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>Pr &gt; F</th>
<th>Partial Omega</th>
<th>90% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with Amount of Work</td>
<td>1</td>
<td>352.51</td>
<td>352.51</td>
<td>299.12</td>
<td>&lt;.0001</td>
<td>0.0387</td>
<td>0.0319 0.0462</td>
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<tr>
<td>Rewards</td>
<td>1</td>
<td>235.95</td>
<td>235.95</td>
<td>200.21</td>
<td>&lt;.0001</td>
<td>0.0262</td>
<td>0.0206 0.0326</td>
</tr>
<tr>
<td>Satisfaction with Coworkers</td>
<td>1</td>
<td>20.431</td>
<td>20.431</td>
<td>17.34</td>
<td>&lt;.0001</td>
<td>0.0022</td>
<td>0.0009 0.0045</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td>1</td>
<td>35.801</td>
<td>35.801</td>
<td>30.38</td>
<td>&lt;.0001</td>
<td>0.0039</td>
<td>0.002 0.0069</td>
</tr>
<tr>
<td>Job Demands</td>
<td>1</td>
<td>201.6</td>
<td>201.6</td>
<td>171.07</td>
<td>&lt;.0001</td>
<td>0.0224</td>
<td>0.0173 0.0285</td>
</tr>
<tr>
<td>Coworker Support</td>
<td>1</td>
<td>16.359</td>
<td>16.359</td>
<td>13.88</td>
<td>0.0002</td>
<td>0.0017</td>
<td>0.0006 0.0039</td>
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<tr>
<td>Cooperation</td>
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<td>8.8515</td>
<td>8.8515</td>
<td>7.51</td>
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<td>0.0009</td>
<td>0.0002 0.0026</td>
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<tr>
<td>Occupation</td>
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<td>0.255</td>
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<td>0.6418</td>
<td>-1E-04</td>
<td>0 0.0006</td>
</tr>
<tr>
<td>Workplace</td>
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<td>1.9126</td>
<td>1.62</td>
<td>&lt;.0001</td>
<td>0.0357</td>
<td>0.0266 0.0456</td>
</tr>
</tbody>
</table>

Note: Overall $R^2 = 0.40$
Table 4

Results of GLM Model #3 Testing Effect Challenging Job Demands, Hindering Job Demands, and Job Resources on Attitudinal Engagement in Selected Workgroups

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Type III SS</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>Pr &gt; F</th>
<th>Partial Omega</th>
<th>90% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with Amount of Work</td>
<td>1</td>
<td>20.16</td>
<td>20.16</td>
<td>15.72</td>
<td>&lt;.0001</td>
<td>0.0354</td>
<td>0.013 0.0731</td>
</tr>
<tr>
<td>Rewards</td>
<td>1</td>
<td>22.73</td>
<td>22.73</td>
<td>17.72</td>
<td>&lt;.0001</td>
<td>0.04</td>
<td>0.0159 0.0792</td>
</tr>
<tr>
<td>Satisfaction with Coworkers</td>
<td>1</td>
<td>0.49</td>
<td>0.49</td>
<td>0.38</td>
<td>0.5354</td>
<td>-0.0015</td>
<td>0 0.0124</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td>1</td>
<td>5.18</td>
<td>5.18</td>
<td>4.04</td>
<td>0.0452</td>
<td>0.0075</td>
<td>0.0001 0.0323</td>
</tr>
<tr>
<td>Job Demands</td>
<td>1</td>
<td>2.20</td>
<td>2.20</td>
<td>1.72</td>
<td>0.1906</td>
<td>0.0018</td>
<td>0 0.0213</td>
</tr>
<tr>
<td>Coworker Support</td>
<td>1</td>
<td>0.24</td>
<td>0.24</td>
<td>0.18</td>
<td>0.6685</td>
<td>-0.002</td>
<td>0 0.0099</td>
</tr>
<tr>
<td>Cooperation</td>
<td>1</td>
<td>3.55</td>
<td>3.55</td>
<td>2.77</td>
<td>0.0968</td>
<td>0.0044</td>
<td>0 0.0266</td>
</tr>
<tr>
<td>Workplace</td>
<td>16</td>
<td>56.94</td>
<td>3.59</td>
<td>2.77</td>
<td>0.0003</td>
<td>0.0661</td>
<td>0.0283 0.1167</td>
</tr>
</tbody>
</table>

Note: Overall $R^2 = 0.29$
### Table 5

**Results of GLM Model #4 Testing Effect of Challenging Job Demands, Hindering Job Demands, and Job Resources on Behavioral Engagement in Selected Workgroups**

<table>
<thead>
<tr>
<th>Source</th>
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<th>Type III SS</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>Pr &gt; F</th>
<th>Partial Omega</th>
<th>90% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with Amount of Work</td>
<td>1</td>
<td>20.16</td>
<td>20.16</td>
<td>15.72</td>
<td>&lt;.0001</td>
<td>0.0354</td>
<td>0.013 0.0731</td>
</tr>
<tr>
<td>Rewards</td>
<td>1</td>
<td>22.73</td>
<td>22.73</td>
<td>17.72</td>
<td>&lt;.0001</td>
<td>0.04</td>
<td>0.0159 0.0792</td>
</tr>
<tr>
<td>Satisfaction with Coworkers</td>
<td>1</td>
<td>0.49</td>
<td>0.49</td>
<td>0.38</td>
<td>0.5354</td>
<td>-0.0015</td>
<td>0 0.0124</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td>1</td>
<td>5.18</td>
<td>5.18</td>
<td>4.04</td>
<td>0.0452</td>
<td>0.0075</td>
<td>0.0001 0.0323</td>
</tr>
<tr>
<td>Job Demands</td>
<td>1</td>
<td>2.20</td>
<td>2.20</td>
<td>1.72</td>
<td>0.1906</td>
<td>0.0018</td>
<td>0 0.0213</td>
</tr>
<tr>
<td>Coworker Support</td>
<td>1</td>
<td>0.24</td>
<td>0.24</td>
<td>0.18</td>
<td>0.6685</td>
<td>-0.002</td>
<td>0 0.0099</td>
</tr>
<tr>
<td>Cooperation</td>
<td>1</td>
<td>3.55</td>
<td>3.55</td>
<td>2.77</td>
<td>0.0968</td>
<td>0.0044</td>
<td>0 0.0266</td>
</tr>
<tr>
<td>Workplace</td>
<td>16</td>
<td>56.94</td>
<td>3.56</td>
<td>2.77</td>
<td>0.0003</td>
<td>0.0661</td>
<td>0.0283 0.1167</td>
</tr>
</tbody>
</table>

*Note: Overall $R^2 = 0.40$*

These results indicate that employee ratings of demands and resources are connected to the outcomes of VHA work engagement. After confirming this relationship, the qualitative data from these same workplaces was explored to identify themes that workers in these professions reported as being either job demands and/or resources.
Qualitative Conclusions

Eleven themes were mentioned by employees that were conceptually relevant to the JD-R model, that is, the themes represented VHA employee experiences of either job demands or job resources in the context of their specific work. Specifically, the following themes were described as either resources or demands: coworker relationships, work environment, facility resources, job autonomy, functional leadership, relational leadership, training, pay, rewards, schedule, and workload.

Of note, the workplace characteristics reflected in each theme could be classified either as job resources or as demands. Two examples below illustrate this, for the functional leadership theme.

(Human Resources employee): “New boss, wonderful, fair, night and day. Since May, things are done fairly - Giving everyone the same keys. Things are improving, but can't go back and change. I tell her about it, she'll deal with it.”
(Dental Services employee): “You have to treat everyone the same - treat everyone equally. The people who are in positions of authority (supervisors) aren't treating people equally and that is adding to the group of people who are disgruntled. They don't see the extra mile that you give. If someone comes who has seniority or is a friend of the supervisors, they don't get treated the same.”

The first example demonstrates a positive impact of the workplace on the employee’s feelings at work, resulting from the relationship with a leader who exhibits fairness. Having a fair leader might therefore be perceived as a resource—one area of working life from which employees can derive positive energy. In contrast, the second example illustrates a negative impact that an unfair leader can have on the workplace. Dealing with this situation could add stress and strain to a job, and might be perceived as a job demand.

Interview data also suggest that job resources can offset a highly demanding work environment—see a representative example below.

(Respiratory Therapy employee): “We care about each other and we stay in contact. It is just the love of the VA. We work together pretty well, as a team. If you need anything, have any questions, they will help you. We worked this weekend with only two therapists. Someone will pick up a shift so no one has to stay over or work short.”

This description includes two elements: First, that work can be highly demanding, and second, that the coworker relationships can buffer the demands. When coworker relationships were described as poor and work as highly demanding, employees in our sample reported high level of strain; see an example below.

(Human Resources employee): “Everyone has an "I don't care attitude" now, especially towards coworkers. When coming to work, you get sick to your stomach, stressed, not knowing, hostile work environment.”

In the last example, coworker relationships created an additional demand to the job, illustrating a typical pattern in our interview data. When poor coworker relationships were discussed as an additional stressor, this was usually for the specific reason that employees could not rely on each other for help in coping with a heavy workload.
After identifying all of the themes relevant to these five occupations, we analyzed their practical manifestations separately within each occupation. Some themes were highly similar: e.g., all five occupations identified teamwork as important and shaping their perception of co-worker relationships as a resource. In contrast, employees in the five occupations differed in how specifically they saw relational leadership as a job demand: e.g., dentists rated communication deficits as a major component of relational leadership whereas respiratory therapists focused more on their leaders’ ability to foster positive relationships with employees.

Interview excerpts were also examined focusing on distinctions between the challenging and hindering job demands. The excerpts from two specific themes, workload and coworker relationships, were used for this exploration. These themes were selected because they represent past findings regarding what might be considered a challenging job demand and what might be considered a hindering job demand (Van den Broeck et al., 2010).

Across all occupations, no descriptions linked workload (as a demand) to being challenging, i.e. we found no positive reflections toward the large amount of work being done. Instead, employees across all five occupations typically reported needing additional staff, or having a shortage of staff (see a representative example below).

(Police employee): “Shortage of staff which has been a problem for a year. Officers working too much overtime because that is a serious safety hazard. You got people working 16 hour days all the time.”

Human resources, police, and dental services specifically referred to emotions felt by employees: Employees who discussed staff shortages also reported feeling burnt out, stressed, and overwhelmed for this reason (two examples below).

(Human Resources employee): “The amount of work. The difficulty in getting things done. You just can't seem to finish something. There are too many encumbrances still with the work. We need to pull some things together and have continuity. We just can't get ahead- it's like come in to work and try to do what you can that day. To get anything else done is too much….Everyone feels a bit overwhelmed.”

(Police employee): “Our sergeants are overworked and underpaid….We have one who is average and one who is excellent but is getting burned out because of lack of support.”

Human resources, respiratory therapy, and dental services in particular described a heavy workload (examples below). Human resources, respiratory therapy, and police also reported needing more help.

(Human Resources employee): “It’s hard to keep up with the workload, so that’s a downside of the employee work ethic. I hated taking vacation, hating taking breaks, it was a penalty if you took vacation because you’d get behind.”

(Dental employee): “The assistants are complaining that they can’t leave 10 minutes for lunch. We don’t have much time to eat…..”

For coworker relationships (as a demand), employees’ reports indicated it was a source of stress. This included reports of mistrust of and divisions among co-workers, lack of respect, dissension, bickering, drama, unwanted competitiveness, turmoil, and animosity (see examples below).
(Respiratory Therapy employee): “In our particular department, there is a division in something and not sure how it originated. You have the old versus the new, you have a color line. Older people trying to get rid of new therapists, older people trying to come into a newer environment, fear trying to get rid of older people.”

(Police employee): “Even though people know what they have to do, when you have a lot of people, you have bickering. The administration has been lax in dealing with those kinds of things. ‘You don’t behave like this, you behave like this.’ It’s disruptive in the work area.”

Overall, our qualitative data confirmed that, as postulated in the JD-R model, a job aspect can be experienced as a resource or demand depending upon its impact on the workers. The data also suggested no distinction between the impact of job demands that were perceived as challenging (such as workload) and demands that were perceived as hindering (such as interpersonal conflict). Both types of demands were negatively viewed by employees.

Discussion

Consistent with prior research that applied the JD-R model to healthcare samples (e.g., Hakanen et al., 2008; Jourdain & Chênevert, 2010; Mauno et al., 2007), our results overall confirmed the model as applicable, both to a broad VHA sample across five occupations and a smaller subset of the same occupations within 17 different workplaces. Whereas VHA employees experience the high demands typical of healthcare jobs, we believe that they also experience additional meta-demands through their strong commitment to a challenging, socio-economically disadvantaged patient population characterized by high rates of comorbidity, severe injuries, serious mental health illnesses, and post-traumatic stress disorder. This study shows that job resources necessary to offset the high demands, and the presence of challenging (positive) job demands, predict the high work engagement in these employees. Interview excerpts also reveal a set of themes which can be dichotomized in terms of job demands and resources. The interview data illustrate that when a theme (e.g. coworker relationships) is characterized as a job resource, it can offset the requirements of highly demanding jobs.

These qualitative data provide great insight into employee experiences as reflected in their descriptions of specific VHA workplaces. An advantage of qualitative research is its ability to capture the rich descriptions employees provide about their work environment experiences. This level of detail can inform the development of OD interventions. For example, the excerpt below presents a description of relational leadership as a job resource:

(Police employee) “Our chief has a very honest and helping attitude. He doesn't block; he listens….”

This excerpt identifies specific qualities in the leader’s behavior experienced as helpful, and thus provides information about relational leadership aspects that might inform an intervention to address poor leadership. Specifically, relational leadership as a resource includes characteristics such as honesty, helpfulness, and listening. An OD intervention might include these characteristics as part of an executive coaching program to improve workplace leadership. Qualitative interview excerpts in this study provide similar nuggets of information, useful to OD field practitioners.
The qualitative interview excerpts and corresponding themes also constitute a large part of what this study contributes to research on the JD-R model. Past research has been largely quantitative; we are not aware of any existing records of actual employee experiences of job demands and job resources. Quantitative research on the JD-R model in healthcare has established causal relationships between job demands and resources and outcomes such as burnout and engagement (Hakanen et al., 2008; Jourdain & Chênevert, 2010; Mauno et al., 2007). This study takes a step back and asks: what do job demands and job resources look like to healthcare employees? How are these experienced within the specific context of their working life? Answers to these questions lend themselves to multiple applied uses. For example, one application of the information gathered by the qualitative interviews would be for development of job demands/job resources assessments specific to healthcare settings.

A methodological point of interest in this paper is the qualitative themes characterizing job resources and job demands compared to themes measuring these variables in previous, quantitative research. Substantively, our qualitative results were overall consistent with quantitative findings on the JD-R, both in the current and previous studies. However, unlike previous research, we used the same theme, consisting of both hindering and helping qualities, as a job demand and a job resource. In past research examining the JD-R model with healthcare samples, job demands typically included quantitative overload, role stress, work interference with family, and hostility from physicians and patients (Jourdain & Chênevert, 2010); job insecurity, time demands at work, and work to family conflict (Mauno et al., 2007); and quantitative, decisional, and learning demands (Peterson, Demerouti, Bergström, Åsberg, & Nygren, 2008). Job resources, on the other hand, included competence and meaning, decision-making authority, impact, support from supervisors and support from colleagues, and recognition by physicians and patients (Jourdain & Chênevert, 2010); job control, organization-based self-esteem, and management quality (Mauno et al., 2007); and control of decision, positive challenges at work, social support from superior, fair, empowering leadership, and social climate in the workplace (Peterson et al, 2008). In the current study, a critical distinction in applying the concepts of the model was that each singular theme could characterize either job demands or job resources, as defined by a positive or negative evaluative aspect attached to the employees’ experience of this theme. In previous studies, job demands did not also act as job resources: these contents were treated as fixed in their association with either resources or demands. We believe that the conceptualization in the current study does more justice to the contextual nature of employee perceptions of their workplace, and is more in line with the original theoretically-based conceptualization of job demands and resources (Bakker & Demerouti, 2007).

Another methodological issue is the referent for job demands and resources. Sundin, Hochwalder, and Bildt (2008) developed and validated a scale measuring job demands in healthcare settings and summarized the most prominent job demands as follows: pain and death, patient and relative needs, threats and violence, and professional worries. These greatly vary from the themes found in our study. In fact, one theme most reflective of Sundin et al. (2008): patient well-being (defined as physical or mental wellness of patients with whom employees interact) was mentioned only twice in all of our sample interviews. We speculate that one reason for the different characterization of job demands in the current study may be that employees...
were asked specifically about the strengths and weaknesses of their workplace, rather than of the work they performed, although the opportunity to discuss the work itself was clearly implied.

A noteworthy aspect about the distinction between workplace and work is that the employees in this study reported an abundance of job demands and job resources. If they were solely referring to their workplace and not to the work itself, then the workplace as the context of work appears to be just as important when studying job demands and job resources. In other words, if the workplace is rife with job demands and job resources, then so is the actual work. Furthermore, many of the job demands and job resources defined in previous research could be viewed as context-related rather than job-related. For example, social support is not an aspect of work per se but rather, a part of its context. Future qualitative studies exploring similar topics may benefit from including direct questions about work and the workplace to fully capture the demands and resources that employees experience. This type of clarifying data, which we did not have, could help determine which themes are specific to work, versus to the workplace, thus providing a fine-grained understanding of the sources of job demands and job resources.

Limitations

Qualitative data are more subjective than quantitative data (i.e., one rater) and in the current study were limited to one rather than multiple interpretations. Future studies might consider including more than one individual to code and assess the qualitative data. That being said, however, a strength of this study is that it included both qualitative and quantitative methods to examine as many data perspectives as possible (cf triangulation; Patton, 2002).

This study had one qualitative data coder; therefore, we could not test inter-rater reliability, which constitutes a limitation given that qualitative data are inherently more subjective and prone to interpretive biases than qualitative data. However, the single coder had high skill levels with this type of data: she had a formal training in qualitative coding and software, and demonstrated a post-training inter-rate reliability above .70 with other coders of these assessments. The coder also spent ten or more hours in weekly coding for a one year period subsequent to the training, immediately preceding her work with data for this study. We believe that these aspects adequately mitigated the subjectivity inherent in the coding method.

An additional limitation is that the workplaces that provided the qualitative data had requested an OD intervention to improve their work environment. Their data might therefore emphasize negative workplace aspects beyond what is than typical within VHA. Incorporating qualitative data from high functioning workplaces would address this limitation in future studies.

Applications

One OD intervention that demonstrates an empirical ability to address difficult co-worker relationships and work environments is the CREW approach (Civility, Respect, Engagement in the Workplace), a VA-developed initiative focused on increasing workplace civility. According to Osatuke, Moore, Ward, Dyrenforth, and Belton (2009), civility refers to “courteous and
considerate workplace behaviors within the workgroup (the group of people who work together and report to the same supervisor)” (p.384). It includes the dimensions that express civil behavior, including “coworkers’ personal interest and respect toward each other; coworkers’ cooperation or teamwork; fair resolutions of conflict; and valuing of differences among individuals, both by coworkers and the supervisor” (Osatuke et al., 2009, pp. 384-385). In the CREW intervention model, VA organizations provide time, attention, and support to regular (weekly) workgroup-level discussions about civility. An OD practitioner does not instigate these discussions, nor do they dictate to employees what materials to use to run the discussions. The process evolves organically, with employees or supervisors who are interested in increasing their workgroup civility contacting NCOD, which then provides them with a facilitator who offers resources and interpersonal support that employees might find useful in their workgroup conversations with co-workers about civility. Local facility coordinators receive training from NCOD regarding the mechanics of running the group discussions. Osatuke et al. (2009) investigated pre- and post-intervention effects of CREW on VHA sites that used the intervention compared to those that did not. The VHA sites that used CREW showed significant changes in civility from pre- to post-intervention compared to no significant changes in comparison sites. This finding indicates that CREW works, that is, workplace civility can be addressed and improved within organizations that make a specific commitment to developing their workplace climate.

Executive coaching is another example of an OD intervention strategy that can be used to address leadership issues. According to Kombarakaran, Yang, Baker, and Fernandes (2008), “executive coaching is a short-term interactive process between a coach and a manager to improve leadership effectiveness by enhancing self-awareness and the practice of new behaviors” (p. 79). Although the empirical evidence on the effectiveness of executive coaching is slim, several studies support it as a method of behavioral change. For example, Kombarakaran et al. (2008) found that executive coaching led to changes in behavior in five areas: People management, relationships with managers, goal setting and prioritization, engagement and productivity, and dialogue and communication. Perkins et al. (2009) found that executive coaching improved leaders’ team meeting effectiveness. This existing evidence supports the use of executive coaching as a means of improving leader performance.

Conclusions

In summary, this mixed-method study showed, quantitatively, that job resources are a better predictor of attitudinal and behavioral work engagement than job demands. Qualitatively, this study showed that employees do indeed describe their work experiences in terms of job demands and job resources and that, consistently with the model, the same aspect of the job (e.g. supervision) can be experienced as a demand or as a resource (e.g. having difficult versus helpful interactions with supervisors). Future quantitative research might incorporate the themes that we reported into scale development specific to healthcare. Including additional healthcare occupations in qualitative analyses should be helpful to determine how generalizable the themes are that were reported in this study. Understanding the JD-R model from all perspectives, both
qualitative and quantitative, can enhance the ability of OD practitioners to develop applied interventions that would improve the quality of employees’ working life.

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