

DEPRESSION IN THE UNITED STATES LABOR FORCE: AN EXAMINATION OF
THE IMPACTS OF JOB CHARACTERISTICS, WORKPLACE CULTURE, AND
OCCUPATIONAL ATTAINMENT

by

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(Under The Direction Of Stephanie A. Bohon)

ABSTRACT

Depression is a debilitating health problem that often impairs daily functioning, relationships, and the ability to work. This research extends the growing body of literature on depression by exploring the impact of occupational attainment, job characteristics, and workplace culture on depression. The results show that for both men and women greater job demands results in high levels of depression. Men who report higher levels of decision authority in their jobs have lower levels of depression, however this relationship was not found for women. This research also demonstrates that workplace culture mediates the effects of negative job characteristics and has a direct effect on depression. Thus, this study shows that taking into account the working environment is crucial to better understand the relationship between work and depression

INDEX WORDS: Work, Depression, Workplace Culture

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DEDICATION

I would like to dedicate this thesis to my mother and father, who have tirelessly and lovingly supported all of my educational endeavors.

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CHAPTER 1

INTRODUCTION

Depression is a debilitating health problem that often impairs daily functioning, relationships and the ability to work. In 1990 depression was the fourth most common disease in the world, and it is expected to be the second most common disease by 2020, accounting for 15 percent of the disease burden worldwide (Goldberg and Steury 2001). While the greatest cost of this disease is the loss of life--in the United States suicide is the second leading cause of death among young adults (Wells et. al. 1996)—depression also has other major economic and social consequences. Due to the seriousness and pervasiveness of depression it is receiving increased attention from the medical community as well as from social scientists. This research extends the growing body of literature on depression by exploring the impact of occupational attainment, job attributes, and workplace characteristics on depression.

Depression denotes feelings of sadness or apathy accompanied by symptoms such as irritability, poor concentration, diminished or increased appetite, and loss of interest in activities typically enjoyed. Depression is a major medically recognized illness and clinical depression is a period of intense and often continuous feelings of sadness and hopelessness, accompanied by cognitive and somatic symptoms that merit treatment. It is important to note that depression falls under the broader clinical categorization of affective disorders, more commonly called mood disorders. More specifically, major depression is grouped in the same category of diseases as dysthymia and mania (Kessler

and Zhao 1999). Both major depression and dysthymia are often encompassed in society's general conception of depression.

There are various types of depression including major depressive disorder, dysthymic disorder, and (more newly recognized but not yet formalized) subthreshold depression. *Major depression* consists of severe episodes of daily-depressed mood accompanied by multiple symptoms such as suicidal thoughts or changes in weight and sleep patterns that last at least two weeks. *Dysthymia*, more commonly referred to as chronic depression, is typically characterized by fewer depressive symptoms but persists at least two years with only brief periods of respite. *Subthreshold depression* is simply the occurrence of depressive symptomology that fails to meet formal or clinical criteria for depressive disorder. It is often placed in the clinical category of "depressive disorders not otherwise specified (depression NOS)." Commonly, subthreshold depression takes place in reaction to current negative life events and subsides more quickly than major depression (Wells et. al. 1996).

Within the medical profession, major depression and dysthymic disorders are strictly defined by the clinical community and specified in the Diagnostic Statistical Manual of Mental Disorders (DSM)¹. The DSM III defines major depression as a period of at least two weeks during which an individual experiences daily disturbances in mood

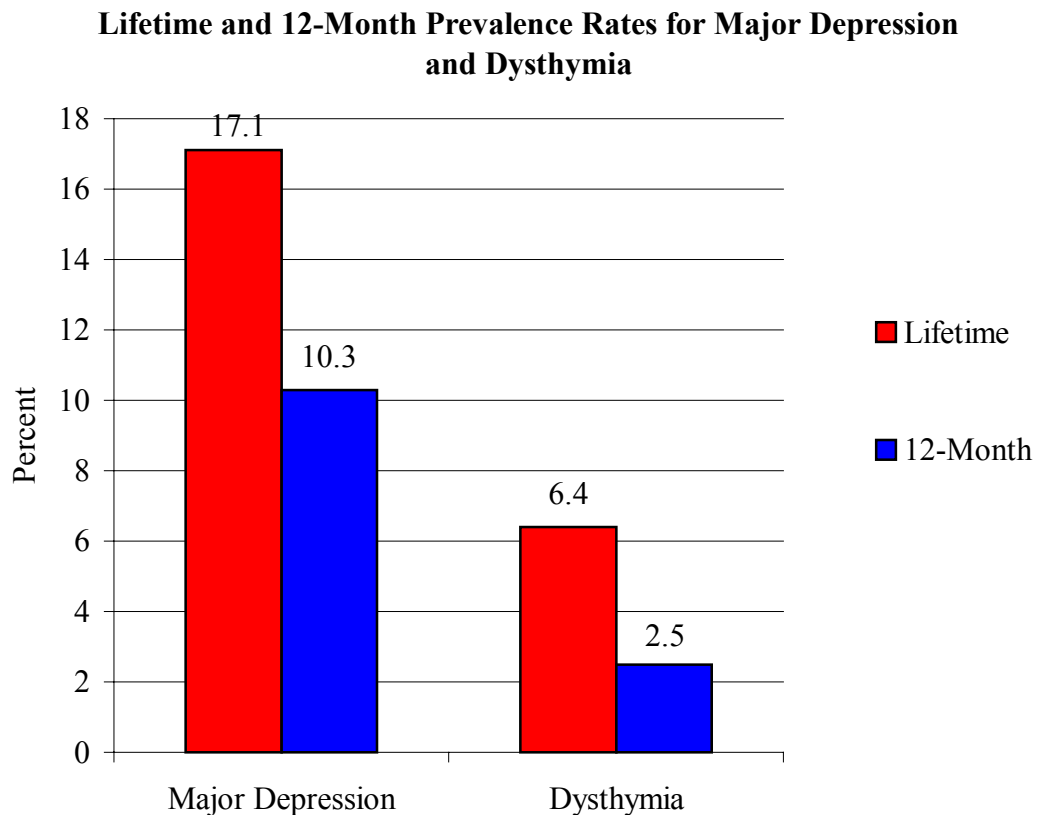
¹ The DSM has undergone a number of changes since its first edition. When changes are made, such as the addition or retraction of a mental illness or changes made to diagnostic criteria, new versions of the DSM are released. The most current edition of the DSM is the DSM IV, and despite the number of editions, the diagnostic criteria for depression or dysthymia have remained almost unchanged.

and at least four out of eight of the following symptoms: (1) too much of too little sleep (2) appetite or weight disturbance (3) psychomotor agitation or retardation (4) loss of energy (5) feelings of worthlessness or excessive guilt (6) problems with concentration of indecisiveness (7) loss of interest in sex, or (8) recurrent suicidal thoughts or attempts. Dysthymic disorder is clinically defined as a period of at least two years of depressed mood or loss of interest in pleasurable activities most days, although there might be spells of several days or weeks with few or even no depressive symptoms (Coryell, Endicott, and Keller 1990). DSM III also requires at least three out of thirteen symptoms, including symptoms of major depression disorder plus other symptoms such as problems with self-esteem, role and social functioning and tearfulness and crying. As stated earlier subthreshold depression is clinically categorized as depression NOS since it fails to meet the specific requirement for diagnosis for either major depression or dysthymia.

According to the results of the National Comorbidity Survey (NCS) conducted from 1990 to 1992, the lifetime prevalence of major depression and dysthymia in the population is 17.1 percent and 6.4 percent respectively. Whereas the 12-month prevalence rate is considerably lower; 10.3 percent for major depression and 2.5 percent for dysthymia (Kessler and Zhao 1999). While diagnoses are increasing for men, men are still at a much lower risk for these disorders than women. Women are almost twice as likely to suffer from major depression over their life course than men (21.3 percent verses 12.7 percent respectively). The 12-month prevalence rates for major depression for women and men is much closer (12.9 percent verses 7.7 percent).

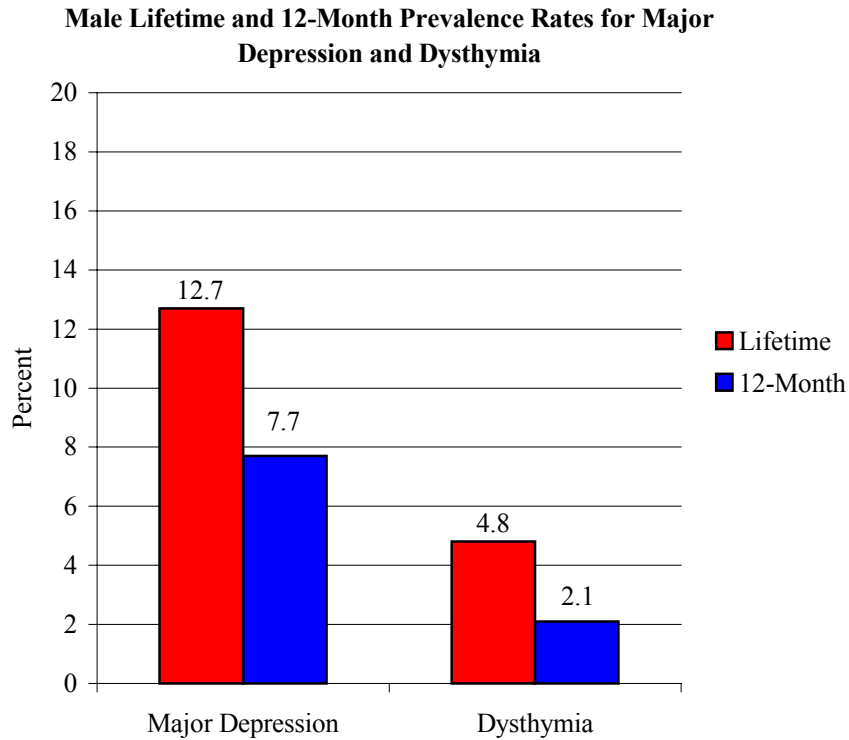
Additionally, the lifetime and 12-month prevalence rates for dysthymia follow a similar trend. Eight percent of women over their life course suffer from dysthymia as compared to 4.8 percent of men. Again the 12-month prevalence rates are much lower overall for both men and women with only three percent of women and 2.1 percent of men suffering from the disorder. In part because subthreshold depression is often categorized under depression NOS its prevalence rates in the general population are not currently known, but they are suspected to be considerably higher than major depression (Wells et. al. 1996).

Chart 1



Data Source: The National Comorbidity Survey, Kessler and Zhao 1999.

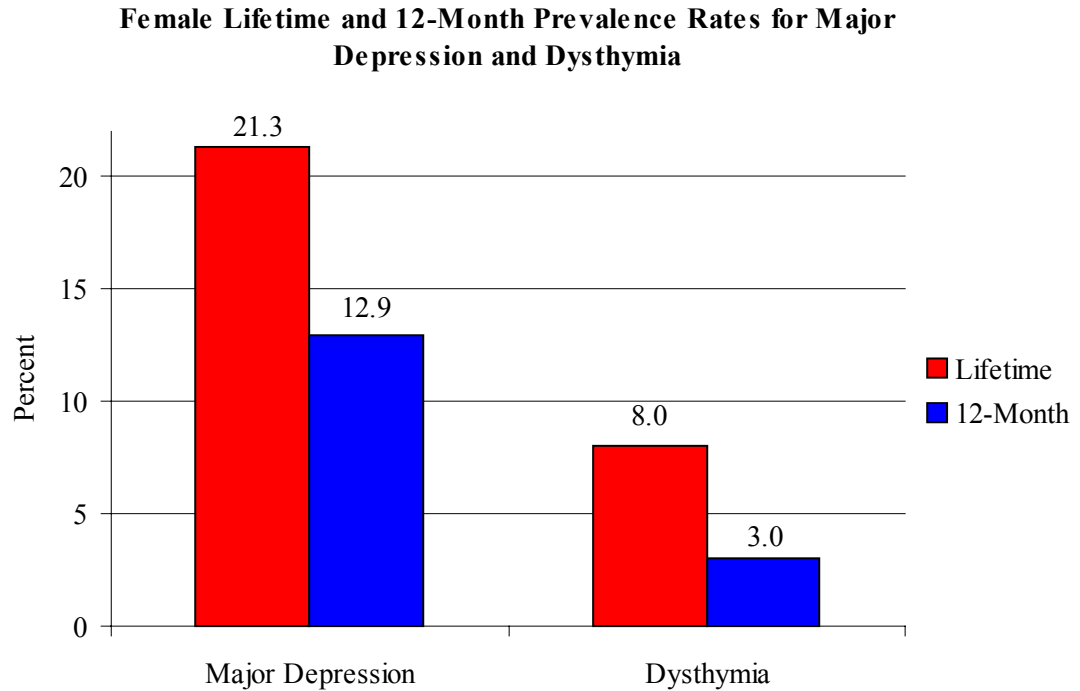
Chart 2



Data Source: The National Comorbidity Survey, Kessler and Zhao 1999.

An estimated 1.8 percent of workers currently in the labor force suffer from major depression according to the National Survey of Midlife Development in the United States (MIDUS), while the NCS puts the estimate at 3.6 percent (Blazer et. al. 1994; Kouzis and Eaton 1997).² However, when considering the lifetime and 12-month prevalence rates for the population participating in the labor force, the percentage of persons afflicted with depression is much higher. An estimated 15.7 percent of those in the labor force have

Chart 3



Data Source: The National Comorbidity Survey, Kessler and Zhao 1999.

suffered from major depressive disorders at some time in their life as compared to 15.8 percent of the entire U.S. population and 16.2 percent of the population not in the labor force. While the 12-month prevalence rate is substantially lower at 8.6 percent, it is in sharp contrast to the 11.6 percent of persons suffering from depression who are not in the labor force. More specifically, of those in the labor force who are actively employed, the lifetime and 12-month prevalence rates are 15.2 and 7.9 percent for major depression (Marcotte, Wilcox-Gok,, and Redmon 1999).

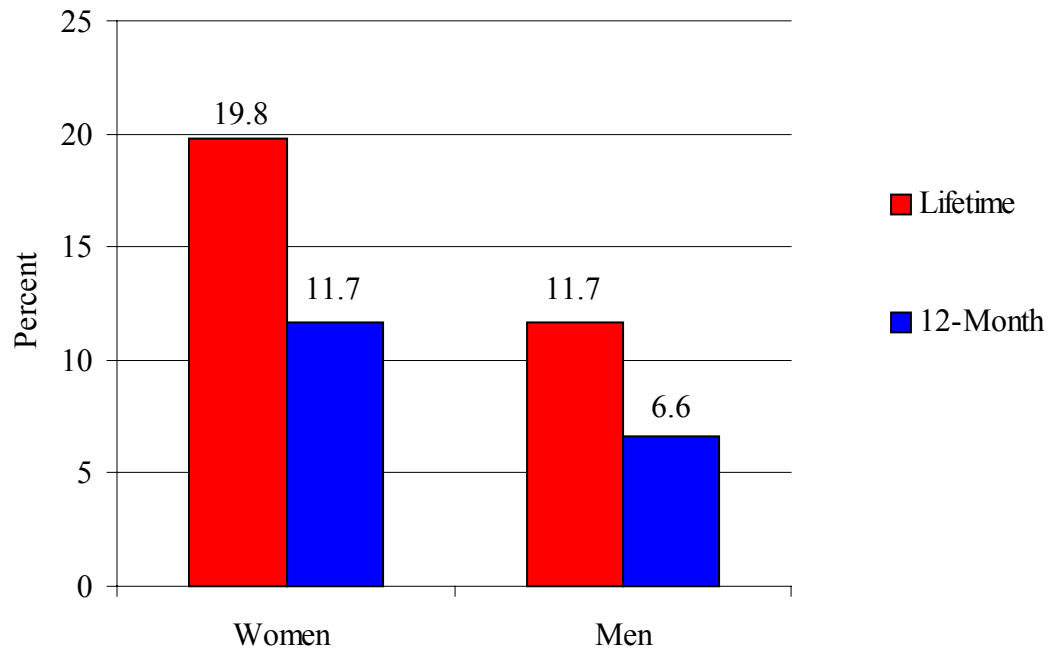
It is important to mention that prevalence rates for depression in the labor force follow the more general pattern of depression in the broader population with regard to

gender and age. Within the labor force, including both those currently employed and those unemployed but seeking work, women have almost twice the lifetime and 12-month prevalence of major depression than their male counterparts (19.8 verses 11.7 and 11.7 verses 6.6 percent, respectively) (Marcotte et. al. 1999). Evidence indicates that the relationship between lifetime incidence of major depression and labor force participation for both men and women is weak; a much stronger relationship exists between labor force participation and recent experiences with depression. More specifically, labor force participation rates are lower for women who experienced depressive disorder in the previous 12 months, but there is a proportionately greater difference between the labor force behavior of healthy and recently depressed men. Thus, this suggests that men who have suffered at least one depressive episode in the previous 12 months are relatively more likely to leave the labor force than recently depressed women.

With respect to age, workers in the middle of their careers are most likely to be negatively affected by depression, while their younger and older counterparts show no significant negative effects of depression on their labor force participation. The lack of a strong relationship between depression and labor force participation among the youngest workers may in part stem from their participation in both school and work. Thus, depression may either increase the chances that a teenager drops out of school and enters the labor force or that a teen drops out of the part-time labor force but remains in school. Among older persons, a history of major depression may be associated with lower earnings throughout their careers and thus may, in turn, affect work decisions late in life as they try to save for retirement (Marcotte et. al. 1999).

Chart 4

Lifetime and 12-Month Prevalence Rates of Major Depression for Men and Women in the Labor Force*



Data Source: Marcotte, Wilcox-Gok, and Redmon 1999.

*Labor force participation is defined as either being actively employed or seeking employment. Persons who are unemployed and not seeking work are considered not in the labor force.

Researchers have shown that for those depressed persons who remain in the labor force there are both substantial physical, economic and social costs. Ormel and his colleagues (1999) in collaboration with WHO examined a sample of patients in the general health care system over a 12-month period. Fourteen percent of the sample had a diagnosis of depression but no other physical disability at baseline. The 12-month follow-up showed that, even after controlling for the severity of illness, patients with depression at baseline were 1.8 times more likely to have developed a physical disability than non-depressed patients. Thus, similar to many other diseases, persons with

depression are more susceptible to developing other health problems as a result of their depression.

Kessler and colleagues (1999) used data from both the NCS and MIDUS to examine the association between major depression and short-term disability leave. During a 30-day period, workers with depression had from 1.5 to 3.2 more short-term disability days than other workers. The average salary equivalent productivity loss for those days ranged from \$182 to \$395 per person. A related study using claims information from a major manufacturing company also sought to determine the financial impact of major depression. The researchers found that 4,220 of the 100,000 employees and family members with health benefits had a claim for depression or depression related disabilities during the course of one year. For employees with major depression the disability costs were 4.2 times greater than the cost of a typical beneficiary (Goldberg and Steury 2001). Thus, the potential financial loss due to depression for both employees and employers is tremendous. Interestingly, research has shown that the wage and productivity loss of employees due to depression in one year are almost equal to the direct cost of depression treatment (Lave et. al. 1998; Zhang et. al. 1999). These findings imply that employers would financially benefit from better identifying and treating depressed employees rather than absorbing the costs of depression year after year, particularly if depression leads to other comorbid conditions.

Goldberg and Steury (2001) point out that there is also a tremendous “hidden burden” of depression that presents itself in the medical community as physical complaints, such as back pain, but are really caused by depression. Given that many

people in the workplace with depression or depression related illnesses go undetected or misdiagnosed it is likely that the current prevalence rates and costs of depression are underestimated. Even the WHO has recognized workplace stress as a worldwide epidemic and many employee assistance programs in the United States have documented of the high prevalence of workplace stress and related disorders such as depression.

This increased recognition of the link between workplace stress and depression is further evidenced by the fact that workers' compensation insurance has also become a major issue related to the impact of depression on work. The general purpose of workers' compensation is to provide fair payment for work-related disabilities. Recently, under certain circumstances, depression has been viewed as resulting from conditions in the workplace and therefore covered under the worker's compensation system. While worker's compensation claims for depression are on the rise it appears that worker's compensation boards have been reluctant to recognize depression as a work related disability. However, some states have recently included compensation for mental reactions to the constant stress associated with some occupations (Goldberg and Steury 2001).

Clearly, there is an important connection between depression and work and much recent literature examines the impact of depression on work. The primary goal of this study, however, is to examine the opposite causal relationship. This research examines the effects of job characteristics, workplace culture and occupational attainment on depression. Additionally, I examine how the effects of these factors differ for full-time employed men and women.

CHAPTER 2

BACKGROUND

There is an extremely large body of literature on depression. To aid the reader, I have divided this literature, relevant to the research at hand, into three categories: 1) studies that examine the relationship between demographic characteristics and depression; 2) studies of the effects of stress and stressors on depression and; 3) studies of the relationship between work and depression. The first body of research looks primarily at the at-risk populations for depression and attempts to account for unequal distribution of depression in the U.S. This type of work falls squarely within the stratification literature that examines why differences occur between demographic groups. The second body of literature is concerned with the ways in which common everyday stressors, such as family responsibilities, affect depression levels in the population. This body of work examines how stress may contribute to depression as well as how factors such as social support might create a “buffering” effect against the negative consequences of stress. Finally, a considerable amount of research has been conducted on how work factors, such as job attributes, effect depression and mental health more generally. This area of the literature operates under the proposition that because most adults spend a great deal of time participating in the labor force, the workplace is an essential factor affecting mental health.

Demographic Characteristics and Depression

The epidemiological patterns of depression initially led researchers to study the relationships between demographic characteristics and depression. The majority of this research indicates similar patterns regarding the relationships between various demographic variables and depression. As noted in the introduction, one of the most consistent findings is that women have almost double the rate of depression relative to men. Thus, being female places women at greater risk for depression. Another consistent finding is that individuals with higher socioeconomic status are less likely to suffer from depression than their lower SES counterparts. Employment status has also been linked to depression. Not surprisingly, persons who are not participating in the labor force, with the exception of students, are at a much higher risk for depression than those in the active labor force. This pattern is particularly striking among men. Consistent with a great deal of sociological work on gender, this pattern shows that employment is more strongly related to the mental health of men than women. Overall, the general patterns of depression show that workers and students have better lifetime mental health than homemakers and those with other occupational statuses (such as the disabled, unemployed, and retired) (Marcotte et.al. 1999).

Additionally, life cycle has also been empirically linked to depression. The patterns of depression indicate that from about age 18 to 55 the prevalence of depression steadily decreases. However, past the age of 55 the prevalence rates increase slightly until the age of about 70. Once an individual reaches old age-typically in their 70s and

80s-the likelihood that they may suffer from depression rises dramatically. The prevalence of depression in the elderly is even higher than among young adults.

Race and ethnicity have also been shown to be risk factors for depression. In general, whites suffer from depression at much higher rates than blacks, while Latinos experience higher rates of depression than both non-Latino whites and blacks. Thus gender, age, race, ethnicity, employment status, and socioeconomic status constitute primary risk factors for depressive disorder (Kessler and Zhou 1999).

Stress Models of Depression

Beyond the demographic contributors to depression, researchers have focused a great deal of attention on the impact of stress on depression. This body of research has led to the development of *stress process models* of mental health. There are two underlying assumptions in the stress process perspective. First, the diverse factors that affect an individual's well-being are interrelated. For example, the family sphere of life is not independent of one's social sphere, thus they both affect each other. Second, social stress is very much about the concerns of socialized individuals who are simply pursuing life. For example, pressures at work, parenting, having relationships with relatives, friends, and partners are all social stresses. Thus, social stressors do not necessarily have to involve unusual people or events.

Social stress research is closely linked with classical social theory. Pearlin (1999) provides two of the clearest examples of this link using Durkheim's study of suicide and Merton's concept of anomie. Durkheim (1951) concluded that rather than suicide being an act of deviance, it is the result of people's lack of attachment to others. Merton (1968)

also conceptualized anomie as the result of differences in individual's aspirations and the structural opportunities available to them rather than simply attributing it to individuals consumed by unrealistic fantasies. Thus, the relationship of social stressors to mental health falls in line with traditional sociological investigations. It is from the stress process perspective that we have learned not only that a greater number of negative stressors cause a deterioration in mental health and increases in disorders such as depression but also that certain combinations of stressor can be more harmful than others.

After family, the workplace is perhaps the most salient environment in which stress is found. Thus, the association between work and depression, and mental health more generally, has been and continues to be a flourishing research topic.³ Most recently, research in this area has focused on the impact depression has on work rather than the impact of work on depression. This particular research focus has both uncovered and consequently quantified the cost of depression to employers due to things such as loss of productivity, rising numbers of sick days, greater absenteeism, disability, and higher health care costs to treat those workers affected by depression (e.g. Druss, Rosenheck, and Sledge 2000; Greenberg et. al. 1993; Goldberg and Steury 2001; Kessler and Frank 1997; Kessler et. al. 1999; Kessler et. al. 2001). These studies have also spawned research investigating how best to effectively and efficiently treat depressed

³ Most typically the research conducted on psychological distress includes the outcome measure of depression and/or anxiety. Depression is the only outcome measure of interest in this research, but at times it is necessary to discuss depression within a larger context of psychological distress given that depression outcomes are often couched within this literature.

workers to the benefit of employers and employees (Goldberg and Steury 2001; Mintz et. al. 1992; Simon et. al. 1998; Simon et. al. 2001).

Druss, Rosenheck and Sledge (2000) conducted perhaps one of the most in-depth studies of the health and disability costs of depression in the workplace. They selected a multi-state Fortune 500 corporation and collected data from both health and employee records for more than 15,000 employees to examine the cost of depressed workers relative to those with other common medical conditions such as diabetes, hypertension, and back problems. The results showed that the health care cost of depression over a one-year period (\$4,373)⁴ did not significantly differ from the cost of other common medical conditions. However, within the total health care cost, the average mental health cost per enrollee associated with depression was significantly higher than any of the comparison conditions.⁵ In addition, workers who had claimed at least one depression related sick day took, on average, 9.9 sick days a year which is significantly greater than all comparison groups. Finally, disability payments accounted for about one-fifth of the costs of depressive illness to the company and it is likely that the cost of loss of productivity and sick days substantiates a much larger portion of the total cost incurred by the company.

Ormel and his colleagues (1999) found that in a national sample of patients in the general health care system, those who suffered from depression at baseline were 1.8

⁴ The annual cost after adjusting for cofounders which include age, race, sex, annual income, and tenure of employment, educational level, and the state in which the worker was employed.

times more likely to develop a physical disability than non-depressed patients. Other studies (Kessler et. al. 1999) have shown that workers with depression had from 1.5 to 3.2 more short-term disability days than other workers. This difference accounts for an average salary productivity loss of about \$200 to \$400 per person.

Given the tremendous impact both socially and financially of depression in the workplace, it is important to explore the causal mechanisms between work and depression. First, it should be noted that sociologists have established convincing support for the social cause model of psychological distress (see Mirowsky and Ross 1989). The model states that there is a causal and directionally determined link between social factors and psychological distress. Thus, researchers have determined that individual and environmental level social factors have both direct and potentially indirect effects on psychological distress.⁶ Social selection model advocates argue that an individual's distress leads to his or her social location. While there is evidence for both the social cause and social selection perspective, this research focuses only on the social cause model.

Work and Depression

The research examining the potential impact of work on well-being began as early as the 1950s and continues to be a topic of great interest among sociologists. There are

⁵ Comparison conditions include diabetes, heart disease, hypertension, and back problems.

⁶ Many studies reach the consensus that variables such as demographic and work characteristics demonstrate a direct impact on psychological distress. However, many researchers have also looked at the indirect or "buffering" effects that these variables have on psychological distress and the evidence is very mixed.

four specific and often distinct literatures that examine the linkage between work and psychological well-being: 1) studies of the effects that job characteristics have on well-being; 2) studies of how social structure effects well-being; 3) studies of the intersection of paid labor and other social roles; and 4) studies of the effect of microeconomic structures on mental health. The literature that examines job characteristics and well-being (e.g. Kohn and Schooler 1982; Tausig 1999) looks at aspects of jobs such as autonomy, decision latitude, co-worker support, and substantive complexity. Because specific job attributes are the focus, macro-level economic and social conditions, such as national unemployment rates, are rarely included as part of these “job models.” In addition, these job models of mental health have largely focused on the working conditions of men.

In the second and third literatures linking work to mental well-being, gender is a central commonality. The first studies the relationship between positions in the social structure and well-being. Gove and Tudor’s (1973) classic study of the impact of multiple roles on mental health showed how crucial these roles could be as precipitators and protectors of psychological illness. Since then, an ever-increasing number of studies have sought to determine the mental health consequences for women in the paid labor force given their recent influx into the labor market. Through this particular research, a variety of issues related to the mental health impacts of social inequality have been discovered.

The fourth area of research is concerned with the effect of macroeconomic structures on mental health (Brenner 1973; Catalano and Dooley 1977). This literature is

made up of what are commonly referred to as *labor market studies*. This body of research explores the relationship between such economic conditions, such as unemployment and aggregate rates of mental disorders, and occasionally links these larger economic conditions to individual level outcomes (Fenwick and Tausig, 1994). Recently in labor market studies there has been a surge of research interest in looking at the effects of unemployment and reemployment (Kessler, Turner, and House 1989; Turner 1995).

Certainly all of these research traditions add to our further understanding of the relationship between work and health. However, my study will primarily follow the path of the job characteristics and well-being tradition, focusing primary attention to the effect of work and workplace characteristics on the depression levels of individual workers and extending that research into an area heretofore neglected by researchers

Job Characteristics and Depression

The Job-Demand-Control Model

The job characteristic and depression literature establishes that a wide range of specific job characteristics contribute to or provide a degree of protection from depression. The most well-known and widely analyzed model is referred to as the *job-demand-control model* (JDC) developed by Karasek (1979). This model looks at two dimensions of an individual's job in order to examine a range of outcomes such as job dissatisfaction, burnout, and depression. The first dimension is job demands or workload. This dimension is typically operationalized by variables that measure the time pressure or role conflict a job creates. The second dimension is referred to as job control, which can

be generally defined as one's ability to control work activities. Job control can also be referred to as decision latitude. Decision latitude consists of both skill discretion and decision authority. Skill discretion refers to one's ability to choose the means with which the job is done, whereas decision authority refers to the ability to decide or influence which job tasks will be performed.

The JDC model posits that having discretion or decision latitude over the work process allows for increased learning opportunities and, at the same time, lowers worker stress. Psychological demands, on the other hand produce increased learning, but also increased stress. The JDC states two "strain" hypotheses: 1) that persons who have high demand jobs but low control over their work will experience the worst psychological and physical illnesses as a result, and 2) that learning will be maximized in jobs where there are both high demands and high control, thus producing greater motivation and development of skills. Since the JDC was originally developed, researchers have added a third hypothesis to the model. The third hypothesis states that job control can buffer a worker from the possible negative health effects of a high demand job (Ganster 1989).

Testing of this model however, has led to some debate regarding negative health outcome findings. In a recent review of the JDC literature, Van der Doef and Maes (1999) summarize the problem regarding the first two hypotheses as follows, "Empirical studies often fail to indicate whether these negative outcomes are the result of additive or interactive effects of demands and control. Sometimes it is not clear whether the negative effects could be exclusively attributable to either high demands or lack of control (Alfredsson, Spetz, and Theorell 1985; Hammer, Alfredsson, and Theorell

1994).” Thus, on one hand, the unique effects of control and demands on health or psychological well-being are not explored. On the other hand, the buffering hypothesis clearly rests on the assumption that there is an interactive effect between control and demand, where control moderates the effects of demands. These issues are important to note because they appear again in other job models and have important methodological and interpretive implications.

When the JDC model is used to specifically examine the relationship between job characteristics and depression, most studies report additive effects of control and demand on depression often yielding different results (Van Der Doef and Maes, 1999). More specifically, studies using this approach examining the two strain hypotheses found both support (e.g. Baker, Israel, and Schurman 1996; Landsbergis 1988) and non-support (e.g. Reisine and Fifield 1995) for the conclusion that, indeed, workers suffered greater levels of depression in high-strain jobs. Results have also been inconclusive with regard to the buffering hypothesis. For example, Wall, Jackson, Mullarkey and Parker (1996) found that greater job control provided a buffering effect on the relationship between demands and depression and others have not (Baker et.al. 1996; Reisine and Fifield 1995). Some of the potential reasons for the discrepancies in these studies may be: 1) study design (longitudinal or cross-sectional); 2) differing samples (size, gender and occupational composition) and/or 3) variations in the measurement of the JDC conceptual variables (Van der Doef and Maes 1999).

The Job-Demand-Control-Support Model

The *job-demand-control-support model* (JDCS), is largely an extension of the JDC model and is the most prevalent model used in recent years. This model posits that in addition to job demands and job control, worksite social integration is also a central aspect of the work environment that may contribute to or hinder the development of psychological strain. As with the previous model, this model has been used to study the relationships between the factors just mentioned and numerous outcome measures including depression. The JDCS model is often referred to as the *iso-strain model* because it states that those whose job consists of high demands, low control and little support suffer the greatest psychological distress. Thus, the contribution of this model is that it takes into account the fact that social support within the workplace may contribute or help buffer individuals from depression and other health problems. In order to better understand the context in which this support model falls, I will turn briefly to the more general social support literature.

Social support, in general, is a central focus of health and well-being research. The relationship between social support and emotional health has found much support in the literature (e.g. House 1981; Turner 1983; Turner, Frankel, and Levin 1983; Veil and Baumann 1992). The specific definition of the term “social support” varies (sometimes greatly) between studies. Some studies focus on general support mechanisms such as family, friends and spouses or significant others (e.g. Turner and Lloyd 1999) while others distinguish between specific types of support from these sources such as

instrumental, assistance or empathy and understanding (Karasek, Triantis, and Chaudhry 1982).

Within the work and depression-related literature dealing with social support the research focus has been on two factors, supervisor and coworker support. Unfortunately, the true effects of these factors are still largely contested. Some studies have been limited by including only one of these measures (e.g. Turner and Marino 1994), others have found supervisor support to matter more than coworker support in regard to depression outcomes (House and Wells 1978; Karasek et.al. 1982), and still others have found that coworker support is more significant than supervisor support in the workplace (LaRocco, House, and French. 1980).

Perhaps, the greatest consistency in this body of literature is that most of the research employs *perceived* measures of both types of support, thus measuring potential support rather than actual received support. Research has shown that measures tapping emotional support are most important or consequential when it comes to health outcomes such as depression (Turner and Turner 1999; LaRocco et.al. 1980). The evidence of the degree to which these types of support provide “buffers” from depression and other related health outcomes is also inconsistent. Some studies have found direct effects of et. al. 1982) while others have not (e.g. Baker, Israel, and Schurman 1996; Kawakami, Haratani, and Araki. 1992; Landsbergis 1988). Others still found various degrees of both direct and indirect effects (Landsbergis et. al. 1992). As in the JDC literature, the potential reasons for these inconsistent results may be similar.

Workplace Culture and Depression

Although researchers have begun to extend the typical job models by the inclusion of variables such as coworker and supervisor support, to my knowledge no studies have also included broader workplace factors. It seems logical to assume that if factors like coworker support make a difference in levels of psychological distress than the organizational culture in which a worker is submerged would also be likely to impact mental health. By including measures that tap the *normative* and *rational* structures of a specific work setting we may gain a greater understanding of the dynamic intersection of work and depression. The *normative structure* of an organization refers to the cultural rules of the organization that orient behaviors such as the degree of social support within an organization. On one hand, the *normative structure* provides reinforcement of the cultural values within the organizational setting. For example, if workers perceive the atmosphere where they work to have a supportive orientation, then perhaps workers will be more likely to be interactive and communicative with other workers and generally more socially integrated into the working environment. The rational structure of an organization, on the other hand, refers to the number and types of rules and regulations within the organization. These rules and regulations are not culturally derived but rather practical given the specific work environment.

Within the data set used in this study there are measures of the normative structure that measure for example, how much employees feel that their employer cares about their well-being inside and outside the workplace. In addition, the NES provides measures of rational structure such as rule density and enforcement, coworker support,

organizational support and establishment or the workplace size. These measures of workplace culture will be included in the models to examine their impact if any on depression.

Similar constructs are often used as outcome measures as well as predictive measures within the management literature. Positive workplace settings that socially integrate workers are seen as improving worker disposition, job satisfaction, lowering turnover rates, and generally increasing organizational commitment. So, while there is general precedent for measuring workplace culture, the measures will be used here as an extension of the sociological framework that examines the impacts of work on mental well-being.

Occupational Attainment and Depression

Currently there is no specific research examining how occupational attainment affects depression. Occupational attainment refers to the average amount of education, income, and occupational prestige contained within a specific occupational category relative to other occupations. However, prior research examining factors that effect depression and well-being in general have often used occupational prestige as a proxy for socioeconomic status.

There are three major problems with using occupational prestige as a proxy for socioeconomic status. First, the measure of prestige typically used simply categorizes occupations into seven broad categories developed by Hollingshead (1957) (*Major professional, lesser professional, minor professional, clerical sales, skilled/ manual, semi-skilled, and unskilled*). These broad categories fail to adequately distinguish the

differences in jobs contained with each category. For example, a category defined as ‘managers’ does not distinguish between the manager of a fast food restaurant and the operating officer of a national bank. Thus, differences within categories may not be adequately captured in the relationship between depression and job type. Second, by employing the same occupational prestige measures for both men and women, the prestige discrepancies between the genders having the same occupation are not considered. For instance, women in the nursing occupation would receive relatively high prestige scores, while nursing is considered a relatively less prestigious occupation for a man. Third, measures of prestige do not always accurately represent the average educational level and income of occupations. This is particularly important when considering that research on “comparable worth” (see, for example, England 1979; England and Dunn 1988; England, Farkas, Kilbourne, and Dou 1988; England et.al. 1994) has shown that men and women occupying the same occupational position have varying levels of prestige and income even when controlling for other human capital characteristics. This research clearly demonstrates that men and women’s occupations are different on a number of levels such as education, income, and prestige. It is clear there is a need for a more comprehensive measure of occupational attainment. This research seeks to include a comprehensive and gender specific measure of occupational attainment examining attainment on its own merits rather than employing it as a proxy for socioeconomic status.

Given the current state of the literature it is evident that much research still needs to be done in order to better understand the relationship between work factors and

depression. The current study presents five advantages over previous investigations. First, the sample used is nationally representative of all employed persons in the U.S. thus, the sample is not restricted to just one occupational category, industry, race, or gender. Second, this study uses reliable and valid measures of all the major constructs posited by previous research. Additionally, all of these constructs are examined in one complete model, thus illustrating the true nature of their relationship to depression while controlling for other key factors. Third, crucial demographic variables, such as educational level, income and marital status will be included in order to extend the current JDC(S) models of depression. Fourth, this study examines the nature of the relationship between occupational attainment and depression, which to date has not been explored. Finally, the study design and sample size allows for the unique modeling of the relationship between work and depression for both men and women separately.

Hypothesis and Research Questions

Based on the previous literature on depression and work, I propose four main hypotheses. The first of which pertains to the relationship between individual job characteristics and depression. Given the research just reviewed regarding the link between job characteristics and depression it is reasonable to hypothesize that the measures of job characteristics used in this study which include job demand, skill discretion and decision authority will be related to depression levels for both men and women.

Hypothesis 1: Certain job characteristics affect levels of depression for men and women.

Specifically, job demand is negatively related to depression, while skill discretion and decision authority are positively related to depression.

The second hypothesis pertains to the relationship I expect to find between measures of workplace culture and depression. As stated previously, little research to date has examined the relationship between workplace culture and depression with the exception of research on coworker support. Pervious research in the areas of both work and health and social support and well-being has found evidence that social support in the workplace such as coworker support and supervisor support can provide positive or protective effects on mental and physical well-being. While coworker support is only one measure of workplace culture included in this study, it is reasonable to suspect that other aspects of workplace culture will also affect depression.

Hypothesis 2: Aspects of workplace culture effect levels of depression for men and women.

Specifically, organizational support and coworker support is positively related to depression, while establishment size and rule density and enforcement are negatively related to depression.

The third hypothesis concerns the relationship between job characteristics and workplace culture. Because pervious research has established that job characteristics effect depression, but has not examined the effects of multiple measures of workplace culture it may be that job characteristics are mediated by workplace culture factors. In

other words the environment in which one works may be more important than the attributes of one's job.

Hypothesis 3: Workplace culture mediates the effects of job characteristics for men and women.

Specifically, organizational support, coworker support, rule density and enforcement, and establishment size will mediate the effects of job demand, skill discretion and decision authority.

The fourth set of hypothesis regard the effect of occupational attainment on depression. In part because there has been little research done on the impact of occupational attainment on depression, with the exception of using occupational prestige as a proxy for SES, I propose two competing hypotheses regarding the effects of occupational attainment on depression. First, occupational attainment may have a direct effect on depression. Given the established research showing that persons with higher levels of SES suffer less mental strain than those with lower SES, the same directional relationship may be found with regard to occupational attainment. Second, occupational attainment may act as a proxy for job characteristic because typically jobs with characteristics such as high decision authority and skill discretion correspond to high scores on the occupational attainment scale.

Hypothesis 4a: Occupational attainment affects levels of depression for men and women.

Hypothesis 4b: Occupational attainment is a proxy for job characteristics, thereby mediating the effects of job characteristics.

CHAPTER 3

DATA AND METHODS

The data for this study are taken from the National Employee Survey (NES). These data were collected by the Survey Research Center at the Institute for Behavioral Research and Human Services Delivery at the University of Georgia and the School of Management at the Georgia Institute of Technology. This nationally representative sample of American households was generated by a computer assisted telephone interface (CATI) system. Participants were required to work at least 35 hours per week for pay and be at least 18 years of age. If multiple members of the household were eligible for selection, the last birthday method was used to select the participant (Salmon and Nichols, 1983).

Two thousand and ten individual level cases are included in subsequent data analyses. Given that the process through which the independent variables may effect depression are likely different for men and women, the sample was split by sex, thus analyzing men (n= 983 or 48.9%) and women (n= 1027 or 51.1%) independently.⁷ The sample was also restricted to workers between the ages of 18 and 65.

⁷ In order to justify splitting the sample by gender a full gender interaction model was conducted. The results of the model showed that gender significantly interacts with the majority of independent variables. Thus, for the purposes of presenting models that can be more easily interpreted and to highlight the differing processes by gender, separate models are presented for men and women.

In addition to measuring depression, the dependent variable in this study, the NES also collected information about each individual's demographic characteristics, content of respondent's job, and work environment. This study uses these measures to test the hypotheses set forth in the previous section. Each variable is discussed below and complete item wording appears in the Appendix.

It should be noted that all *scales used in this analysis* were constructed by first performing factor analysis separately for the male and female samples. The purpose of this type of analysis is to empirically determine the number of underlying constructs that account for the majority of the variability among a set of variables. Thus, a group of individual survey items were entered into a factor analysis to determine if they were all measuring the same underlying construct, such as job demands. The criteria for selecting valid components usually consist of, first, having an initial eigen value higher than one, and second, that items contained in a single component should have reasonably high component loadings over .55.

Each analysis performed for the purposes of this study resulted in only *one* valid component or construct being extracted from each analysis (each scale produced contains the same items for both sexes). Factor analysis is commonly utilized to reduce the number of variables in further multivariate analysis (Mertler and Vannatta 2001). In this study, factor analysis was used to reduce the number of predictors of depression in ordinary least squares regression (OLS). Because the factor analyses are followed by multivariate procedures, factor scores for each component were generated and are used as the scale value for each participant. Factor scores refer to the estimates of the scores

subjects would have received on each of the factors had the factor been measured directly with only one question (Mertler and Vannatta 2001). The resulting factor scores are used as raw variables in the subsequent OLS regression models with higher values representing greater quantities of the construct. Additionally, reliability analyses were conducted on each constructed scale separately for men and women and the reported reliability refers to the highest reliability obtained for the two groups.

Measures

Dependent Variable

The dependent variable used in this study is a seven item abbreviated version of the CES-D depression scale (cf., Radloff 1977). Respondents reported the number of days during the previous week they experienced a variety of depressive symptoms. The seven separate items were then added together to create the total depression index. However, like many measures of psychological distress and disease, this measure of depression is highly skewed. Thus, the log of the depression index was used as the dependent variable to ensure more efficient regression models (Mirowsky 1999).⁸ An additional advantage to using logged data is that coefficients related to the CES-D can now be interpreted as days of depression. The skew statistic of the logged depression scale is -.83 for the male sample and -1.04 for the female sample. The average logged depression score for men was .83 and 1.18 for women.

⁸ Because zero is a valid value on the total depression scale and the log of zero is undefined these values were replaced with .071 in order to obtain a valid value on the logged dependent variable.

Independent Variables

The independent variables used in this analysis fall into one of four conceptual categories. The four conceptual categories include job characteristics, workplace culture, occupational attainment, and control measures. First, job characteristics are measured by three variables including job demands, skill discretion, and decision authority. Second, workplace culture is captured by four variables including establishment size, organizational support, coworker support, and rule density and enforcement. Each of the job characteristics and workplace culture measures with the exception on establishment size are scale variables created using factor analysis. Occupational attainment represents the third category of independent variables. Occupational attainment is a single variable that reflects the average educational level, income, and prestige of each occupation. Occupational attainment scores were calculated separately for men and women based on the index developed by Hauser and Warren (1997). The scores coincide with the *1980 Classified Index of Occupations and Industries*.⁹ These three digit occupational codes already within the data set were used to assign men and women occupational attainment scores. The male (MSEI) and female (FSEI) occupational attainment indices take into account the variation by sex in each of the three components (income, education and prestige) for each occupation classification. Finally, the fourth category of independent variables represent the control measures used in this study. The control variables

⁹ The 1980 classifications were used in this data set in order to match up with earlier waves of NES. The Hauser and Warren index is compatible with both the 1980 and 1990 classification codes.

included in the analysis include race, age, marital status, educational level, annual income, and job satisfaction. Table 1 shows the description of all the variables used in this study.

Table 1. Description of Variables Used in Analysis

Dependent Variable	
Depression	An index measure containing seven items that measure the number of days a respondent has experienced depressive symptoms. This index represents a shortened version of the CES-D developed by Radloff (1977). Due to the high skew statistic of the index the variable was transformed by taking the Log of the original index.
Job Characteristics	
Job Demands	An index that measures the degree to which one's job is demanding in terms of time, pace of work, and number of conflicting demand on the job. This index contains five items and has an alpha reliability of .65.
Skill Discretion	An index that measures the degree to which a particular job entails substantive complexity such as having to learn new things and be creative and was developed by Karasek and colleagues (1982). This index contains four items and has an alpha reliability of .58.
Decision Authority	An index that measures what is often referred to as decision latitude or the degree to which one is active in making decisions on the job. This index has four items, an alpha reliability of .77, and was developed for the 1973 Quality of Employment Survey (Quinn & Stains 1979).
Workplace Culture	
Co-Worker Support	An index that measures the respondent's perception that their coworkers are both supportive on and off the job. This index contains fourteen items and has an alpha reliability of .90.
Organizational Support	An index that measures the respondent's perception about how much the organization cares about their well-being. This index contains eight items and has an alpha reliability of .90.
Rule Density and Enforcement	An index item that measures the respondent's perception of the number of rules and regulations in their workplace and the degree to which these rules are enforced. This index contains seven items and has an alpha reliability of .72.
Establishment Size	Establishment size refers to the total number of workers in a specific worksite is measured continuously. Due to the high skew statistic of this variable the measure was transformed by taking the Log of organizational size.
Occupational Attainment	
	Occupational attainment scores were calculated separately for males and females. Occupational attainment scores reflect the average educational level, income, and prestige for each of the 1980 Census Occupational Classification.
Demographic Characteristics	
Race	A dichotomous measure where 1= Non-Hispanic White and 0= all other racial and ethnic groups.
Age	A continuous measure by year.
Marital Status	Marital status is measured by a set of dummy variables that compare those who are in a relationship union (married or cohabitating) to those who are not in union (single) or have previously been in union (divorced, separated, or widowed).
Education	Education is measured by a set of dummy variables that compares those with a high school degree (or GED) to those who have less than a high school degree, some college, or an advanced degree.
Annual Income	Annual income is measured by a set of dummy variable that compares persons who earn \$30,000 to \$49,000 to those who either earn less than \$20,000, between \$20,000 to \$29,000, between \$50,000 to \$69,999, or earn more than \$70,000 a year.
Job Satisfaction	
	An index item that measures the degree to which one is content with their current job. This scale includes 4 items and has an alpha reliability of .73.

CHAPTER 4

RESULTS

Descriptive Statistics

Table 2 shows the descriptive statistics for each variable used in the analysis. In general, the male and female samples are comparable across the independent and dependent variables. However it should be noted that when comparing men's and women's marital statuses there are considerably more women in the previously in union category than men and a greater proportion of men who are currently in union.

Multivariate Statistics: Models for Men

Table 3 shows the OLS regression coefficients for the male sample of employed workers when depression is regressed on demographic characteristics, job satisfaction, job characteristics, workplace culture, and occupational attainment. In Model 1, the effects of demographics and job satisfaction are modeled separately from other factors to examine their independent effects on depression. This model reveals several of the typical associations between depression level and demographic characteristics, as well as a significant association between job satisfaction and depression. First, for men, as age increases levels of depression decrease significantly. Second, men previously in unions are significantly more depressed than married men as are men not in unions. Third, men earning less than \$30,000 a year suffer from higher levels of depression compared to those earning \$30,000 to \$49,999 a year. Each of the three significant relationship described are consistent with the current literature. Additionally, Model 1 shows that

Table 2. Means (and standard deviations) for Variables Used in Analysis

Variable	Male	Female
Log of Depression Scale	.83 (1.95)	1.18 (1.83)
Demographic Characteristics		
Non-Hispanic White	.84	.82
Age	38.37 (11.01)	40.17 (10.69)
Marital Status		
Previously in Union	.09	.25
Not in Union	.26	.22
In Union	.65	.53
Educational Attainment		
Less than High School	.05	.03
High School Graduate	.25	.26
Some College	.32	.35
Advanced Degree	.38	.36
Annual Income		
Less than \$20,000	.11	.28
\$20,000 to \$29,999	.23	.29
\$30,000 to \$49,999	.38	.32
\$50,000 to \$69,999	.17	.08
\$70,000 and up	.11	.03
Job Satisfaction*		
Job Characteristics		
Job Demand*		
Skill Discretion*		
Decision Authority*		
Workplace Culture		
Rule Density and Enforcement*		
Organizational Support*		
Coworker Support*		
Establishment Size	501 (1131)	376 (823)
MSEI	38.16 (14.38)	
FSEI		38.48 (14.72)
N=	983	1027

* These variables were created using factor analysis and represent standardized regression factor scores, thus all have a mean of zero and standard deviation of one.

greater levels of job satisfaction are negatively associated with depression. Thus, men who are more satisfied with their current job suffer less from depression.

In Model 2a, depression is regressed on job characteristics in order to show only the effects of job characteristics on depression to test hypothesis one. Then in Model 2b, control variables are added into the model to test if the effects of job characteristics hold once demographic and job satisfaction measures are held constant. Model 2a shows that job demands and decision authority have strong relationships to depression. As hypothesized, as job demands increase so does the level of depression and as decision authority increases, levels of depression decrease. The relationship between skill discretion and depression is not as strongly related to the dependent measure as are the other two job characteristics, but it is still marginally significant ($p < .10$) in the hypothesized direction. In other words, as the amount of skill discretion increases, the level of depression decreases. However, once the controls are entered into Model 2b, the significance of all three relationships decreases. While, job demands and decision authority effects are mediated by the controls, they remain statistically significant. However, the effect of skill discretion is negated by the control variables.

Model 3 contains three parts and examines the relationships between workplace culture and depression. Model 3a tests the hypothesis that workplace culture variables will have a direct effect on depression. Model 3b determines if the effects found in Model 3a will be sustained when controls are entered into the model. Model 3c then shows the effects of workplace culture when both job characteristics and control variables are held constant.

Table 3. OLS Regression Coefficients Predicting Depression Levels for Men

	Model 1	Model 2A	Model 2B
Demographic Characteristics			
Non-Hispanic White	.13 (.16)		.15 (.16)
Age	-.02*** (.01)		-.02** (.01)
Marital Status			
Previously in Union	.74*** (.21)		.75*** (.21)
Not in Union	.32+ (.16)		.34* (.16)
In Union	REF		REF
Educational Attainment			
Less than High School	.43 (.30)		.46 (.30)
High School Graduate	REF		REF
Some College	.23 (.16)		.21 (.16)
Advanced Degree	.08 (.16)		.08 (.16)
Annual Income			
Less than \$20,000	.53* (.22)		.49* (.22)
\$20,000 to \$29,999	.27+ (.16)		.22 (.16)
\$30,000 to \$49,999	REF		REF
\$50,000 to \$69,999	-.04 (.18)		-.04 (.18)
\$70,000 and up	.09 (.22)		.01 (.22)
Job Satisfaction	-.35*** (.06)		-.25*** (.07)
Job Characteristics			
Job Demand		.23*** (.06)	.13* (.06)
Skill Discretion		-.14+ (.07)	-.02 (.07)
Decision Authority		-.25*** (.07)	-.17* (.07)
Adjusted R2	.094	.042	.102
Degrees of Freedom	12	3	15
N= 983			

* p< .05, ** p< .01, ***p< .001, +p< .010

unstandardized regression coefficients (standard errors in parenthesis)

Table 3. Continued

	Model 3A	Model 3B	Model 3C
Demographic Characteristics			
Non-Hispanic White		.06 (.16)	.07 (.16)
Age		-.02*** (.01)	-.02** (.01)
Marital Status			
Previously in Union		.74*** (.21)	.76*** (.21)
Not in Union		.30+ (.16)	.33* (.16)
In Union		REF	REF
Educational Attainment			
Less than High School		.47 (.30)	.49 (.30)
High School Graduate			REF
Some College		.20 (.16)	.18 (.16)
Advanced Degree		.06 (.16)	.04 (.16)
Annual Income			
Less than \$20,000		.62** (.23)	.58* (.23)
\$20,000 to \$29,999		.30+ (.16)	.27 (.16)
\$30,000 to \$49,999		REF	REF
\$50,000 to \$69,999		-.05 (.17)	-.05 (.18)
\$70,000 and up		.10 (.22)	.08 (.22)
Job Satisfaction		-.20** (.07)	-.16* (.07)
Job Characteristics			
Job Demand			.13* (.07)
Skill Discretion			-.00 (.07)
Decision Authority			-.13 (.06)
Workplace Culture			
Rule Density and Enforcement	.03 (.06)	-.05 (.06)	-.08 (.06)
Organizational Support	-.25*** (.06)	-.18* (.07)	-.13+ (.08)
Coworker Support	-.25*** (.06)	-.18** (.06)	-.17** (.06)
Log of Establishment Size	-.07* (.03)	-.01 (.03)	-.01 (.03)
Adjusted R2	.038	.109	.112
Degrees of Freedom	4	16	19
N= 983			

* p< .05, ** p< .01, ***p< .001, +p< .10
unstandardized regression coefficients (standard errors in parenthesis)

Table 3. Continued

	Model 4A	Model 4B
Demographic Characteristics		
Non-Hispanic White		.13 (.16)
Age		-.02*** (.01)
Marital Status		
Previously in Union		.74*** (.21)
Not in Union		.31+ (.16)
In Union		REF
Educational Attainment		
Less than High School		.43 (.30)
High School Graduate		REF
Some College		.23 (.16)
Advanced Degree		.09 (.18)
Annual Income		
Less than \$20,000		.53* (.23)
\$20,000 to \$29,999		.27 (.16)
\$30,000 to \$49,999		REF
\$50,000 to \$69,999		-.04 (.18)
\$70,000 and up		.09 (.22)
Job Satisfaction		-.35*** (.06)
Job Characteristics		
Job Demand		
Skill Discretion		
Decision Authority		
Workplace Culture		
Rule Density and Enforcement		
Organizational Support		
Coworker Support		
Log of Establishment Size		
Occupational Attainment		
MSEI	-.01** (.00)	-.00 (.00)
Adjusted R2	.008	.093
Degrees of Freedom	1	13
N= 983		

* p< .05, ** p< .01, ***p< .001, +p< .10
unstandardized regression coefficients (standard errors in parenthesis)

Model 3a demonstrates that as both organizational and coworker support increase, and establishment size decreases the level of depression is significantly decreased for men as hypothesized. However, the level of rule density and enforcement within the workplace fail to be significant predictors of depression for men. In model 3b, when controls are entered, the inverse relationships between organizational support and coworker support for men remain significant though mediated, while the effect of establishment size disappears; thus, while entering the controls slightly decreases the significance levels of organizational and coworker support, the direct relationship holds true.

The final model, Model 3c, tests the direct relationships between workplace culture and depression controlling for job characteristics. Model 3c shows that in adding job characteristics to the model the effects of coworkers support remains for men, but organizational support does not. Thus, looking at the complete model we see that in regard to the control variables the effects of age, earning less than \$20,000 a year and job satisfaction are all still highly significant. The effects of marital status remain unchanged by the inclusion of job characteristics and workplace cultures measures. In regard to job characteristics and workplace culture, the effects of organizational support disappear indicating that there is no direct relationship between organizational support and depression. However, greater levels of coworker support remains a significant predictor of lower levels of depression in men. Additionally, by entering the measures of workplace culture, the effects of decision authority are mediated and job demand is the only strong remaining job characteristic predictor of depression. Thus, there is support

for the contention that, by the addition of workplace culture, the effects of negative job characteristics on depression is reduced

Models 4 a and b test the relationship between occupational attainment and depression among men. In model 4a occupational attainment is entered alone and is significantly negatively associated with depression levels. Thus, not controlling for other factors, higher levels of occupational attainment are associated with lower levels of depression. However, in Model 4 b when control variables are added to the model occupational attainment fails to remain significant, thus there appears to be no direct relationship between occupational attainment and depression as hypothesized. Due to the fact that the control variables render occupational attainment insignificant no further models are shown. It should be noted that the inclusion of occupational attainment does not change the effects of either job characteristics or workplace culture on depression levels for men. In other words, as was true in model 3c, age, job satisfaction, decision authority, and coworker support all have significant negative relationships to depression while being previously in union compared verses being married, earning less than \$20,000 a year verses earning \$30,000 to \$49,999, and greater job demands are positively related to depression.

Models for Women

Turning now to Table 4, I show the results of the same models for women. Again Model 1 shows the results of regressing depression on the set of control variables consisting of demographic characteristics and job satisfaction. The results are consistent with findings in the general depression literature for women. First, as women get older

they suffer from less depression. Second, women who have previously been in a union (either divorced, separated, or widowed) experience higher levels of depression than do their married counterparts. Third, women who earn between \$20,000 and \$29,999 dollars a year are significantly more depressed than those earning \$30,000 to \$49,999 a year. However, those women earning less than \$20,000 a year are no more or less likely to be depressed than those earning between \$30,000 and \$49,999. Thus it may be that women earning \$20,000 to \$29,999 are the group of women most likely to be working out of necessity. It seems logical that women earning below this amount might either be eligible for social services that would aid in their financial strain or that they are working simply out of desire. Additionally, women earning between \$20,000 and \$29,999 annually may be those who are working in the types of jobs that are paying sufficiently for their services, but tend to have low opportunity for advancement, causing frustration on the part of workers who have advanced beyond menial jobs but are unlikely to advance further without additional training. Finally, job satisfaction is also significantly negatively related to depression among women. Thus, as women report greater satisfaction with their job they also report lower levels of depressive symptoms.

Model 2a examines the relationship between job characteristics and depression not controlling for other factors, and Model 2b examines the same relationship only it includes controls for demographic characteristics and job satisfaction. Model 2a shows that all three of the job characteristic measures significantly effects the dependent variable. Both as levels of decision authority and skill discretion increase the level of depression declines, while as job demands become greater, so do levels of depression

Table 4. OLS Regression Coefficients Predicting Depression Levels for Women

	Model 1	Model 2A	Model 2B
Demographic Characteristics			
Non-Hispanic White	.11 (.15)		.04 (.15)
Age	-.03*** (.01)		-.03*** (.01)
Marital Status			
Previously in Union	.29* (.14)		.29* (.14)
Not in Union	-.04 (.15)		-.01 (.15)
In Union	REF		REF
Educational Attainment			
Less than High School	-.09 (.35)		-.08 (.34)
High School Graduate	REF		REF
Some College	-.02 (.15)		-.01 (.15)
Advanced Degree	-.23 (.16)		-.26 (.16)
Annual Income			
Less than \$20,000	.09 (.16)		.21 (.16)
\$20,000 to \$29,999	.32* (.15)		.36* (.15)
\$30,000 to \$49,999	REF		REF
\$50,000 to \$69,999	-.26 (.22)		-.32 (.21)
\$70,000 and up	-.42 (.36)		-.47 (.36)
Job Satisfaction	-.26*** (.06)		-.14* (.06)
Job Characteristics			
Job Demand		.29*** (.06)	.27*** (.06)
Skill Discretion		-.12+ (.07)	-.01 (.07)
Decision Authority		-.16* (.07)	-.10 (.07)
Adjusted R2	.062	.038	.080
Degrees of Freedom	12	3	15
N= 1027			

* p< .05, ** p< .01, ***p< .001, +p< .10
 unstandardized regression coefficients (standard errors in parenthesis)

Table 4. Continued

	Model 3A	Model 3B	Model 3C
Demographic Characteristics			
Non-Hispanic White		.12 (.15)	.07 (.15)
Age		-.03*** (.01)	-.03** (.01)
Marital Status			
Previously in Union		.28* (.14)	.28* (.14)
Not in Union		-.04 (.15)	-.01 (.15)
In Union		REF	REF
Educational Attainment			
Less than High School		-.13 (.34)	-.10 (.34)
High School Graduate			REF
Some College		-.00 (.15)	-.02 (.14)
Advanced Degree		-.19 (.16)	-.26 (.16)
Annual Income			
Less than \$20,000		.20 (.16)	.29 (.16)
\$20,000 to \$29,999		.38* (.15)	.41** (.15)
\$30,000 to \$49,999		REF	REF
\$50,000 to \$69,999		-.23 (.22)	-.31 (.22)
\$70,000 and up		-.37 (.36)	-.47 (.36)
Job Satisfaction		-.12+ (.07)	-.07 (.07)
Job Characteristics			
Job Demand			.23*** (.06)
Skill Discretion			.03 (.07)
Decision Authority			-.03 (.07)
Workplace Culture			
Rule Density and Enforcement	.09 (.06)	.03 (.06)	-.01 (.06)
Organizational Support	-.22*** (.06)	-.15* (.07)	-.11 (.07)
Coworker Support	-.21*** (.06)	-.19** (.06)	-.18** (.06)
Log of Establishment Size	-.02 (.03)	.02 (.03)	.02 (.03)
Adjusted R2	.035	.079	.090
Degrees of Freedom	4	16	19
N= 1027			

* p< .05, ** p< .01, ***p< .001, +p< .10
unstandardized regression coefficients (standard errors in parenthesis)

Table 4. Continued

	Model 4A	Model 4B
Demographic Characteristics		
Non-Hispanic White		.09 (.15)
Age		-.03*** (.01)
Marital Status		
Previously in Union		.29* (.14)
Not in Union		-.04 (.15)
In Union		REF
Educational Attainment		
Less than High School		-.07 (.35)
High School Graduate		REF
Some College		-.04 (.15)
Advanced Degree		-.31 (.18)
Annual Income		
Less than \$20,000		.14 (.17)
\$20,000 to \$29,999		.35* (.15)
\$30,000 to \$49,999		REF
\$50,000 to \$69,999		-.27 (.22)
\$70,000 and up		-.45 (.36)
Job Satisfaction		-.26*** (.06)
Job Characteristics		
Job Demand		
Skill Discretion		
Decision Authority		
Workplace Culture		
Rule Density and Enforcement		
Organizational Support		
Coworker Support		
Log of Establishment Size		
Occupational Attainment		
FSEI	-.01* (.00)	.00 (.00)
Adjusted R2	.004	.062
Degrees of Freedom	1	13
N= 983		

p< .05, ** p< .01, ***p< .001, +p< .10

unstandardized regression coefficients (standard errors in parenthesis)

among women in the sample. In Model 2b, we see if specific job characteristics still significantly predict depression levels even when controlling for demographic characteristics and job satisfaction. The inclusion of the control variables in the model renders both the effects of decision authority and skill discretion insignificant. Thus, decision authority and skill discretion have no direct effect on depression for women. However, the positive relationship between job demands and depression remains robust. In addition, by including job characteristics, the negative relationship between job satisfaction and depression is greatly mediated. Thus, this mediating effect indicates that the effect of job satisfaction is both direct and indirect in nature.

Model 3a shows the direct relationships between workplace culture measures and depression. This model indicates that as levels of both organizational and coworker support increase, the level of depression significantly decreases as hypothesized. However, the degree of rule density and enforcement, as well as the size of the work establishment, do not have a significant relationship to depression among women. Model 3b shows what happens to the relationships found in Model 3a when control variables are entered. Both the effects of organizational and coworker support remain although these effects are moderated slightly by the control variables. Interestingly, by adding workplace culture measures to the controls, the effect of job satisfaction is mediated. Thus, job satisfaction does have a direct effect on depression but is largely the product of the workplace culture. All of the other effects of the demographic characteristics found in Model 1 are maintained. Model 3c tests to see if the effects of workplace culture will remain (once job characteristics are also controlled for). This model shows that job

characteristics moderated the effect of organizational support, but coworker support remains a significant predictor of depression. In addition, the same demographic variables that were significant in Model 3b are also significant in 3c. Job demand also continues to have a significantly positive relationship to depression even when controlling for both control measures and workplace culture. Finally, the effect of job satisfaction on depression for women is eliminated once job characteristics and workplace culture are taken into account.

Finally, Model 4 a and b investigate if there is a relationship between occupational attainment for women and depression. First, Model 4a tests the association between occupational attainment and depression without controlling for other factors. The results show that higher occupational attainment is a significantly negatively related to depression. Thus, as occupational attainment increases the level of depression significantly decreases. However, in Model 4 b when control variables are entered the effects of occupational attainment are mitigated. Thus, there is no support found for the hypothesis that occupational attainment affects depression levels in women. As was the case with men, the model 4b for women is substantially the same as Model 3c. In other words, as women get older and their level of coworker support increases their level of depression significantly decreases and as their level of job demands increase so does their level of depression. Additionally, women who were previously in a relationship union experience higher level of depression than their married and cohabitating counterparts as do women earning between \$20,000 to \$29,999 per year compared to those earning \$30,000 to \$49,999.

Overall, the models presented show that the mechanisms through which work affects depression levels are different for men and women. Table 5, which shows the

Table 5. Standardized OLS Regression Coefficients Predicting Depression Levels for Men and Women

	Model 1		Model 2A		Model 2B	
	Men	Women	Men	Women	Men	Women
Demographic Characteristics						
Non-Hispanic White	.02 (.16)	.02 (.14)			.03 (.16)	.01 (.14)
Age	-.13*** (.01)	-.17*** (.01)			-.12** (.01)	-.15*** (.01)
Marital Status						
Previously in Union	.11*** (.21)	.07* (.14)			.11*** (.21)	.07* (.14)
Not in Union	.07+ (.16)	-.01 (.15)			.08* (.16)	-.00 (.15)
In Union	REF	REF			REF	RF
Educational Attainment						
Less than High School	.05 (.30)	-.01 (.35)			.05 (.30)	-.01 (.34)
High School Graduate	REF				REF	
Some College	.05 (.16)	-.00 (.15)			.05 (.16)	-.00 (.14)
Advanced Degree	.02 (.16)	-.06 (.16)			.02 (.16)	-.07 (.16)
Annual Income						
Less than \$20,000	.09* (.22)	.02 (.16)			.08* (.22)	.05 (.16)
\$20,000 to \$29,999	.06 (.16)	.08* (.15)			.05 (.16)	.09* (.15)
\$30,000 to \$49,999	REF	REF			REF	REF
\$50,000 to \$69,999	-.01 (.18)	-.04 (.22)			-.01 (.18)	-.05 (.22)
\$70,000 and up	.01 (.22)	-.04 (.36)			.01 (.22)	-.04 (.36)
Job Satisfaction	-.18*** (.06)	-.14*** (.06)			-.13*** (.07)	-.08* (.06)
Job Characteristics						
Job Demand			.12*** (.06)	.16*** (.06)	.07* (.06)	.14*** (.06)
Skill Discretion			-.07+ (.07)	-.07+ (.07)	-.01 (.07)	.01 (.07)
Decision Authority			-.13*** (.07)	-.09* (.07)	-.09* (.07)	-.05 (.07)
Adjusted R2	.094	.062	.042	.038	.102	.080
Degrees of Freedom	12	12	3	3	15	15
N= 983 men 1027 women						

* p< .05, ** p< .01, ***p< .001, +p< .10
standardized regression coefficients (standard errors in parenthesis)

Table 5. Continued

	Model 3A		Model 3B		Model 3C	
	Men	Women	Men	Women	Men	Women
Demographic Characteristics						
Non-Hispanic White			.01 (.16)	.03 (.14)	.01 (.16)	.01 (.15)
Age			-.13*** (.01)	-.17*** (.01)	-.12** (.01)	-.16*** (.01)
Marital Status						
Previously in Union			.11*** (.21)	.07* (.14)	.11*** (.21)	.07* (.14)
Not in Union			.07+ (.16)	-.01 (.15)	.07* (.16)	-.00 (.15)
In Union			REF	REF	REF	REF
Educational Attainment						
Less than High School			.05 (.30)	-.01 (.34)	.05 (.30)	-.01 (.34)
High School Graduate					REF	
Some College			.05 (.16)	-.00 (.15)	.04 (.16)	-.00 (.14)
Advanced Degree			.01 (.16)	-.05 (.16)	.01 (.16)	-.07 (.16)
Annual Income						
Less than \$20,000			.10** (.23)	.05 (.16)	.09* (.23)	.07 (.16)
\$20,000 to \$29,999			.07+ (.16)	.09* (.15)	.06 (.16)	.10** (.15)
\$30,000 to \$49,999			REF	REF	REF	REF
\$50,000 to \$69,999			-.01 (.17)	-.03 (.22)	-.01 (.18)	-.05 (.22)
\$70,000 and up			.02 (.21)	-.03 (.36)	.01 (.22)	-.04 (.36)
Job Satisfaction			-.10** (.07)	-.06+ (.07)	-.08* (.07)	-.04 (.07)
Job Characteristics						
Job Demand					.07* (.06)	.13*** (.06)
Skill Discretion					-.00 (.07)	.02 (.07)
Decision Authority					-.07+ (.07)	-.01 (.07)
Workplace Culture						
Rule Density and Enforcement	.02 (.06)	.05 (.06)	-.03 (.06)	.02 (.06)	-.04 (.06)	-.01 (.06)
Organizational Support	-.13*** (.06)	-.12*** (.06)	-.09* (.07)	-.08* (.07)	-.06 (.08)	-.06 (.07)
Coworker Support	-.13*** (.06)	-.12*** (.06)	-.09** (.06)	-.10** (.06)	-.09** (.06)	-.10** (.06)
Log of Establishment Size	-.07* (.03)	-.02 (.03)	-.01 (.03)	.02 (.03)	-.01 (.03)	.02 (.03)
Adjusted R2	.038	.035	.109	.079	.112	.090
Degrees of Freedom	4	4	16	16	19	19
N= 983 men 1027 women						

* p< .05, ** p< .01, ***p< .001, +p< .10
standardized regression coefficients (standard errors in parenthesis)

Table 5. Continued

	Model 4A		Model 4B	
	Men	Women	Men	Women
Demographic Characteristics				
Non-Hispanic White			.02 (.16)	.02 (.15)
Age			-.13*** (.01)	-.17*** (.01)
Marital Status				
Previously in Union			.11*** (.21)	.07* (.14)
Not in Union			.07+ (.16)	-.01 (.15)
In Union			REF	REF
Educational Attainment				
Less than High School			.05 (.30)	-.01 (.35)
High School Graduate			REF	REF
Some College			.05 (.16)	-.01 (.15)
Advanced Degree			.02 (.18)	-.08 (.18)
Annual Income				
Less than \$20,000			.08* (.23)	.03 (.17)
\$20,000 to \$29,999			.06 (.16)	.09* (.15)
\$30,000 to \$49,999			REF	REF
\$50,000 to \$69,999			-.01 (.18)	-.04 (.22)
\$70,000 and up			.01 (.22)	-.04 (.36)
Job Satisfaction			-.18*** (.06)	-.14*** (.06)
Job Characteristics				
Job Demand				
Skill Discretion				
Decision Authority				
Workplace Culture				
Rule Density and Enforcement				
Organizational Support				
Coworker Support				
Log of Establishment Size				
Occupational Attainment				
MSEI/FSEI	-.09** (.00)	-.07* (.00)	-.00 (.00)	.04 (.00)
Adjusted R2	.008	.004	.093	.062
Degrees of Freedom	1	1	13	13
N= 983 men 1027 women				

* p< .05, ** p< .01, ***p< .001, +p< .10
standardized regression coefficients (standard errors in parenthesis)

standardized regression coefficients for men and women side by side, provides the easiest way to examine the ways in which work effects depression differently by gender. In regard to demographic characteristics, single men are at a significant disadvantage when it comes to levels of depression compared to their married or cohabitating counterparts. However, single women do not face this same disadvantage when compared to their married counterparts. But, both men and women who are divorced, separated or widowed do suffer from significantly higher levels of depression than those who are married or cohabitating. The relationship between income and depression is also slightly different for men and women. Men earning less than \$20,000 are more depressed than those who earn between \$30,000 and \$49,999, but for women those who earn between \$20,000 and \$29,000 are more depressed than women earning between \$30,000 and \$49,999. In regard to age, this study shows that as men and women age they suffer from lower levels of depression.

Turning now to the relationship between job satisfaction and depression, we see again that a difference processes is taking place for men and women. Job satisfaction has a direct effect on depression for men, showing that greater levels of satisfaction result in decreased levels of depression. This direct effect however is mediated by men's job characteristics. While for women job satisfaction does not exhibit a direct effect but rather an indirect effect that is negated by workplace culture and job characteristic measures.

In addition, the relationships between job characteristics and depression also vary by gender. Greater job demands for both men and women create increasing levels of

depression, but the mechanisms through which this occurs are different. For men, the direct effect of job demands is mediated by the control measures, but for women the strength of the association remains unchanged. Also for men and women skill discretion and decision authority have significant direct effects, but once control measures are entered the effect of the skill discretion is rendered insignificant. Decision authority however, remains a significant predictor of higher levels of depression, but when workplace culture measures are taken into account (*see model 3c*) and then its effect is substantially mediated.

Finally, for both men and women coworker support provides a strong protective factor from depression. Thus, feeling a connection between yourself and your peers at work greatly reduces the levels of depression. This finding coincides with the findings of other social support research and indicates that even controlling for demographic characteristics, job satisfaction, job characteristics, and occupational attainment, the workplace provides an important site of support for workers. These results also show that employee's perception of organizational support matters when controlling for demographics and job satisfaction, but that the addition of job characteristics eliminates this effect. So, for both men and women the actual characteristics of their jobs negate the positive effects of working in a place where the company is supportive of employees.

CHAPTER 5

DISCUSSION AND CONCLUSION

This study extends the literature on the relationship between work and depression by examining job characteristics, workplace culture, and occupational attainment. The design of the study also offers an opportunity to examine the relative importance of job characteristics, workplace culture, and occupational attainment to depression without restriction to gender, occupation, or industry.

This research focuses on four primary objectives. The first objective is to find supporting or dissenting evidence for the Job Demand-Control model that posits that having discretion over the work process, in concert with positions with lower levels of demand, result in lower levels of worker stress and, thus, decrease the severity of negative health outcomes. In addition I test the expanded version of this model, the Job Demand-Control-Support model that posits social support can buffer the negative effects of low control and high demand jobs. Second, this study sought to explore the direct impact of workplace culture on worker's level of depression, as well as test the hypothesis that workplace culture may mediate the effects of job characteristics on depression. The third objective of the study was to investigate the relationship between occupational attainment and depression. While the previous literature has not tested this relationship explicitly, studies have frequently used occupational prestige as a proxy for socioeconomic status. By including a more comprehensive measure of occupational attainment that takes into account the gender specific average income, education, and

prestige of each occupational category I hypothesized that this measure would be inversely related to depression holding constant conventional measures of socioeconomic status. The fourth and final purpose of this study was to illustrate how the depression processes may differ for men and women.

Of primary interest is that, beyond previous models that examined the impact of demographic characteristics and job characteristics on depression, this study shows that certain measures of workplace culture have direct effects on depression and as a whole workplace culture mediates the effects of job characteristics. That is, when the environment in which one works is taken into account, the effects of job characteristics on depression are reduced. This finding suggests that the work environment is crucial to understanding the relationship between work and depression.

The relationship between job characteristics and depression for men and women is different if examining this effect controlling for demographic characteristics and job satisfaction. The results indicate that job demand and decision authority are significant predictors of depression for men, but only job demand is a significant predictor for women. This may be indicative of the differing expectations of men and women on the job and the types of jobs men and women occupy. Thus, on the one hand, in regard to decision authority it may be that by virtue of women generally occupying less skilled jobs than men that there is less of an expectation of decision authority or autonomy relative to their male counterparts and thus, no negative effect on depression. At the same time because men are likely to occupy more positions where decision authority is assumed to be a part of the job, they may become more easily distressed when their job does not

fulfill this expectation and as a result decision authority directly impacts depression. On the other hand, the findings regarding job demand may be indicative of the varying levels of conflict high demand jobs typically cause for men and women. Given that women are still primarily responsible for child rearing and taking care of the home, demanding jobs create a large strain between their responsibilities at home and their job, which, in turn, creates the opportunity for more psychological distress such as depression.

Overall, these findings provide partial support for the Job Demand-Control model. The results support the contention that greater levels of job demand predict significantly higher levels of depression in both men and women. However, skill discretion is inconsequentially related to depression. Thus, contrary to expectations, higher levels of skill discretion do not translate into lower levels of depression. In addition, while greater decision authority significantly decreases levels of depression in men this relationship is not detected among female workers. However, when the model also takes into account workplace culture only the effects of job demand remain for both sexes, thus for men the impact decision authority on depression is partially negated by workplace culture.

In regard to the workplace culture, the same factors ultimately matter for both men and women in the full model. After controlling for individual demographic characteristics, job satisfaction, and job characteristics, coworker support is the only significant workplace culture measure. In other words, the size of the establishment in which one works, the degree to which the employing organization is full of rules and enforces those rules, and the amount of support provided by the organization fail to significantly effect depression.

Although previous research has established the relationship between of coworker support and depression, these results provide further evidence that it matters for men and women alike. This may be a counterintuitive finding given that it is commonly thought that men are less socially attached than women and that the social ties they do have (outside of marriage) matter less to men. However, ample research in the area of social support, as reviewed in chapter 2, has demonstrated the enormous importance of various sources of support for men as well as women.

The results regarding coworker support also provide parallel support for the Job Demand-Control-Support model because the more workers indicate strong supportive relationships with coworkers the less depressive symptoms they report. Because coworker support is not the only measure of workplace culture in the models presented the independent buffering effect of coworker support cannot be determined. However, the results do show that, as noted earlier, workplace culture negates the impact of decision authority for men, but does not mediate the effects of job demands for either sex.

Additionally, it is important to note that while rule density and enforcement is not significant in any the presented models, this was not the case for organizational support and establishment size (for men only). Controlling for demographic characteristics and job satisfaction organizational support is significantly related to lowers levels of depression for men and women. Thus, showing that as a worker's perception of a supportive organizational environment rises, the less depressive symptoms the worker suffers from. However, these effects of organizational support are negated by the inclusion of job characteristics for both men and women. This indicates that

organizational support operates through job characteristics mechanisms for both sexes. Perhaps, this result indicates that men and women's perception of support from the organization is more distant and less pervasive in their everyday experiences at work relative to actual characteristics of the work they perform. It seems logical to speculate that organizational support is much less a tangible attribute of the workplace than, for example, coworker support.

The hypothesized relationship between occupational attainment and depression did not receive support. It was expected that as the level of occupational attainment increased the relative levels of depression would decrease for both men and women. While the direct relationship between these variables is as expected, the addition of the control measures render the effect of occupational attainment insignificant. Thus, the bivariate relationship indicates that indeed those workers with higher SEI scores suffer from lower levels of depression, but by holding demographic characteristics and job satisfaction constant these effects are negated. On one hand this finding may indicate that the income and education measures are capturing the same effect as occupational attainment, thus occupational attainment is simply a proxy for the other socioeconomic measures included in the model. If this is the case, then while the SEI index is a more comprehensive measure of occupational attainment than previous measures commonly used in the depression and work literature, such as the Hollingshead's (1957) occupational prestige scale, the results are the same. Thus, the use of this more complex measure did not produce different results than alternative measures found in previous studies.

The results regarding the demographic variables are expected, but are perhaps worth discussing briefly. This study shows that as the age of men and women increases so does their mental health, as we would expect given that the least depressed population is working middle-aged persons. While the relationship between age and depression is substantially the same for men and women, the effects of marital status are somewhat unique by gender. Men are negatively affected by being single compared to those who are either married or cohabitating, but women do not suffer the same effect. In other words, single women are no more depressed than their counterparts that are in union, while single men are significantly more depressed than in their partnered counterparts. However, ample research has shown that--particularly in regard to physical health--married or attached men receive enormous health benefits, while attached women do not gain the same effects from marriage (e.g. Lillard and Waite 1995). The finding that both men and women who are either divorced, separated, or widowed are more depressed than persons who are married or cohabitating also provides further support for the previous research on the relationship between marital status and health.

The association between income and depression is also different for men and women. As discussed in the previous chapter, men earning less than \$20,000 a year suffer greater levels of depression than to those earning between \$30,000 and \$49,999. But for women, those earning between \$20,000 and \$29,000 suffer from higher levels of depression than women earning \$30,000 to \$49,000. It makes sense that men earning an income in the lowest category have greater levels depression given that the traditional male role in society assumes men have a high career achievement orientation and that

they are supposed to be primary breadwinners within the family. Additionally, if a man is single the same idea applies in that men's success is often at least partially judged by the amount of income they receive from their job regardless of relationship status. The results regarding women and income may at least be in part due to different sex role expectations. In other words, because women do not have the same social expectations, the effects captured here are indicating different causal mechanisms at play for women as compared to men. It is plausible that the captured effect is the result of the fact that women earning less than \$20,000 a year may be able to utilize social services to better able help them cope with financial stress or that this group represents women who have taken low paying jobs not out of necessity but rather an intrinsic motivation to work. Thus, the category of women earning between \$20,000 and \$29,999 a year are in a marginalized situation where they are neither earning enough to be financially stable nor are they eligible for services to aid their financial strain. It is also plausible that this category of women are in non-menial jobs that require a higher degree of skill, but that offer little opportunity for advancement without further training. Thus, their higher levels of depression may be the consequence of a high degree of financial strain or frustration with their current positions.

In addition to the demographic measures, job satisfaction was also used as a control variable in this analysis. Even though job satisfaction was not a primary variable of interest, the findings regarding job satisfaction are interesting and worth discussing. First, while job satisfaction is significant for men even after controlling for demographic characteristics, job characteristics, workplace culture, and occupational attainment, this is

not the case for women. Job satisfaction is important for women when controlling for demographic characteristics and once job characteristics are held constant the effect is mediated. Furthermore, the addition of workplace culture reduces job satisfaction to insignificance for women. Thus, for men, job satisfaction has both a direct and indirect effect on depression, but for women job satisfaction operates through job characteristics and workplace culture. This finding may indicate that women's job satisfaction is more contingent on the external factors of workplace such as the characteristics of the job as well as the environment in which the job is performed, while men may exhibit a greater degree of intrinsic job satisfaction. Thus, men may derive a certain degree of satisfaction or dissatisfaction from the identity they associate with the job while, for women, job satisfaction is not as closely tied with occupational category.

Overall, the results presented in this study support the established literature with regard to the demographic characteristics that are related to depression as well as the job models of depression. However, by extending the scope of this research to include workplace culture it is discovered that workplace culture can alter the significant relationships between job characteristics and depression and the strength of these relationships. Finally, by modeling depression in the ways presented earlier we obtain a more detailed look at how demographic characteristics, job satisfaction, job characteristics, workplace culture, and occupational attainment moderate the relationships between each other as well as their impact on depression for both men and women.

While this study certainly provides new insights and has implications for sociologists, business administration, and workers, there are several limitations of this

study that are worth noting. The data set is cross sectional in nature, thus it is not possible to clearly establish causality. It cannot be established, with certainty, that depression does not drive job characteristics. In addition, because of the myriad social factors that may effect depression in the U.S. population, the models of depression in this study cannot take into account all plausible factors. The literature on depression suggests factor such as family, the physical occupational environment, and the number and recency of stressful life events are associated, to varying degrees, to depression. There are also likely to be aspects of workplace culture that are related to depression, but are not included. For example, there is no measure in the NES for supervisor support or sources of support outside the work setting that some previous research has found to be significant.

These limitations indicate several possible avenues for future research. There is clearly a need for more longitudinal studies of the relationships between work and depression in order to have greater confidence in the results implied in many cross-sectional studies. Additionally, the further investigation of both the normative and rational aspects of workplace culture may produce new and exciting findings regarding the direct and indirect relationship between workplace culture and depression. Moreover, it is crucial that sociologists make greater progress towards producing models of work and depression that integrate both micro level variables such as job tasks, but also take into account the presiding macro level structure in which work takes place. Finally, by developing more comprehensive models of depression sociologists can create a better

framework of the social causes of not only depression, but perhaps other mental and physical maladies that effect millions of Americans each year.

While there are both limitations to the research at hand as well as many potentially prosperous avenues for sociologists to explore regarding the relationship between work and depression, this study does bring to light substantive implications for business administration, workers, and for health care more generally. For businesses, the findings in this study first provide evidence that while there has been increased attention to developing workplaces that provide strong organizational support; my findings appear to indicate that, while organizational support is not necessarily inconsequential, it does not provide a protective force against depression in workers. Thus, perhaps developing resources to identify and treat depressed employees may be time better spent because at least identification and treatment has been shown to be cost effective to the organization. Second, because high levels of job demand are related to higher levels of depression for male and female workers, administrators may desire to reevaluate and perhaps even redesign the requirements and expectations of positions within the organization. It is clear employees indicate that there is often not enough time and resources, for example, to complete their job duties. Thus, pairing down or reorienting the scope of jobs may alleviate some of the job demands employees report, which will in turn reduce the level of depression among workers. Finally, organizations may benefit from creating a working environment where positive coworker relationships can develop and grow because the beneficial impact of supportive coworker relationships for men and women on mental health is evident in this study. The primary implication for workers in the U.S

also falls along this same line, in that there is a need for workers to be proactive in developing healthy and supportive relationships with their coworkers. Finally, the overall results of this study provide an extended foundation for the link between work and depression. The health care field in general needs to be aware of not only the biological cause of depression, but the social causes as well.

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APPENDIX: WORDING OF ITEMS

Depression

“Tell me on how many days in the last week you experienced each of the following feelings.”

1. felt sad
2. had trouble getting to sleep or staying asleep
3. felt everything was an effort
4. felt you just couldn't get going
5. felt lonely
6. felt you just couldn't shake the blues
7. had trouble keeping your mind on what you were doing

Job Demands

1. I am free from conflicting demands on my job. (reverse coded)
2. My job requires me to work at a fast pace.
3. My job requires me to work very hard.
4. I am asked to do excessive amounts of work.
5. I have enough time to get the job done. (reverse coded)

1= not at all true 2= not very true 3= somewhat true 4= very true

Skill Discretion

1. My job requires me to be creative.
2. My job requires me to do things that are repetitive. (reverse coded)
3. My job requires that I keep learning new things.
4. My job requires a high level of skill.

1= not at all true 2= not very true 3= somewhat true 4= very true

Decision Authority

1. My job allows me freedom to decide how I do my own job.
2. I have a lot of say over what happens on my job.
3. On my job I make a lot of decisions on my own.
4. On my job I get to take part in making decisions that affect me.

1= not at all true 2= not very true 3= somewhat true 4= very true

Co-worker Support

1. Your coworkers are friendly to you.
2. When you need assistance in completing a job task, your coworkers will pitch in and help.
3. Your coworkers really care about you.
4. Your coworkers are able to give you useful advice on how to solve your job-related problems.
5. Your coworkers take a personal interest in you.

6. You can rely on your coworkers when things get tough at work.
 7. When you are faced with an unusual problem at work, you can turn to your coworkers for assistance.
 8. You feel close to your coworkers.
 9. Your coworkers are helpful to you in getting your job done.
 10. You feel appreciated by you coworkers.
 11. If you were late or absent from work, your coworkers would complete your job tasks for you.
 12. Your coworkers are willing to provide help with your personal problems.
 13. If you had a conflict with your supervisor, your coworkers would stick up for you.
 14. Your coworkers will assist you in finding someone to help you with your personal problems.
- 1= not at all true 2= not very true 3= somewhat true 4= very true

Organizational Support

1. At the place where you work, managers clarify decisions and provide additional information when requested by employees.
2. Your employer has a real interest in the welfare and happiness of people who work there.
3. Your employer is concerned with taking care of employees' needs well beyond their paycheck.
4. Supervisors are very concerned about the welfare of those who work under them.

5. Your employer makes sure that all of the employees feel like one big happy family.
 6. Managers make sure that all employees' concerns are heard before decisions are made.
 7. When decisions are being made, all of the people who will be affected are asked for their ideas.
 8. Managers at your workplace encourage people to work as a team.
- 1= not at all true 2= not very true 3= somewhat true 4= very true

Rule Density and Enforcement

1. First, where you work, employees are to follow strict operating procedures at all times.
 2. Employees don't get away with much at the place where you work.
 3. The organization you work for has a very large number of written rules and policies.
 4. Your employer keeps a written record of nearly everyone's job performance.
 5. Employees feel they are constantly being watched to see if they obey all the rules.
 6. Where you work, if someone is found violating a rule regarding their work, they are punished.
 7. Employees do what they are told because they would lose their jobs if they didn't.
- 1= not at all true 2= not very true 3= somewhat true 4= very true

Establishment Size

“Counting all types of workers in all areas and departments, about how many people are employed at the place where you work?”

Job Satisfaction

Knowing what you know now, if you had to decide all over again whether to take the job you now have, what would you decide? Would you...

3= decide without hesitation to take the same job 2= have some second thoughts 1= decide definitely not to take the job

Taking everything into consideration, how likely is it that you will make a genuine effort to find a new job with another employer within the next year?

3= not at all likely 2= somewhat likely 1= very likely

In general, how well would you say that your job measures up to the sort of job you wanted when you took it?

3= very much like 2= somewhat like 1= not very much like

Taking everything into consideration, how satisfied would you say you are with your job?

3= very satisfied 2= somewhat satisfied 1= somewhat dissatisfied/ very dissatisfied

Race

What is your race?

1= white 0= non-white

Age

What is your age?

Marital Status

What is your marital status?

In union= married or cohabitating (reference)

Previously in union= divorced, widowed, or separated

Not in union= single

Education

Less than a high school education

High school diploma or GED (reference)

Some college

Advanced degree

Annual income

Less than \$20,000

Between \$20,000 and \$29,999

Between \$30,000 and \$49,999 (reference)

Between \$50,000 and \$69,999

More than \$70,000