

RUNNING HEAD: EMOTIONAL LABOR AND WAGES

Emotional Labor Demands and Compensating Wage Differentials

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Abstract

The concept of emotional labor demands and their effects on workers has received considerable attention in recent years, with most studies concentrating on stress, burnout, satisfaction, or other affective outcomes. This study extends the literature by examining the relationship between emotional labor demands and wages at the occupational level by incorporating data on generalized work activities and work context features from the O*NET. Theories describing the expected effects of job demands and working conditions on wages are described. Results suggest that higher levels of emotional labor demands are associated with lower wage rates for jobs low in cognitive demands and higher wage rates for jobs high in cognitive demands. Implications of these findings are discussed.

Emotional Labor Demands and Compensating Wage Differentials

In numerous occupational roles, such as customer service, healthcare, protective services, and counseling occupations, employees are continually faced with emotionally charged encounters requiring specific emotional displays. Despite the pervasiveness of emotional experiences on the job, research has only recently begun to examine the consequences of emotions at work for workers and organizations (Weiss & Cropanzano, 1996; Brief & Weiss, 2002). One area that is witnessing increased research attention is *emotional labor*, or the effort expended in expressing appropriate emotions which are not consistent with one's actual emotions and not expressing inappropriate emotions that one is currently experiencing, as defined by role requirements of the job (Grandey, 2000; Hochschild, 1983; Morris & Feldman, 1996; Wharton, 1993).

One rationale for interest in emotional labor is its pervasiveness. Numerous occupations require workers to engage in frequent emotional displays. The required emotional displays of concerned flight attendants (Hochschild, 1983), friendly convenience store clerks (Sutton & Rafaeli, 1988; Rafaeli, 1989), angry criminal investigators and bill collectors (Rafaeli & Sutton, 1991), and empathetic health care professionals (Miller, Stiff, & Ellis, 1988; Miller, Birkholt, Scott, & Stage, 1995) are examples. The emotions displayed by an employee may be inconsistent with their internal emotional state, creating *emotional dissonance*, the conflict between genuinely felt and expressed emotions. Individuals often fake and suppress emotions to be commensurate with emotional display rules on the job, and such dissonant emotional labor may lead to potentially adverse outcomes for the employee (Grandey, 2000; Morris & Feldman, 1996; Wharton, 1993). Research suggests that at least one-third of American workers engage in emotional labor (Hochschild, 1983) and that for some workers, emotional labor is a component

of two-thirds of workplace communication (Mann, 1999). The pervasiveness of emotional labor may be due, in part, to the increase in the service economy creating jobs with emotional labor demands. From an organizational perspective, employees' adherence to emotional labor demands is valuable due to its potential benefits in achieving organizational outcomes, particularly in service occupations (Grandey & Brauburger, 2002; Pugh, 2001, Tolich, 1993). From the worker's perspective, emotional labor demands have effects on relevant job and psychological outcomes such as job satisfaction, emotional exhaustion, and well-being; these effects are typically negative (Grandey, 2000; Hochschild, 1983; Morris & Feldman, 1996; Pugliesi, 1999; Wharton, 1993).

Given the purported negative consequences, one might question why workers would accept jobs with high demand for emotional labor. Seminal work in the field by Hochschild (1983) suggests that emotional labor is "sold for a wage and therefore has exchange value" (p. 7). However, whether jobs high in emotional labor demands actually do evidence gains in the form of wages has not been explicitly examined and the limited empirical evidence has been mixed. Adelman's research (1995) suggests that a sample of table servers *perceive* that emotional labor "results in better tips." However, a study by Wharton (1993) found that employees in occupations classified as those where emotional labor is performed have lower income than employees in occupations where emotional labor is not performed. Despite these wage relevant findings, the studies described above were limited to a small number of occupations and organizations and did not control for other job characteristics related to wages. These studies were not specifically designed to test the interplay of emotional labor demands and wages. The relationship between emotional labor and wages has never been studied explicitly.

The current study aims to examine emotional labor demands as they relate to wages to determine whether the “labor” of emotional labor evidences wage returns in the form of compensating differentials. The study is unique because much of the empirical work on emotional labor has been conducted primarily at the individual employee level of analysis, rather than the occupational level. Although an individual-level emphasis is informative, given that the emotional labor demands reside within the job rather than the person, analysis at the occupational level is most appropriate. Furthermore, Hochschild (1983) originally focused on the occupational level of analysis and included a classification of occupations based on their emotional labor demands. We examine the effects of emotional labor demands while controlling for traditional factors related to wages, including labor market factors like unemployment and unionization, which could explain significant variance in wages. We also consider how emotional labor may interact with other job features; in particular, the interaction between emotional labor demands and the cognitive demands of the job. We review conceptualizations of emotional labor, its role in organizational life, and posit the effect of emotional labor demands on wages.

Emotional Labor

Following Hochschild’s (1983) seminal piece in which she coined the term “emotion labor,” several conceptualizations of emotional labor have been proposed (Ashforth & Humphrey, 1993; Brotheridge & Lee, 1998; Grandey, 2000; Mann, 1999; Morris & Feldman, 1996). Some conceptual ambiguity persists, but each conceptualization has in common the general underlying assumption that emotional labor involves managing emotions to be consistent with organizational or occupational “display rules” (see Grandey, 2000 for a recent overview) regardless of whether they are discrepant with internal feelings; emotional labor is “the act of

displaying appropriate emotion (i.e., conforming with a display rule)” (Ashforth & Humphrey, 1993; p. 90).

These display rules and the emotional labor they solicit are present in a number of occupations and generate emotional labor demands. For example, service personnel are typically required to display positive emotions (e.g., enthusiasm, happiness), to promote goodwill, patronage, and spending, while keeping to themselves their negative feelings (Hochschild, 1983; Grandey, 2000; Grandey & Brauburger, 2002). In contrast to service personnel, other occupational groups may require different forms of emotional expression to achieve desired objectives. For example, police interrogators and bill collectors are often required to display negative emotions (e.g., irritation, aggravation) to gain compliance from debtors and suspects (Stenross & Kleinman, 1989; Sutton, 1991). The emotional labor demands present in these and many occupations, and the emotional dissonance they produce, are of primary interest.

Similar to cognitive dissonance, emotional dissonance, or the discrepancy between felt and expressed emotions, creates an unstable state within the individual and may lead to such negative outcomes as estrangement between self and true feelings (Hochschild, 1983), job-related stress (Adelmann, 1995; Pugliesi, 1999; Wharton, 1993), and emotional exhaustion (Morris & Feldman, 1997). Much of the research on the outcomes of emotional labor has centered on these negative attitudinal, psychological, and behavioral outcomes for employees. There has not been attention to whether the emotional labor demands and ensuing emotional dissonance contributes in any meaningful way to the pecuniary outcomes for employees engaged in emotionally laborious jobs. Using the literature on compensating wage differentials, we posit a rationale for a compensating wage differential of emotional labor demands.

Emotional Labor Demands as Compensating Wage Differentials

As first proposed by Adam Smith (1776) in *The Wealth of Nations*, the theory of compensating wage differentials suggests that wages vary across jobs to offset non-pecuniary advantages and disadvantages of job characteristics. Thus, the theory provides a possible explanation of wage differences across jobs. Jobs differ in terms of such characteristics as educational requirements, job stress, working hours, physical effort, and level of risk. Workers selecting jobs will consider these characteristics in addition to the pecuniary characteristics (i.e., wages and benefits). If two occupations have largely equivalent job characteristics and equivalent wages, except that, for example, one job requires greater physical effort, employees will migrate to the job with lower physical demands. As migration occurs to the less demanding job, wages in the less demanding job will fall and wages in the more demanding job will rise until a wage differential exists that is large enough to compensate for this difference in physical demands. The compensating wage differential is the amount that an employee must be compensated to accept the additional work effort for the occupation. *Ceteris paribus*, absent such a wage premium paid to the job with greater demands, employees would migrate to the job without physical demands. Consistent with this theory, evidence supports the compensating wage differential theory for physical risks (e.g., Olson, 1981; Smith, 1979).

Emotional labor as a job demand. High emotional labor demands could be conceived of as an aversive job characteristic and require a compensating wage differential in the same way wage premiums are accorded to jobs associated with high physical labor demands. Employees in jobs with high emotional labor demands may experience emotional dissonance (Hochschild, 1983). As discussed above, emotional dissonance creates an unstable state within the individual and may lead to negative outcomes, such as estrangement between self and true feelings

(Hochschild, 1983) and job-related stress (Adelmann, 1995; Wharton, 1993), job dissatisfaction, emotional exhaustion (a component of job burnout), work withdrawal, and turnover (Grandey, 2000; Hochschild, 1983; Morris & Feldman, 1996; Wharton, 1993). Given that a job high in emotional labor is associated with elevated risk for such negative employee outcomes as psychological stress, burnout, and job dissatisfaction, a wage premium may be expected.¹

Emotional labor skills as human capital. In addition to job attributes, compensating wage differentials may also be recognized in the form of returns to human capital. The central premise of human capital theory is that a worker's skills, abilities, and characteristics represent the worker's capital that is paid for or "rented" by the employer; greater human capital results in greater returns in the form of wages. Most of the literature on wage returns to human capital examines the effects of general and firm-specific training and education activities, based on the original premise that human capital is the result of a monetary investment one makes in him or herself (Becker, 1964). However, human capital has been conceptualized more broadly in recent years to include a wide array of worker attributes and competencies that contribute to organizational performance (e.g., Snell, Lepak, & Youndt, 1999).

Similar to how demands for specific technological skills are rewarded with higher wages, demands for ability and skill in emotional labor may result in higher wages. Occupations that require these abilities and skills of employees may have higher wages because these skills and abilities are considered human capital and are compensated accordingly. Research has suggested that certain employee characteristics may result in more frequent or effective emotional labor (e.g., Grandey, 2000; Morris & Feldman, 1996; Wharton, 1993). For jobs high in emotional labor, additional skills beyond those traditionally considered in wage research [e.g., Specific Vocational Preparation (SVP) and General Educational Development (GED)] may be required

and compensated to meet the emotional labor demands, such as interpersonal skill, emotional intelligence, emotional expressivity, self-monitoring and conflict management. These skills have been considered increasingly important in the growing service economy and the presence or development of these skills may facilitate meeting emotional labor demands and be a basis for higher compensation. Based on theories of compensating wage differentials and human capital, we propose the following hypothesis:

Hypothesis 1: Greater emotional labor demands will be associated with higher wages.

Interactive Effect of Demands

Although compelling reasons supporting a wage premium for emotional labor demands exist, anecdotal evidence suggests that the types of jobs that are high in emotional labor are not necessarily or always high paying jobs (e.g., customer service providers). Further, research examining the levels of emotional labor required among workers in two organizations suggested lower wages for those engaging in emotional labor (Wharton, 1993). One job characteristic that may explain some of this inconsistency is the cognitive demands of a job.

Ample research suggests that the cognitive demands present in a job are among the strongest predictors of wages (e.g., Bound & Johnson, 1992; Juhn, 1999). Although a compensating wage differential approach would suggest that both cognitive and emotional labor demands would have additive effects, in which higher levels of cognitive and emotional labor demands would both result in higher wages, theories of job demands suggest that their effects may be interactive.

Warr's vitamin model (1987) attempts to delineate the features of good jobs, noting that there are some job features that are desirable only at certain levels; too much or too little may contribute to psychological stress. Thus, the model posits non-linear relationships between these

features and psychological outcomes. Features that function in this non-linear fashion include opportunity for control, opportunity for skill use, externally generated goals, variety, and environmental clarity (e.g., transparency of feedback), and, most relevant to emotional labor demands, opportunity for interpersonal contact. The notion that additional challenge and effort at work might be considered a positive outcome for workers is inconsistent with the traditional economic model of worker effort, which assumes that any additional effort required on the job is considered aversive by workers. In addition to job features for which certain levels are deemed appropriate, there are also features, such as money, social position, and physical security that evidence a linear relationship; more of these qualities are always preferred.

Extending this to consider a number of job features in concert, we can see how certain job features or demands may be beneficial, but only at certain levels; beyond these levels the presence of a feature may be detrimental. This has specific implications for emotional labor. When jobs are high in cognitive demands, emotional labor demands may push workers into a range of stimulation and effort where the job becomes more psychologically stressful. Therefore, a compensating wage differential exists for these jobs as a way to compensate for the excessive demands. Jobs with lower cognitive demands and emotional labor demands may maintain a level of stimulation where characteristics such as “opportunity for interaction with others” (Warr, 1987) are still favorable features.

An interactive effect may also be informed by the “scarcity” hypotheses, which assumes that a fixed stock of human energy exists and this stock is used up in the course of daily activities (Goode, 1960; Marks, 1977; Wharton & Erickson, 1995). Given that both cognitive demands and emotional demands tap the resource of human energy, workers may expect a wage premium when these resources are particularly scarce, as would be the case in jobs that tap both cognitive

and emotional capacity. Explanations derived from the vitamin model or the scarcity hypotheses have as an underlying theme the idea that for jobs high in cognitive demands, the emotional labor requirements may be one additional burden. A notable difference is that the vitamin model proposes that increased emotional demands may result in a wage premium if other opportunities for stimulation are absent from the job allowing for non-monotonic effects, while the scarcity hypothesis and traditional compensating differential models that view all work effort as negative predict that any increase in job demands will result in a wage increase. According to the vitamin model, for jobs low in cognitive demands the emotional labor requirements may be a welcome job feature.

We expect that jobs high in cognitive demands would receive pecuniary benefits from the addition of emotional labor demands; a job that is already cognitively demanding would require additional reward with the application of emotional labor demands. For jobs low in cognitive demands, emotional labor demands remain desirable job features and thus are not compensated.

Hypothesis 2: Cognitive demands and emotional labor demands will have an interactive effect on wages, such that jobs with high cognitive demands will evidence a greater wage increase with the addition of emotional labor demands than jobs with low cognitive demands.

Similar to the interactive effect of cognitive and emotional labor demands on wages, we expect an interactive effect with the physical demands of the job and the emotional labor demands. This effect is also consistent with the vitamin model of job demands.

Hypothesis 3: Physical demands and emotional labor demands will have an interactive effect on wages, such that jobs with high physical demands will evidence a greater wage

increase with the addition of emotional labor demands than jobs with low physical demands.

Control Variables

In order to have confidence that emotional labor demands influence wages over and above other characteristics of an occupation, we controlled for several variables that have been shown to influence wages. First, we controlled for the proportion female in an occupation; occupations with a largely female constituency are typically paid lower wages than male dominated occupations (Kilbourne et al., 1994). Further, controlling for proportion female accounts for the social structural argument that many jobs requiring emotional labor are highly nurturant, and that nurturant social skills have a negative return (Kilbourne et al., 1994; England, 1992), possibly because of the high proportion of women in them (Shepela & Viviano, 1984). Second, we controlled for the unemployment rate in the occupation. In this case, unemployment rates for the occupation as a whole are used to index demand for individuals in a given occupation in the labor market in general. Higher levels of unemployment reflect an excess of individuals who identify themselves with a specific occupation relative to the demand for the workers in the occupation by employers, and should therefore be negatively related to wages. Third, we also controlled for the proportion of unionized workers. Unionized workers are generally paid a higher wage relative to non-union workers in the same occupations, largely due to the advocacy role played by unions in wage negotiations (Linneman, Wachter, & Carter, 1990). Fourth, we controlled for the squared and interactive terms for cognitive demands and physical demands to ensure that our analyses are not picking up spurious results for emotional labor demand interactions that are actually due to either cognitive or physical factors not accounted for in the linear main effects.

Method

The data for this study were collected at the occupation-level from four large-scale government databases (described below). Occupational level data is consistent with Hochschild's (1983) seminal research on emotional labor that classified occupations based on their emotional labor demands and is also an ideal match to job characteristics and demands, which are traditionally understood at the occupational level (Harvey, 1991). All measures and results described below pertain to occupations as a whole and should not be interpreted as individual level variables or effects.

Four large-scale government databases provided occupation-level data: the O*NET (United States Department of Labor/Employment and Training Administration, 2001), the Dictionary of Occupational Titles (DOT; United States Department of Labor/Employment and Training Administration, 1991), the Occupational Employment Statistics survey (OES; United States Bureau of Labor Statistics, 2001), and the Current Population Survey (CPS; U. S. Census Bureau, 1998, 1999, 2000, 2001). Because of the development of the Standard Occupational Classification system (SOC), it is possible to combine information across these databases by translating codes from one occupational classification method to another. Using these SOC codes to link the databases, a total of 560 occupations had information that could be matched across all databases. There were a small number of cases for which the O*NET divided a single job into two subcategories to represent the distinction between public and private sector jobs. In these cases, the average of the job characteristics scores were taken for the two subdivided jobs.

Job Demands

To assess job demands, specifically emotional labor demands, cognitive demands and physical demands, we relied primarily on job characteristics information available in the

Occupational Network (O*NET) 3.1 data (Peterson et al., 2001), a comprehensive system to describe occupations using a “common language” of descriptors that can be used to characterize different jobs in general terms, making comparisons between occupations possible (Campbell, 1993). Previous research investigating occupational characteristics as predictors of wage rates has used similar data collection instruments, such as the Dictionary of Occupational Titles (Kilbourne, England, Farkas, Beron, & Weir, 1994) or the Canadian Classification and Dictionary of Occupations (Kumar & Coates, 1982).

The use of the O*NET is particularly important to assess emotional labor demands. Although there have been attempts to categorize occupations as high or low in emotional labor demands (Hochschild, 1983; Wharton, 1993), there is not a comprehensive categorization scheme that provides discrimination among occupations beyond dichotomous or trichotomous classification. Indeed, the use of new methods for the identification of emotional labor at the occupational level has been encouraged by researchers seeking an alternative to dichotomous classification schemes (Wharton, 1993). O*NET allows for identification of emotional labor demands in occupations based on the job characteristics information provided.

One set of job characteristics included in the O*NET are generalized work activities, which represent activities or behaviors that underlie the accomplishment of major work functions (Jeanneret, Borman, Kubisiak, & Hanson, 1999). Unlike traditional task-oriented job analytic approaches that describe job content in terms of tasks, generalized work activities are behaviors performed by the worker to describe job content that are typically more generalizable. For example, in describing the job of a nurse, the task-oriented approach would produce statements like “performs physical examinations; conducts laboratory tests”, whereas generalized work

activities emphasize behaviors like “processes information, thinks creatively.” Such behavioral statements can be more readily compared across a variety of job types.

The O*NET uses 42 generalized work activities. The O*NET models the structure of work as a series of worker inputs (e.g., looking for, receiving, identifying, and evaluating job-related information), worker processes (e.g., the mental processes involved in interpreting the information such as information or data processing, reasoning or decision making), worker outputs (e.g., the actions of workers in response to information such as performing physical, manual, complex, or technical activities), and interpersonal interactions with others (e.g., communicating, coordinating, developing, managing, or advising; Jeanneret et al., 1999). The O*NET’s 42 generalized work activities describe the activities of workers during each of these steps (e.g., information input, processing, output, interaction) and jobs are evaluated or rated for each generalized work activity. Therefore, generalized work activities present useful information for understanding job characteristics that may relate to wages, as they encompass several job-relevant behaviors. From these generalized work activities, we sought to extract emotional labor, cognitive, and physical demands.

An initial examination of the factor structure underlying the generalized work activities for a small sample of jobs ($k=35$) produced a three-factor solution (Jeanneret et al., 1999). However, we believe that several generalized work activities have a conceptual overlap with emotional labor demands, which should be distinct from the three factors found in previous research. The presence of a fourth factor representing emotional labor demands is likely to be more clearly detectable in the current O*NET data, which includes a much larger number of jobs ($k=560$).

We submitted the correlation matrix for ratings of the generalized work activities items from the O*NET for the 560 occupations in this study to a principal component analysis with direct oblimin (oblique) rotation to demonstrate that an emotional labor factor can be identified. A principal component extraction was used to reflect the fact that observed variables can be combined to form a latent aggregate score, as opposed to the principal axis or maximum likelihood factor extraction, which describes how observed variables are caused by a latent factor. From these generalized work activities we extracted four factors representing information, managing, manual labor, and emotional labor. Our principal component analysis supported a four-component solution with components comparable to those found by Jeanneret et al. (1999), including working with data and information (i.e. information), working with and directing others (i.e. managing), and manual and physical activities (i.e. manual labor), as well as an emotional labor demands component. The three-factor solution explains 74% of the variance of the items; the four-factor solution explains 78% of the variance in all the items. While this is a modest increase in proportion of variance accounted for, the pattern of loadings for the four component solution suggest that the emotional labor component is in fact distinct from the components found in previous research.

Emotional Labor Demands. The six generalized work activities items that have conceptual overlap with emotional labor demands are: establishing and maintaining relationships, caring and assisting others, selling or influencing others, resolving conflict, working with the public, and communicating with persons outside the organization. All of the six items we believe reflect emotional labor had component loadings of greater than 0.30 on the emotional labor factor. However, four of the six items (i.e., establishing relationships, selling/influencing, resolving conflict and communicating with others) had strong cross-loadings

with the managing or information dimension. Removal of these four items from the emotional labor factor would leave the factor with only two “clean” items (i.e., assisting and caring for others and performing for/working with the public) that load almost exclusively on a distinct emotional labor demands component.

To ensure that we are obtaining a pure measure of emotional labor independent of managerial activities, only two Generalized Work Activities, performing/working for the public and assisting and caring for others, are used as indicators of emotional labor, to avoid conceptual overlap with the managerial aspects of work. However, using only two items to represent emotional labor demands was less than satisfactory. To supplement our emotional labor demands measure, we examined the 59 work context items of the O*NET which are scored on five-point scales indicating the frequency or relevance of work context features. For example, raters indicated, “how frequently do the job requirements place the worker in conflict situations,” on a scale ranging from 1=never to 5=every day.

Four elements of the O*NET work context scales that are representative of dimensions of emotional labor demands are not represented in the list of generalized work activities variables: providing a service to others, deal with external customers, frequency in conflict situations, and deal with angry/unpleasant people. In addition to enriching the emotional labor demands measure, the inclusion of these elements ensures that negative emotional displays are also captured in the emotional labor construct. The results of the final principal components analysis with the generalized work activities and four work context items are presented in Table 1.

As shown in Table 1, the four-factor solution suggests Informational, Manual, Managerial, and Emotional Labor components of job demands. The emotional labor demands composite was created using those work activities items (2 items) and work context items (4

items) that load almost exclusively on the emotional labor demands component; none of items that cross-loaded were included to allow for a more pure assessment of emotional labor demands. Based on the principal component analysis, a scale for emotional labor demands (and the other demands discussed below) was computed by standardizing within each scale and then summing these standardized scores. The emotional labor component correlates $r=0.14$ with the information component, $r=0.34$ with the managing component, and $r=-0.21$ with the manual labor component.

Cognitive demands. We included several indicators of cognitive demands. First, the informational and managerial factors from the factor analysis (discussed above in the job characteristics section) were used as indicators of the cognitive demands of the job. Second, specific vocational and general educational requirements were collected from the Dictionary of Occupational titles database. These data are the basis for the job zones featured in the new O*NET system, and contain more specific information regarding the nature of training as well as a greater level of detail for vocational preparation. These requirements capture the human capital required for a job. The general educational requirements are collected in the areas of language, reasoning, and mathematics. Because of the very high correlations among these indicators (average correlation 0.77), we computed an aggregated cognitive demands index by standardizing within each scale and then summing these standardized scores.

Physical Demands. A physical demands scale was computed to reflect both the demands placed on the worker for manual labor as well as the physically demanding risks and unpleasant conditions of the job such as working with heat, loud noises, and dangerous working conditions. A manual labor scale was formed consisting of those items which loaded most strongly on the manual labor component in the principal components analysis of the generalized work activities,

while the risks and unpleasant conditions of the job were measured using items from the work context scales of the O*NET data base. O*NET includes 59 work context items scored on five-point scales indicating the frequency or relevance of work context features. Because these scales were very highly correlated at $r=0.77$, a summary score was computed using all of the individual items representing manual labor and physically demanding conditions.

Control Variables

Information on the proportion of females in an occupation was computed by aggregating individual employee level data on sex to the occupation level using data from the CPS over a four-year period from 1998-2001. The CPS is a monthly survey of over 50,000 households conducted by the United States Census Bureau. Data on occupation and employment are collected every March in a special supplemental survey. Using the March data for the four year time period, there were a total of 265,225 respondents. Responses from these individuals are used to represent the working population of the United States. The CPS data was also used to create an index of labor market demand for the occupations under investigation, the occupational unemployment rate. The proportion unemployed in an occupation was computed for each occupation by aggregating individual level data to the occupational level. The proportion of unionized workers for an occupation was computed by aggregating individual employee level data to the occupation level. In our final sample of occupations, the mean percentage of females was 49.94%, the mean percentage of unemployed workers was 4.84%, and the mean percentage of unionized workers in an occupation was 13.15%. These numbers are very similar to the proportions of these attributes across all jobs provided in other census data.

Wages

Information on wages was collected from the annual Occupational Employment Statistics (OES) survey. This large-scale survey of employer payrolls is the most accurate information available regarding occupation-level wage rates available for the United States. The OES survey is an annual mail survey measuring occupational employment and wage rates for both wage and salary workers. The Bureau of Labor Statistics reports that the OES survey contacts approximately 400,000 establishments each year. In the year 2000 the response rate was 78% of surveyed organizations. The survey excludes the self-employed, owners/partners of unincorporated firms, and unpaid family workers. Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Base rate, hazardous-duty pay, incentive pay (including commissions and production bonuses), tips, and on-call pay are included, while back pay, jury duty pay, overtime pay, severance pay, shift differentials, nonproduction bonuses, employer cost of supplementary benefits, and tuition reimbursements are excluded. The median hourly wage rate for each occupation is used in the current study to avoid the potential for outlying wages to inflate means in some occupations. Hourly wages are used, as opposed to annual wages, to avoid problems in estimating expected wage rates for occupations with a high proportion of part time workers.

Results

It was noted earlier that previous studies typically have not conceptualized emotional labor demands on a continuous scale at the occupational level. To support the operationalization of emotional labor demands used in the current study we examined the occupations high and low in emotional labor. Table 2 provides a list of the 15 jobs highest in emotional labor demands according to our operationalization. Consistent with the list of occupations provided by

Hochschild (1983), occupations high in emotional labor demands are frequently found in protective services, healthcare, or counseling. The 15 jobs identified by our analysis all have at least some overlap with the occupations identified by Hochschild (1983) although the occupational titles are somewhat different (e.g., therapists versus psychiatrists). One departure found in the listing developed here was the low number of customer service jobs compared to Hochschild's (1983) listing. Although these direct service jobs were not in the top 15 jobs for emotional labor content, service jobs such as telemarketers, sales representatives, and retail salespersons, were all over one and a half standard deviations above the mean on the emotional labor demands scale developed for this paper, providing convergent validation evidence for the current measure.

Table 3 displays the bivariate correlations among study variables. At the occupational level, higher wages were associated with lower representation of females in the occupation, lower unemployment rates, and greater proportion of unionized workers. With regards to the job characteristics variables, the linear effect for adverse physical demands was essentially unrelated to wages ($r = -0.08$) when other factors are not held statistically constant; however, the squared term is positively related to wages suggesting that at more extreme levels, physical demands are compensated. The cognitive demands factor shows a strong univariate relationship with wages ($r = 0.78$). In general, these relationships are consistent with those found in the relevant literatures. The univariate relationship between emotional labor demands and wages suggests a non-significant relationship ($r = -.02$).

Table 4 shows the results from a weighted least squares regression of log hourly wages on the control variables and job characteristics. In addition to the main and interaction effects, we included squared terms for the job demands in the model. Interaction effects are sometimes

significant because of the omission of higher order terms (Cortina, 1993). To guard against this possibility we ran our analysis with squared terms for all of the predictors in the model. Further, these squared terms are consistent with the vitamin model (Warr, 1987) of job demands, suggesting non-linear relationships between some job demands and outcomes. All scale scores were standardized prior to analysis. Because the dependent variable is the natural log of wages, the coefficients can be interpreted as proportional change in expected wages given a one standard deviation shift in the independent variables. For example, a one standard deviation increase in the cognitive demands factor is associated with approximately a 29% increase in expected wages.

Because data on wages are grouped by the number of individuals surveyed, the number of individuals in an occupation reported in the OES data was used as a weighting variable for all analyses. In the regression analysis, this weighting further helps to prevent heteroscedasticity due to greater variance in occupational wage estimates for smaller sample estimates of wages (Greene, 2000).

To demonstrate the relative contribution of each predictor in explaining wages, relative importance weights are presented (Johnson, 2000). In essence, this procedure divides the model R^2 among the predictors in a manner similar to dominance analysis (Budescu, 1993); each predictor receives a percentage importance weight dependent on the percentage of its contribution to explaining the R^2 . Relative importance weights were derived by regressing log median hourly wages on a set of orthogonal components generated from the set of predictor variables, and then distributing the variance explained by each of these components back to the original predictors based on the correlation between the original predictors and the orthogonal components. The results from this analysis are helpful for demonstrating how much variance in

wages can be attributed to each of the predictors without having to use the arbitrary ordering of entry used when change in R^2 is used to assess the utility of higher order and interaction terms.

Overall model test statistics demonstrate that a very large proportion of variance in hourly wages is explained by the independent variables ($R^2 = .811$). The results for the control variables show wages are negatively related to the proportion of females in the occupation. Unemployment rates were also negatively related to wages with increased occupational unemployment being associated with decreased expected wages among those who have jobs. Occupations with greater proportions of unionized workers evidence higher wages. These results are consistent with previous theory and research and suggest that the control variables are functioning as expected.

With respect to job demands and characteristics, physical demands are negatively associated with wages when other factors are held constant which seems counter to research showing that physical demands do produce a compensating differential. However, the squared term is significant, suggesting that there is a compensating wage differential primarily for jobs that are very high in physical demands—jobs with low or average levels of physical demands do not evidence as steep a wage differential.

There is a strong positive relationship between the cognitive demands factor and wages, consistent with human capital theory. Indeed, cognitive demands account for the largest percentage of variance in wages. The squared term for cognitive demands was not significant.

Of particular interest, higher levels of emotional labor are associated with lower expected wages, counter to Hypothesis 1. A one standard deviation increase in emotional labor leads to a 6% decrease in expected hourly wages. The squared term for emotional labor demands was not significant.

The relationship between emotional labor and wages becomes more complex as we examine the significant interaction between emotional labor demands and cognitive demands. The interactions between emotional labor demands and physical demands were not significant, which is inconsistent with Hypothesis 3.

The significant interaction between emotional labor demands and cognitive demands is presented graphically in Figure 1.² For this figure, high cognitive demands are defined as 1 ½ SD above the mean, average cognitive demands were at the mean, and low cognitive demands are defined as 1 ½ SD below the mean; very high emotional labor is 2 SD above the mean, high emotional labor is 1 SD above the mean, average emotional labor is at the mean, low emotional labor is 1 SD below the mean, and very low emotional labor is 2 SD below the mean. As shown in Figure 1, the significant interaction suggests that for occupations with high cognitive demands, jobs high in emotional labor demands receive higher wages than jobs low in emotional labor demands. For jobs low in cognitive demands, the reverse is true, jobs characterized by high emotional labor demands receive lower wages than those characterized by low emotional labor demands. Not only was there a significant interaction between emotional labor demands and cognitive demands in the prediction of wages, but also the percentage importance weight was 7.9%, meaning that 7.9% of the explained variance in occupational hourly wage rates can be attributed to the interaction.

To better illustrate the interplay between emotional labor demands and cognitive demands for occupations, we plotted occupations representative of high and low emotional labor and cognitive demands. Figure 2 illustrates several occupations based on their scores for the emotional labor demands and cognitive demands dimensions respectively. This figure provides insight into the types of jobs that would evidence wage differentials for the application of

emotional labor demands (i.e., high cognitive demands and high emotional labor demands) such as registered nurses and social workers, as well as those that would not (i.e., low cognitive demands and high emotional labor demands) such as travel attendants and waiters and waitresses.

Discussion

This paper explicitly considers the wage implications of emotional labor demands. Our results suggest that, contrary to the standard economic predictions derived from compensating wage differential theory, higher levels of emotional demands were not uniformly rewarded with higher wages. Rather, occupations with high cognitive demands evidence wage returns with increasing emotional labor demands; occupations low in cognitive demands evidence a wage penalty with increasing emotional labor demands. Thus, neither a wage increase nor a wage penalty seems to operate uniformly; rather, both may be operating dependent on the level of general cognitive ability required by the job.

In addition to the interaction, results generally suggest consistency with previous literatures regarding the effects of variables typically associated with wages (i.e., proportion female, unemployed, and unionized in an occupation, cognitive demands). The interaction between cognitive demands and emotional labor demands has a significant influence on wages over and above the effects of these variables typically associated with wages. Of particular note, is the high variance accounted for in the wage equation by the full set of predictors ($R^2 = .811$).

The interaction between cognitive and emotional labor demands is consistent with theories of job demands such as Warr's vitamin model (1987) and the "scarcity" hypotheses. Both theoretical frameworks would support the notion that for jobs high in cognitive demands, the emotional labor demands are an additional burden requiring compensation. The scarcity

hypothesis emphasizes that it may be comparatively more difficult to find individuals who are good in both the cognitive and emotional domains than it would be to find individuals who are good in either domain individually. The form of the interaction shown in Table 1 demonstrates that for jobs low in cognitive demands the emotional labor demands are not compensated, and in fact result in lower occupational wages. This result is more consistent with the vitamin model, which proposes that understimulated workers may find cognitive demands a welcome job feature, than the scarcity model which cannot explain a wage penalty for increases in any job characteristics. There was no significant interaction for emotional labor and physical demands, which suggests that these effects are not parallel across all job characteristics.

These results have implications for both employees and their employers. For employees in occupations that are not cognitively demanding, and may in fact be tedious or devoid of challenge and stimulation, the emotional labor demands may provide stimulation and become favorable job attributes. For employees in occupations that are cognitively demanding, their stores of energy are already being depleted so the emotional labor demands become a taxing job attribute rather than a favorable one. Employers of workers in jobs with low cognitive demands and high emotional labor would be advised to highlight the opportunities and challenges of emotional labor as a positive feature and ensure that interactions are maintained in the work role. Alternatively, selection strategies could include the recruitment and hiring of individuals who value, like, and are a good fit with jobs that require social interaction. Employers of workers in occupations with high cognitive demands may consider ways to minimize the emotional demands or prepare workers to cope with them effectively (e.g., training designed to teach employees how to deal with potentially emotionally challenging customer or patient interactions).

Limitations

The inferences from the current study are dependent on the appropriateness of our conceptualization of emotional labor. We relied on the O*NET work activities and work context data to define emotional labor, but there may be additional activities that, if included, would lend increased precision to our emotional labor assessment. However, given that the occupations that are designated as high and low in emotional labor using this operationalization are consistent with occupational categorizations elsewhere (Hochschild, 1983; Wharton, 1993), we feel confident that we are tapping into the emotional labor construct space.

Although there are advantages to examining the relationship between emotional labor and wages at the occupational level, we are unable to make inferences about the relationship at the individual employee level. Future research might examine these inferences at the individual or group level of analysis.

Although we have tried to control for occupational differences, it is possible that the emotional labor activities are different across jobs. Specifically, the nature of emotional labor demands may change depending on the level of cognitive demands required and these differences in emotional labor may influence wages. Given that emotional labor is a job feature that has only recently come under examination, emotional labor demands may function differently or have differential effects dependent on the occupation. The emotional labor performed by workers in jobs that also require cognitive capability may be qualitatively different or different in the type of demands (e.g., faking positive emotions, suppressing negative emotions) than those of workers in jobs that do not have high cognitive demands. Consider the emotional labor involved in a short-term service encounter versus the emotional labor involved in the patient-client relationship of a psychiatrist. For example, Morris and Feldman (1996)

proposed that the duration of an encounter is a relevant dimension of the emotional labor experience. However, much of the research on emotional labor has been conducted in a very limited set of occupations—occupations where emotional labor is expected (e.g., customer service personnel, nurses, waitstaff) and variability in the type of emotional labor may be difficult to capture. The extent to which results in occupations demanding emotional labor generalize to other occupations awaits further empirical work.

Conclusion and Future Directions

This paper provides preliminary support for an interaction between the cognitive and emotional labor demands of an occupation on wages; specifically, occupations with high cognitive demands evidence wage returns with increasing emotional labor demands; occupations low in cognitive demands evidence a wage penalty with increasing emotional labor demands. Future work should replicate these findings using additional data sources, including the potential for investigating individual level effects. In addition, the nature of the emotion labor demands and the resultant work activities should be explored to identify differences in emotional labor behaviors.

Footnotes

¹ Although many have argued that emotional labor leads to negative employee outcomes, some have suggested otherwise. Maslach (1978) has argued that faking certain emotions may allow individuals to psychologically distance themselves from potentially stressful encounters. Alternatively, cognitive consistency arguments suggests that faking positive emotions may result in individuals believing themselves to be in a good mood, thus alleviating an uncomfortable dissonant state (e.g., I'm acting happy; therefore, I must be). Alternatively, expressing positive emotions may lead to physiological changes (Zajonc, 1985) and consequent positive affect states.

² Simple slopes were computed using procedures described by Aiken and West (1991) with an unstandardized interaction, and then the expected values derived from the simple slopes at the various levels of emotional labor and cognitive demands were converted from the log scale of the original regression back into log hourly wages using a normalizing transformation (Duan, 1983).

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Table 1

*Results of principal components analysis of O*NET generalized work activities*

	Information	Managing	Manual	Emotional
Updating & Using Job-Relevant Knowledge	0.93	-0.01	0.11	0.09
Analyzing Data or Information	0.88	0.09	-0.11	0.04
Processing Information	0.87	0.05	-0.23	0.02
Identifying Objects, Actions, and Events	0.85	0.09	-0.07	0.08
Getting Information Needed to Do the Job	0.83	0.12	-0.09	0.12
Interacting With Computers	0.82	-0.05	-0.20	-0.01
Evaluating Info. Against Standards	0.81	0.12	-0.04	0.00
Interpreting Meaning of Info. to Others	0.80	0.07	-0.11	0.22
Making Decisions and Solving Problems	0.79	0.23	-0.03	0.09
Documenting/Recording Information	0.78	0.04	-0.15	0.18
Implementing Ideas, Programs, etc.	0.75	0.25	0.14	-0.08
Monitor Processes, Material, Surroundings	0.73	0.09	0.43	0.06
Judging Qualities of Things, Srvc., People	0.73	0.22	-0.06	0.09
Estimating Needed Characteristics	0.72	0.27	0.08	-0.04
Provide Consultation & Advice to Others	0.67	0.29	-0.11	0.18
Drafting & Specifying Tech. Devices, etc.	0.66	0.00	0.24	-0.26
Thinking Creatively	0.63	0.28	-0.03	0.01
Communicating With Other Workers	0.62	0.35	-0.08	0.13
Organizing, Planning, and Prioritizing	0.56	0.44	-0.07	0.08
Developing Objectives and Strategies	0.55	0.46	-0.10	0.07
Repairing & Maintaining Elect. Equip.	0.46	-0.29	0.59	0.02
Communicating With Persons Outside Org.	0.46	0.13	-0.16	0.57
Inspecting Equipment, Structures, Material	0.45	0.01	0.69	-0.23
Staffing Organizational Units	-0.12	0.96	-0.07	-0.11
Guiding, Directing & Motivating Subord.	0.11	0.92	0.03	-0.10
Developing and Building Teams	0.14	0.88	0.08	0.00
Coaching and Developing Others	0.11	0.80	0.08	0.12
Coordinating Work & Activities of Others	0.22	0.78	0.09	0.04
Scheduling Work and Activities	0.19	0.72	-0.01	0.17
Resolving Conflict, Negotiating w/ Others	0.06	0.58	-0.09	0.41
Teaching Others	0.28	0.55	0.07	0.23
Performing Administrative Activities	0.32	0.49	-0.20	0.20
Repairing & Maintaining Mech. Equip.	-0.07	-0.04	0.74	-0.21
Performing General Physical Activities	-0.48	0.11	0.64	0.01
Controlling Machines and Processes	-0.02	-0.05	0.60	-0.40
Operating Vehicles or Equipment	-0.32	0.08	0.53	0.18
Handling and Moving Objects	-0.37	-0.09	0.49	-0.23
Establishing & Maintaining Relationships	0.20	0.38	-0.05	0.59
Selling or Influencing Others	0.21	0.33	-0.08	0.49
Performing for/Working With Public	0.02	0.01	-0.02	0.88
Assisting and Caring for Others	0.07	-0.02	0.17	0.80

Table 1 (continued)

Deal With External Customers (WC)	-0.02	-0.05	-0.06	0.94
Provide a Service to Others (WC)	-0.08	-0.12	-0.02	0.91
Deal With Unpleasant/Angry People (WC)	-0.07	0.01	0.01	0.90
Frequency in Conflict Situations (WC)	0.10	0.21	-0.04	0.65

Note: Loadings above .40 shown in bold. Work context items designated by (WC).

Table 2

Top fifteen occupations in emotional labor levels

Ranking	Occupational title
1	Police and Sheriff's Patrol Officers
2	Child, Family, and School Social Workers
3	Psychiatrists
4	First-Line Supervisors/Managers of Police and Detectives
5	Registered Nurses
6	Transportation Attendants, Except Flight Attendants and Baggage Porters
7	Lodging Managers
8	Pediatricians, General
9	Family and General Practitioners
10	Internists, General
11	Ambulance Drivers and Attendants, Except Emergency Medical Technicians
12	Lawyers
13	Correctional Officers and Jailers
14	Police, Fire, and Ambulance Dispatchers
15	Bill and Account Collectors

Table 3

Bivariate correlations between study variables and interactions

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Log hourly median wage	2.53	0.46	1.00												
2. Proportion female	49.94	29.58	-0.29	1.00											
3. Proportion unemployed	4.84	3.09	-0.59	-0.16	1.00										
4. Proportion unionized	13.15	12.23	0.12	-0.36	-0.10	1.00									
5. Physical Demands	0.00	1	-0.08	-0.66	0.33	0.45	0.94								
6. Cognitive Demands	0.00	1	0.78	0.04	-0.63	-0.20	-0.33	0.99							
7. Emotional Labor Demands	0.00	1	-0.02	0.48	-0.28	-0.27	-0.49	0.31	0.92						
8. Physical squared	0.45	0.46	0.29	-0.24	-0.10	0.23	0.21	0.06	-0.24	--					
9. Cognitive squared	0.65	0.82	0.46	-0.18	-0.10	-0.04	-0.07	0.47	-0.09	-0.02	--				
10. Emotional labor squared	0.81	0.78	-0.07	0.18	-0.01	0.00	-0.02	0.01	0.52	-0.15	-0.04	--			
11. Emotional Labor × Physical	-0.16	0.51	-0.42	0.38	-0.01	-0.07	-0.15	-0.32	0.27	-0.34	-0.51	0.14	--		
12. Cognitive × Physical	-0.31	0.47	-0.03	0.11	-0.11	-0.01	0.04	0.07	-0.02	-0.40	-0.01	-0.17	0.27	--	
13. Emotional Labor × Cognitive	0.17	0.69	0.44	-0.22	-0.08	0.16	0.18	0.30	-0.26	0.11	0.47	0.20	-0.51	-0.07	--

Note: $n=560$. Correlations greater than 0.09 are significant at $p<0.05$. Coefficient alphas displayed on the diagonal.

Table 4

Results of WLS regression analyses of occupational log hourly wages

	Unstandardized Coefficients	95% Confidence Interval	Percentage Importance Weight
Control variables			
Percent female	-0.005**	[-0.006 – -0.004]	7.3%
Percent unemployed	-0.027**	[-0.036 – -0.019]	21.5%
Percent unionized	0.004**	[0.002 – 0.006]	2.1%
Job characteristics			
Physical Demands	-0.078**	[-0.106 – -0.049]	3.3%
Cognitive Demands	0.288**	[0.256 – 0.319]	37.1%
Emotional Labor Demands	-0.060**	[-0.090 – -0.030]	2.5%
Squared terms			
Physical squared	0.142**	[0.096 – 0.188]	4.5%
Cognitive squared	0.020	[-0.008 – 0.048]	8.0%
Emotional squared	0.021	[-0.012 – 0.053]	0.4%
Interactions			
Emotional Labor × Physical	0.035	[-0.013 – 0.083]	4.9%
Cognitive × Physical	0.007	[-0.038 – 0.052]	0.5%
Emotional Labor × Cognitive	0.084**	[0.048 – 0.120]	7.9%
Model R²	0.811**		

Note: $n=560$ occupations. All job characteristics variables standardized prior to analysis.

Figure 1

Interaction Plot for Moderator Analysis

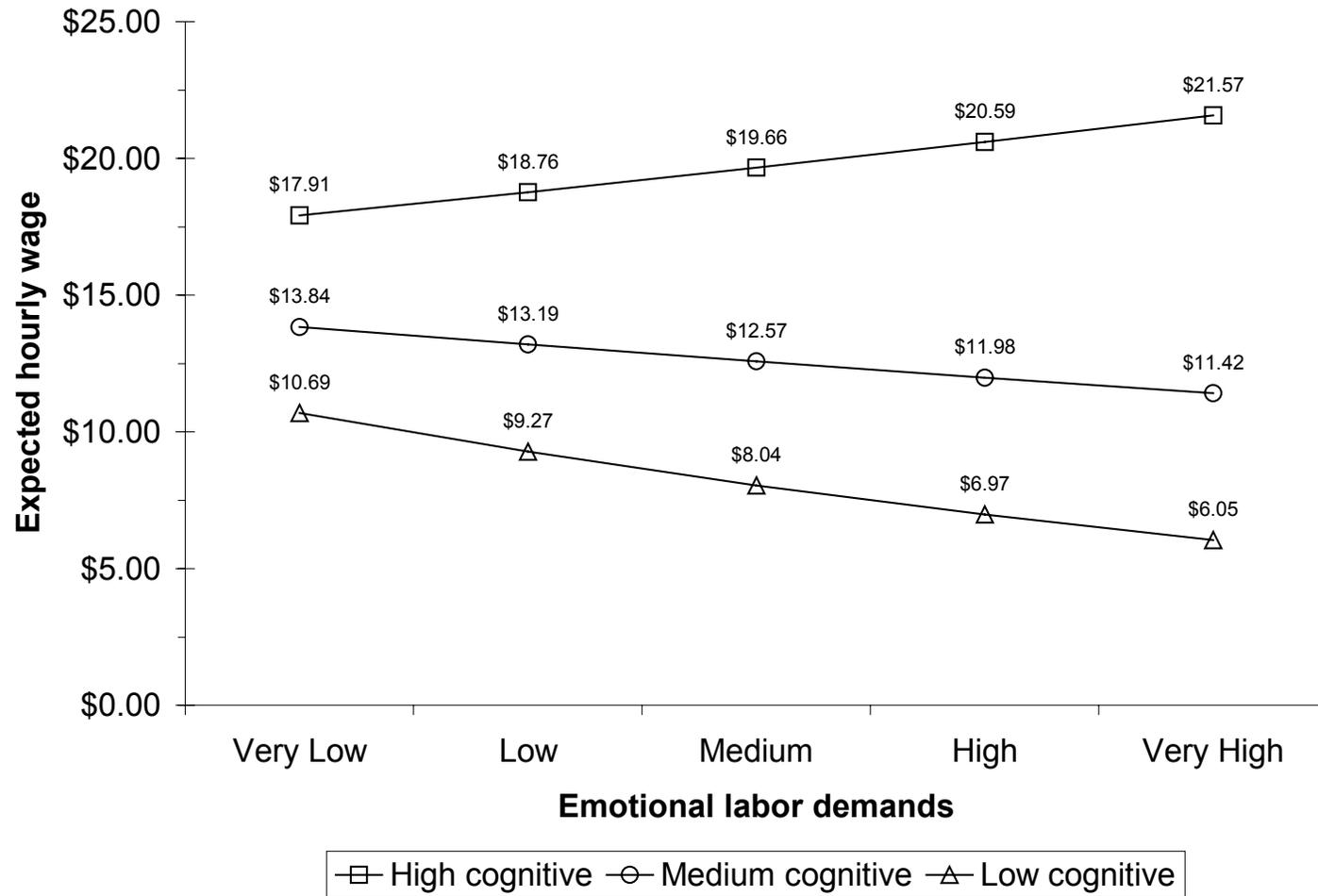


Figure 2

Occupations Grouped by Emotional Labor and Cognitive Demands

