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# Employment Characteristics And Mental Health: A Quantitative Study

Keegan Charles August Hahn

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EMPLOYMENT CHARACTERISTICS AND MENTAL HEALTH: A QUANTITATIVE  
STUDY

by

Keegan Charles August Hahn  
Bachelor of Arts, University of North Dakota, 2012

A Thesis

Submitted to the Graduate Faculty

of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

Master of Arts

Grand Forks, North Dakota

May

2014

This thesis, submitted by Keegan C.A. Hahn in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This thesis is being submitted by the appointed advisory committee as having met all of the requirements of the Graduate School at the University of North Dakota and is hereby approved.

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Wayne Swisher  
Dean of the Graduate School

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Title            Employment characteristics and mental health: A quantitative study  
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Keegan C.A Hahn  
4/29/2014

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## ABSTRACT

Previous literature suggests that certain job characteristics may influence a person's mental health in a negative way. Work is an important part of every American's life. It is how they make money and can be how they identify themselves. This thesis examines that relationship further with new data and variables and also looks at the effect that the 2007 to 2009 U.S. recession had on increasing poor mental health among individuals. Americans' jobs were influenced by this national recession in multiple ways. This thesis explores the relationship between the national economy and how job characteristics impact American's poor mental health.

Data from the 2006 (N=4510) and 2012 (N=1974) years of the General Social Survey were utilized, and OLS regression was used to test the hypotheses. The results indicate that the unemployed report more days of poor mental health, as well as a higher number of reported days of poor mental health after the recession. It was found that race, income, sex, education, age, marital status, and work stress also had a significant relationship with mental health. The implications of the results of this thesis suggest the need for more programs helping with the mental health of the unemployed. It also shows that the recession impacts a person's work life, which influences his or her mental health, several years after the recession is over.

# CHAPTER I

## INTRODUCTION

### Overview of Chapter

Problems with mental health constitute a serious issue in the United States, with an estimated 26.2 percent of Americans struggling with it in a given year (National Institute of Mental Health {NIMH}, 2007). Mental health is defined by the Center for Disease Control and Prevention as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (CDC, 2000)”. This thesis looks at people suffering from poor mental health, and identifies important employment characteristics that impact Americans’ mental health. Additionally, it examines the extent to which the overall economic state of the United States affects mental health by analyzing the impact of employment characteristics before and after the 2007 to 2009 economic recession. Chapter One will provide a brief introduction to the topic, along with a discussion of the goal of this thesis. A discussion about the relationship between employment characteristics and mental health will be provided, as well as a discussion of the impact of the economy on the relationship between work and mental health. The

need to address this topic will also be discussed, and an overview of the next four chapters of this thesis will be provided.

### Introduction and Goal of Thesis

This thesis looks at how an individual's work life in different time periods, specifically before and after a recession, influences mental health. Previous studies have indicated that a number of employment characteristics, including stress and mental performance, may precipitate the onset of mental disorders (Stansfeld et. al., 1995; Ferrie et. al., 2002). Another study shows that if an individual works over the average 40-hour workweek, they show higher levels of psychological distress (Kleiner & Pavalko, 2010). The same study found that the type of work shift the individual works may also influence their psychological state, such as part-time workers having worse mental health compared to full-time workers (2010).

Although previous studies have shown how employment characteristics affect an individual's mental health, this thesis will add to the existing literature by looking at under-examined employment characteristics, such as perceptions of work stress, and it will specifically see how the impact changes when the United States is in different economic states. For example, after an economic recession, workers may feel an increase in job stress because they may fear that they could easily lose their jobs (Rocha, Crowell, & Carter, 2006). Workers likely feel job insecurity because of perceived uncertainty or job threat, even if their job is not being threatened directly (2006). This stress can occur because of the anticipation over a future stressful event, which can cause stress that is worse than the actual perceived event (Lazarus & Folkman, 1984).

## Work, the Economy, and Poor Mental Health

Work fulfills many needs for people. For most people, work can help provide basic physical needs, as well as a creative avenue to express oneself, promote self-esteem, and an avenue for achievement (Linn, Sandifer, & Stein, 1985). Individuals may identify with their jobs, as well as rely on their work to maintain the lifestyle they have become accustomed to (Brenner, 1973). Consequently, if an individual is unable to maintain their job, there may be negative effects. This may include an increase in anxiety, depression, lower self-esteem, as well as physical health consequences (Linn, Sandifer, & Stein, 1985). Social networks and connections may also be closed off to individuals who are unable to maintain a job (Brenner, 1973). The job that an individual has is a large part of their identity, and if this is lost or reduced to part-time, there may be negative consequences that come along with this.

Many people likely experienced this during the most recent economic recession. The United States went into a recession December 2007, and it ended in June 2009 (Bureau of Labor Statistics, 2012). During this time, the economy slowed down, meaning that less goods and services were produced and sold. The unemployment rate went from 5% in December 2007 to 10% in October 2009 (BLS, 2012). The unemployment rate doubled in less than two years. While job rates declined overall, some industries experienced a harsher decline than others, specifically goods-producing industries as well as financial activities (BLS, 2012). This high unemployment rate can have negative health effects on those individuals who lost their jobs. The study by Linn and colleagues (1985) found that males who

lost their jobs had more symptoms of somatization, depression and anxiety. While an individual is unemployed, their standard of living may decline, as well as their self-esteem (Linn, Sandifer, & Stein, 1985; Institute of Work and Health, 2009).

Research has shown that unemployment rates not only have negative effects on the unemployed, but also on those who are employed during a time of high unemployment rates (Rocha, Crowell, & McCarter, 2006; Novo, Hammarstrom, & Janlert, 2001). When looking at employed young men and women, one study found that they experienced more somatic and psychological symptoms during an economic recession than they did during a boom (Novo, Hammarstrom, & Janlert, 2001). The same study found that the psychological differences in male and female mental health were more pronounced during the recession (2001). People may be more pessimistic, and experience job insecurity. Job insecurity is when individuals feel their employment is threatened, be it an actual or perceived threat (Rocha, Crowell, & McCarter, 2006). During a recession, the actual and perceived threat of losing a job is heightened. This can lead to feeling more stress at work, and the feelings may predictably last for a significant amount of time after a recession officially ends.

#### Research Questions

The first question this thesis asks is: How do employment characteristics affect an individual's mental health? In other words, do certain employment characteristics have a greater effect on an individual's mental health than other characteristics? The second question this thesis will be looking at is if the employment characteristics affecting mental health are different before and after a

major economic recession. Specifically, it is looking at whether mental health is reported differently depending on the overall economic state the nation is in. While some studies in the research literature have looked at different employment characteristics that may affect mental health, there is more to learn about whether the overall economic state may affect mental health. While national job rates are different depending on the economic state, how job characteristics affect mental health has not been thoroughly compared.

These effects have serious consequences. For instance, poor mental health may in turn worsen a person's work life in a variety of ways, creating a dangerous spiral of negative outcomes. In particular, poor mental health is associated with absenteeism and loss of productivity ("Mental Health Problems in the Workplace", 2010). This loss of work can impact their chances of promotion, or even lead to job loss. With the stigma that is attached to having a mental illness, individuals may be reluctant to disclose their problem, or even to seek help for fear of being labeled as such. This may lead to problems for the company because when an individual is not showing up to work, or is not being productive, the company is potentially losing money (2010), which would have ripple effects for other companies and the overall economy, in addition to any personal and familial problems that the individuals may experience.

#### Organization of the Remainder of the Thesis

Chapter One of this thesis introduced and emphasized the importance of studying how job characteristics and the economy affect mental health. Chapter Two will introduce the theoretical perspective pertinent to this topic and will also review

the literature about work and mental health. Major concepts will also be defined in Chapter Two. Chapter Three will show how a quantitative methodology will be employed. The results from the statistical analysis will be presented in Chapter Four. Lastly, results will be discussed and will be related back to previous literature in Chapter Five. Limitations of the thesis and suggestions for future research will also be discussed in Chapter Five.

## CHAPTER II

### LITERATURE REVIEW

The object of this thesis is to explore the relationship between employment characteristics and mental health, as well as how the economy may affect mental health. Background on the study of mental health will be provided. Then, theoretical expectations will be presented to offer some potential reasons for the relationship between employment characteristics and mental health. Previous literature will be used as a guide for the relationship between the theoretical concepts and for formulating hypotheses.

#### Background on the Study of Mental Health in the U.S.

Having good mental health is a positive attribute. It means that an individual is able to cope with everyday life, and can contribute to society. This study is going to look at those who are suffering from poor mental health, specifically, “health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning (CDC, 2000)”.

While the above definition of mental health is used in this thesis, mental health has been a difficult term to study, and has often been left vague (Goldstein, 1979). Not only has the way mental health been studied changed, but also the way

individuals suffering from poor mental health in the United States are cared for has changed over time (Unite for Sight, 2012). Individuals suffering from a diagnosed mental health problem in the early 1900s were institutionalized at a state run facility (2012). These institutions were mostly shut down by the mid-1950s after reports of poor living conditions and human rights violations surfaced (2012).

This led to a deinstitutionalization movement, which moved individuals from large state run institutions to smaller, local programs (Unite for Sight, 2012). The introduction of neuroleptic drugs also helped this movement, as these drugs helped control the manifestations of poor mental health (Mechanic, 1991). The goal of deinstitutionalization is better service and care for those suffering from poor mental health, as well as allowing them to live and work in the community. While some reports show that deinstitutionalization has helped mentally ill individuals, others show that some patients are being placed in homes without the proper professionals to care for them (Unite for Sight, 2012). While the number of public mental hospitals decreased during this time, the overall number of reported treated patients increased (Mechanic, 1991). This increase in the number of reported instances of poor mental health may be attributed to a shift in mental health policies by the national government during Kennedy's presidency, as well as the reality of not being placed in large state run institute (Mechanic, 1991).

Because an estimated 26.2 percent of Americans suffer from poor mental health in a given year (NIMH, 2007), with an estimated 6% suffering from serious mental issues (2007), poor mental health is a major problem in the United States. A study by Corrigan (2004) found individuals do not always seek professional

services, and when they do, they frequently do not complete the recommended treatment plan. Another study by Kessler and colleagues (2001) found that an estimated 40% of individuals who suffer from a severe mental health problem do not receive consistent care.

One reason for this lack of consistent care is that individuals with poor mental health may be disabled enough to not be able to receive care (Ahmedani, 2011). They may not be able to go get the treatment that they require. A second explanation is that these individuals are not able to identify that they need help. Their poor state of mental health may be blinding them from the fact that they are suffering and need professional help. If someone is suffering from a problem, they may not be aware of their problem (Corrigan, 2004). Fear of being labeled as mentally ill is another reason why people are hesitant to seek help (World Health Organization, 2001). Stigma is a major barrier for individuals who want to seek and maintain treatment. This may deter people from both seeking the needed professional help, as well as continuing treatment if they have already gone in to receive care.

Sociologists have had a difficult time measuring mental health, and as such, many different measuring techniques have been used (Goldstein, 1979). Sociologists do not diagnose individuals; instead individuals suffering from poor mental health would receive a specific diagnosis from a psychiatrist. While sociologists may be able to receive diagnosis information from some hospitals, it has been found that clinicians' judgments and diagnosis are susceptible to suggestion and are unreliable as a measurement tool (Ennis & Litwack, 1974). Another form of acquiring data

about mental health is through self-reports in a questionnaire. The Center for Disease Control began a program in 1989 to develop a way to measure healthy days (CDC, 2000). What they came up with was the Healthy Days measures, which looks at self-reported mental health and physical health through a variety of questions (2000). Some evidence points to self-reports being biased, or not being an accurate description of what is wrong with an individual (Conover, 1972; Dohrenwend, 1975; Kunitz, 1970). However, the CDC has found these self-reports to be valid and believes that self-reports are an accurate measure of what the individual is feeling (CDC, 2000). Idler (1997) and Pijls (1993), argue that when people are having negative self-perceptions, this leads them to receive care. The CDC then argues that the measure of Healthy Days, which uses the mental health self-reported data, also predicts hospital care for individuals (2000).

### Theoretical Framework

There are many explanations for why a person suffers from poor mental health, but work status is arguably one of the most powerful. Work status refers to how the person is employed, be it fulltime, part-time, or unemployed. There are benefits for paid employees, including lower rates of depression and anxiety and better wellbeing (Gibb, Fergusson & Horwood, 2012). Fulltime workers can feel this benefit from increased earnings, as well as better access to health care and insurance (Kleiner and Pavalko, 2010). Jacobs and Gerson (2004) found that part-time workers on average want more hours than they are receiving. The study by Kleiner and Pavalko (2010) found that workers who report working less than 40 hours report significantly higher levels of stress than those who are working full

time. They find that stress from the part-time work is not attributed to the lack of work hours; instead it is attributed to characteristics about the part-time workers (2010). The same study found that part-time workers experienced worse overall physical health, as well as mental health (2010).

Furthermore, there are often negative outcomes attached to unemployment (Institute for Work and Health, 2009). One study by Linn, Sandifer, and Stein (1985) found that individuals who had lost their jobs six months prior had symptoms of somatization, depression, and anxiety. This loss of employment can also lead to a worsening standard of living, less income, and a loss of social contacts (Institute for Work and Health, 2009). Sudden unemployment has many negative consequences, from loss of wages, to career disruptions (2009). Given this past literature, this leads to the first hypothesis.

H1: Full time workers will experience less stress than part-time workers and the unemployed, leading to comparatively fewer days of poor mental health.

At the same time, however, working more than 40 hours a week may result in poor mental health. The most common findings show that there is a positive correlation between overtime work and health complaints (Grosch et al. 2006; Raediker et al. 2006). They found that psychological, as well as overall health ratings, were lower for those who had overtime work (2006). Even though long work hours do come with some positive outcomes, such as increased earnings and healthier neighborhoods (Kleiner & Pavalko, 2010), long work hours are also

associated with many other negative health consequences. The study by Kleiner and Pavalko (2010) found that working more than 40 hours was associated with higher levels of distress. The United States Congress (1991) notes that extended work hours take away from regular sleep patterns, which then affect health. Work related stress from long hours of work has also been correlated with a higher number of work-related injuries (Dembe et al. 2005). Overtime work has also been linked to depression (Roxburgh, 2004). This literature on work hours leads to the second hypothesis.

H2: Working more than 40 hours a week will have a positive relationship with days of poor mental health.

People who have a high workload tend to also have a notable degree of work stress (Diestel & Schmidt, 2009). The relationship between stress and psychological well-being has been a well-studied issue among researchers (Pearlin, 1989; Price & Hooijberg, 1992). There have been many ways in which stress has been defined. One such definition used by Price and Hooijberg (1992) is to assume an individual feels distress from exposure to a particularly uncomfortable situation or relationship. In this thesis, work stress will refer to a self-report of the stress the individual feels at work, including the stress from workload and relationships at work. Previous research has found that work stress is associated with poor mental health (Diestel & Schmidt, 2009; Price & Hooijberg, 1992; Calnan et al., 2001). Work stress has been found to have negative overall effects on mental health as well as specific effects,

including anxiety and depression (Price & Hooijberg, 1992). This literature leads to the third hypothesis.

H3: Work stress will have a positive relationship with days of poor mental health. That is, the more work stress people express, the greater number of days they will report having poor mental health.

Another part of the literature on employment characteristics and mental health has looked at the effect of different states of the economy on individuals. In this thesis the economy is looked at as “the activities concerned with the production, distribution, exchange, and consumption of scarce goods and services (Smelser & Swedberg, 1996)”. When there is a slowdown of economic activity, which is characterized by a reduction of the amount of goods and services being produced and sold, the economy is considered to be in a recession (BLS, 2012). With a recession, workers are faced with the reality of sudden unemployment, be it from downsizing or outsourcing (Lippmann, 2008). There are also fewer jobs available during a recession, so longer unemployment is possible. As already discussed, unemployment is associated with worse mental and physical health, loss of income, and status loss (Institute for Work and Health, 2009; Linn, Sandifer, & Stein, 1985). This review of the literature leads to the fourth hypothesis.

H4: The negative effects of being a part-time worker and being unemployed on mental health will be worse after an economic recession than before a recession.

At the same time, high unemployment rates also have negative effects on the employed. Individuals who still have jobs before and after a recession also feel stress because of job uncertainty when the unemployment rate is high (Rocha, Crowell, & McCarter, 2006; Brenner, 1973; Novo, Hammarstrom, & Janlert, 2001). While their jobs may not be in jeopardy, the individuals may still perceive their jobs to be insecure, which causes stress (Rocha, Crowell, & McCarter, 2006). For example, the study by Novo and colleagues (2001) found that women's overall health decreased in times of recession. Specifically, in female dominated sectors, there were higher reports of psychological distress. This leads to the fifth and sixth hypotheses.

H5: Working more than 40 hours a week will have even stronger negative effects on mental health after an economic recession than before a recession.

H6: The mental health in general for employed workers will be worse after an economic recession than before a recession.

#### Other Factors Affecting Mental Health

In addition to employment characteristics and economic structure, the research literature has identified a number of other factors that affect mental health, such as role conflicts, education, income, age, race, and gender. These concepts have been included in this thesis because evidence suggests that they are important in the relationship between work and mental health (Tello et al., 2005; Zhang et al.,

2010). For example, people hold multiple roles at the same time, which can cause conflict to occur. If this occurs, “the person will be subjected to conflicting pressures, will suffer stress, will have to “resolve” the problem by adopting some form of coping behavior, and that the person and system will both be disrupted (Biddle, 1986, p. 82)”. This experience of role conflict has been connected to multiple negative outcomes, including psychological distress (Biddle, 1986; Simon, 1995; Price & Hooijber, 1992). Education is also an important factor in studying mental health, as there has been a well-linked positive correlation between education and health (Lauderdale, 2001; Zhang et al., 2010). Income is included, as there have been differences in diagnosed mental disorders based on income differences (Dohrenwend, 1975). Dohrenwend found that the lower class had a greater prevalence of mental disorders in general, particularly a greater prevalence of schizophrenia and personality disorders. Among aging individuals, it has been shown that they do not actively seek out mental health care when it is needed (Knight et al. 2006). Race is important to examine because people of color are often among the sickest and poorest in the nation (Broman et al., 2010), due to a variety of issues—from social structural disadvantage to racial discrimination. The study by Broman and colleagues found that individuals who self-identify as black have a greater likelihood of admitting a mental health problem over their lifetime. With respect to gender, men may feel more stress if they are unable to financially support their family, which can lead to a lower self-image because of the inability to fulfill a role (Simon, 1995). Women in the workplace may feel stress if they cannot perform certain roles in the home (Hochschild, 1997; Bernard, 1981).

## Summary and Overview

In Chapter Two, a brief background of the study of mental health was presented. Then, employment characteristics and economic structure were discussed as theoretical frameworks that explain poor mental health. Lastly, hypotheses based on past evidence were formulated.

Chapter Three will explain the methodology used to test the hypotheses proposed. The dataset and sample, the methods used to collect the data, and the analytic strategy will be explained.

## Chapter III

### Methodology

The purpose of this thesis is to explore the relationship between employment characteristics and mental health, as well as how the economy may affect mental health. To address the proposed research questions and hypotheses, a nationally representative secondary sample will be used. This chapter will first provide a description of the data collection method and the sampling procedure. Next, the measures of mental health, employment characteristics, and control variables will be described. Finally, the analytic strategy will be explained.

#### Sample

The data for this thesis comes from the General Social Survey (GSS), which collects a representative sample of non-institutionalized Americans aged 18 and older. The GSS asks attitudinal questions, and has tracked the opinions of Americans since 1972. The GSS gathers new data every two years, and this study will be looking at two specific datasets. Data from 2006 (N=4510) and 2012 (N=1974) have been analyzed. These years have been chosen because they are right before and relatively soon after the 2007 to 2009 economic recession in the United States. Not all of the respondents of the GSS are given the same questionnaire. Therefore, not all respondents have answered questions regarding all variables. The final sample size

for the 2006 dataset was 1717 and the final sample size for the 2012 dataset was 1132. Missing data were imputed with conditional means for both years of data.

## Measures

### Dependent Variable

The dependent variable is represented by the question: “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” This is measured at the interval level. It is a self-report of the respondent’s mental health status. The CDC has found this self-report to be a valid measure during their study of Healthy Days variable (CDC, 2000).

A logistic regression model was run as an exploratory analysis looking at mental health as a dummy variable. This was done after previous studies found men and women have similar response days if only those who report any mental health days are analyzed. One study found a difference between measuring mental health as an interval variable and as a dichotomous variable. Yet, in this study, gender was significant when mental health was measured as both an interval and dichotomous variable in 2006 and non-significant in 2012. Independent variables also had similar strength coefficients in both years.

### Independent Variables

*Work Status* is measured with the following question: “Last week were you working full time, part time, going to school, keeping house, or what?” In the 2006 and 2012 data sets, there are three responses given. These are full-time employee,

part-time employee, and temporarily not working. They have been separated into three dummy variables, with each work status being measured independently.

*Overtime Work* is measured with a zero for persons who work 40 or fewer hours and a one for persons who work more than 40 hours a week.

*Work Stress* is how often the respondent finds work stressful. It is measured with the following question: “How often do you find your work stressful?” This is an ordinal variable, with response categories of always, often, sometimes, hardly ever, and never. This is recoded inversely from the original GSS coding so the *always* category is associated with the highest response category. This question was not asked in the 2006 survey.

*Year* represents the two years of data—2006 and 2012—with a zero reflecting 2006 and a one reflecting 2012.

A correlation matrix was run on the variables to see if any of the independent variables were highly correlated. A weak to moderate positive relationship ( $p=.244$ ) was found between work stress and days of poor mental health. The other independent variables had a weak relationship with each other.

#### Control Variables

This thesis looks at several control variables, which are the respondent’s income, highest degree earned, age, race, marital status, number of kids, and sex. The respondent’s income is coded as *income06* in both data sets. The question asked is, “In which of these groups did your total family income, from all sources, fall last years before taxes?” The respondent’s income is an ordinal variable that is measured by 25 categories, ranging from under \$1,000 to \$150,000 or over. The

education variable is coded as degree in both datasets. It asks, "What is the highest degree earned?" This is measured as an ordinal variable and ranges from less than high school to graduate degree. The age variable is coded as age in both datasets. It is an interval level variable. Race is coded as race in both datasets. It has been recoded into three dummy variables in both datasets. These dummy variables look at white, black, and other, separately. Marriage is measured with the question: "Are you currently- married, widowed, divorced, separated, or have you never been married?" It has been recoded into a dummy variable, with married equal to 1, and not married equal to 0. Number of Kids is measured with the question: "How many children have you ever had?" It is an interval level variable. Sex is the respondent's sex and it is measured as male or female, with 1 equal to female and 0 equal to male.

#### Analytic Strategy

In order to analyze the hypotheses in this thesis, a quantitative analytic strategy will be employed. First, variables will be weighted so the results can be implied to the United States population. Second, descriptive statistics will be presented for each variable in both datasets to show the differences in the two years. Third, a preliminary analysis will be run of a t-test comparing the mental health differences in 2006 and 2012 to get a sense of whether the recession had a noticeable impact. Fourth, regression models will be run for both years. There will be a control model and a full model for each year to assess whether employment characteristics matter independent of other factors and if there is a significant difference between the years. The standardized coefficients will be compared to see if there is a greater impact on mental health after the recession. This is done to test

hypotheses one thru four. Fifth, a regression model will be run with a combined data set that looks at both years of data. This model also adds the year variable, which is done to estimate the impact of the recession. This is done to test hypotheses five and six.

#### Summary and Overview of Next Chapter

In Chapter Three, the data and sample, variables, and analytic strategy were described. The next chapter will show the descriptive statistics and the results from the multiple regression models.

## Chapter IV

### RESULTS

This thesis examines the relationship between employment characteristics and mental health, and how the state of the national economy may impact mental health conditions. A secondary dataset was used, with two different years, 2006 and 2012, before and after the national recession of 2007 to 2009. These datasets were used to answer the questions: 1) To what extent do employment characteristics impact poor mental health? and 2) To what extent does the state of the national economy impact how people report poor mental health? To answer these research questions, linear regression analysis will be discussed after the presentation of descriptive statistics.

#### Descriptive Statistics

Descriptive statistics for both 2006 and 2012 are reported in Table 1. In 2006, Americans averaged 2.78 days (SD = 6.45) of poor mental health each month. In 2012, Americans averaged 3.75 days (SD = 6.49) each month. A two sample t-test showed this difference to be statistically significant ( $t=-4.026$ ,  $p<.000$ ), suggesting that the national recession had a powerful effect on mental health. Put another way, an extra day of poor mental health each month adds up to approximately 12 more days a year or a little over two weeks of work in 2012 versus 2006. Although, at

first, this difference may seem small, it can equate to a loss of millions of dollars for the U.S. economy in worker productivity. In 2006, 81% of respondents reported being full-time employees while, in 2012, 77% of respondents reported being full-time employees. In 2006, 16% of respondents reported being part-time workers, while in 2012, 20% of respondents reported being part-time. In 2006 and 2012, 3% of respondents reported being currently unemployed. In 2006, 71% of respondents reported working 40 or more hours, while, in 2012, 67% of respondents reported working 40 or more hours. The average work stress in 2012 was 3.21 (SD = 1) on a scale of 1 (Never) to 5 (Always). These results also indicate that the 2007 to 2009 recession had an impact on workers, decreasing the number of full-time workers while increasing the numbers of part-time workers.

Additionally, in 2006, respondents averaged 1.57 (SD = 1.16) children. In 2012, respondents averaged 1.71 (SD = 1.58) children. In 2006, 50% of the respondents were female, while 49% of the respondents were female in 2012. The mean for education in 2006 was 1.78 (SD = 1.16) and was 1.75 (SD = 1.58) in 2012. This means that on average respondent's highest level of educational attainment was between a high school degree and junior college degree. In 2006, 57% of respondents were married and in 2012, 55% of respondents were married. In 2006, the average respondent was 41.44 (SD = 13.06) years old, while in 2012 the average respondent was 41.68 years old (SD = 13.37). In 2006, 13% of the respondents were African American and, in 2012, 14% of the respondents were African American. In 2006, 12% of respondents and, in 2012, 13% of the respondents were of a different race than African American or white. In 2006, the average income response was

18.5 (4.42) and was 18.67 (SD = 4.6) in 2012. This means that the average respondent's income was between \$40,000 and \$49,000.

**Table 1: Descriptive Statistics of Variables of Interest**

	2006 Data			2012 Data		
	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range
Mental Health	2.78	6.45	0 - 30	3.75	6.49	0 - 30
Work Stress	--	--	--	3.21	1	1 - 5
Full-Time Work	.81	--	0 - 1	.77	--	0 - 1
Part-time Work	.16	--	0 - 1	.2	--	0 - 1
Not Working	.03	--	0 - 1	.03	--	0 - 1
Working 40+	.71	--	0 - 1	.67	--	0 - 1
Number of Kids	1.57	1.46	0 - 8	1.71	1.58	1 - 8
Sex	.5	--	0 - 1	.49	--	0 - 1
Education	1.78	1.16	1 - 5	1.75	1.24	1 - 5
Married	.57	--	0 - 1	.55	--	0 - 1
Age	41.44	13.06	18 - 88	41.68	13.37	18 - 86
African American	.13	--	0 - 1	.14	--	0 - 1
Other Race	.12	--	0 - 1	.13	--	0 - 1
Income	18.5	4.42	1 - 25	18.67	4.6	1 - 25

Notes: General Social Survey. 2006 data (N=1717), 2012 data (N=1132). The following were reference categories: Employed and white.

### Regression Results

In Tables 2 and 3, linear regression analyses were performed to assess whether there was a direct relationship between employment characteristics (full-time, part-time, unemployed, and work hours) and mental health. The datasets have been combined for models 1 and 2 in Table 3 in order to assess the relationship that the year has with poor mental health. This is done to view how the economy impacts mental health.

**Table 2: OLS Regression Models Predicting Poor Mental Health**

	2006 Data				2012 Data			
	Model 1		Model 2		Model 3		Model 4	
	B	$\beta$	B	$\beta$	B	$\beta$	B	B
Constant	6.788*** (.807)	--	7.532*** (.871)	--	5.835*** (.991)	--	.868 (1.206)	
Number of Kids	-.055 (.125)	-.012	-.093 (.122)	-.021	.370** (.142)	.09	.32* (.138)	.078
Sex	.646* (.305)	.05	.635* (.303)	.049	.308 (.377)	.024	.1 (.373)	.008
Education	-.432** (.143)	-.078	-.438** (.14)	-.079	.032 (.169)	.006	-.148 (.165)	-.028
Married	-.463 (.354)	-.036	-.421 (.346)	-.032	-1.178** (.441)	-.09	-1.117** (.429)	-.086
Age	-.011 (.013)	-.023	-.01 (.013)	-.02	-.017 (.016)	-.036	-.007 (.015)	-.014
African American	-1.97*** (.472)	-.102	-2.056*** (.464)	-.107	-1.589** (.569)	-.084	-1.135* (.556)	-.06
Other Race	-.227 (.482)	-.011	-.247 (.471)	-.012	-1.664* (.575)	-.086	-1.624** (.558)	-.083
Income	-.133** (.039)	-.091	-.143*** (.039)	-.098	-.061 (.047)	-.043	-.062 (.045)	-.044
Work Stress	--	--	--	--	--	--	1.674*** (.187)	.258
Part-Time Work	--	--	-1.509** (.560)	-.086	--	--	-.129 (.632)	-.008
Not Working	--	--	7.452*** (.993)	.189	--	--	.244 (1.127)	.007
Working 40+	--	--	-.709 (.471)	-.05	--	--	-.597 (.555)	-.043
R <sup>2</sup>	.031	--	.079	--	.024	--	.086	--
Change in R <sup>2</sup>	--	--	.047	--	--	--	.062	--
F for Model	7.082***	--	13.608***	--	3.598***	--	9.285***	--
F for Change in R <sup>2</sup>	--	--	30.071***	--	--	--	20.196***	--

Notes: \* p < .05; \*\* p < .01; \*\*\* p < .001 (two-tailed tests). General Social Survey. 2006 data (N=1717), 2012 data (N=1132). The following were reference categories: Employed and white.

Table 2 displays the results from the linear regression analysis when data from each year is run separately. For 2006, as seen in Model 2, approximately 8% of the variance in mental health is explained, and, in 2012, 8.6% of the variance is

explained (Model 4). Models 1 and 3 show the control variables that have been run. This includes number of kids, sex, education, marital status, age, race, and income. Some of these control variables are significantly associated with mental health in each model. In model 1, sex is positively associated with mental health ( $\beta = .05$ ,  $p < .05$ ). This means that women experience more days of poor mental health than men. Education is also significantly associated with mental health ( $\beta = -.078$ ,  $p < .01$ ) in model 1. It is a negative relationship, which means that the lower the education, the more days of poor mental health. Race is also significantly associated with mental health in all models. In model 1, being African American has a negative relationship with mental health ( $\beta = -.102$ ,  $p < .000$ ). In model 3, there is also a negative relationship ( $\beta = -.084$ ,  $p < .01$ ). This means African American's report fewer days of poor mental health than whites. In model 3, which is the control group for 2012, people who report a race other than white or black have a negative association with mental health ( $\beta = -.086$ ,  $p < .05$ ). This means that they also report fewer days of poor mental health than whites. There is also a negative association in model 1 with income ( $\beta = -.091$ ,  $p < .01$ ). This shows that those with lower income report more days of poor mental health. In model 3, the number of kids the respondent has, has a positive relationship with mental health ( $\beta = .09$ ,  $p < .01$ ). This shows that those with more kids report more days of poor mental health. Model 3 also shows a negative relationship with marriage and mental health ( $\beta = -.09$ ,  $p < .01$ ). This is showing that those who are not married report more days of poor mental health than those who are married.

To test the first five hypotheses, mental health was regressed on work stress, work status, work hours, year of data, and the control variables. An F statistic indicates that the change in explained variation from Model 1 to Model 2 and from Model 3 to Model 4 is statistically significant. Hypothesis 1 stated that full time workers will experience less stress than part-time workers and the unemployed, leading to comparatively fewer days of poor mental health. The results partially support this hypothesis. In model 2, which is the 2006 data, part-time workers have a significant negative relationship ( $\beta = -.086, p < .01$ ) and the currently unemployed have a significant positive relationship with mental health ( $\beta = .189, p < .000$ ). The results show there is no significant relationship between part-time work or the unemployed and mental health in the 2012 data. Thus, as expected, the unemployed have a greater likelihood of experiencing poor mental health than the full-time employed. An interesting finding is that part-time workers in the 2006 data report less poor mental health days than full-time or unemployed workers. Hypothesis 2, which states working more than 40 hours a week will have a positive relationship with days of poor mental health, was not supported. Hypothesis 3 states work stress will have a positive relationship with days of poor mental health. That is, the more work stress people express, the greater number of days they will report having poor mental health. This is supported in model 3. Work stress is shown to have a positive association with poor mental health ( $\beta = .258, p < .000$ ).

Hypothesis 4 states the negative effects of being a part-time worker and being unemployed on mental health will be worse after an economic recession than before a recession. This hypothesis is not supported, as being unemployed has a

stronger association with mental health in 2006 than in 2012, as seen from the standardized coefficients in models 2 and 4. One explanation may be that being unemployed in a booming economy, such as during 2006, is more stressful when most other people are working than being unemployed in a recovering economy when many people are also struggling economically, as in 2012. Hypothesis 5 states that working more than 40 hours a week will have even stronger negative effects on mental health after an economic recession than before a recession. This hypothesis is not supported, again as seen by comparing the two standardized coefficients. The non-significant result, however, may offer support to researchers Kleiner and Pavalko (2010), who argue that working more than 40 hours a week does not contribute to poor mental health and in fact may actually relieve mental health problems because working overtime typically generates more financial resources.

Models 1 and 2 in Table 3 show the combined data of 2006 and 2012. This is done to look at Hypothesis 6 which states that mental health in general for employed workers will be worse after an economic recession than before a recession. An F statistic indicates that the change in explained variation from Model 1 to Model 2 is statistically significant, suggesting that the full model is a better fit to the data. There is support for hypothesis 6, which shows that the year variable is statistically significant and in a positive direction ( $\beta = .074, p < .000$ ). It shows that those in 2012 reported more days of poor mental health than those in 2006.

**Table 3: OLS Regression Models Predicting Poor Mental Health, 2006 and 2012 Combined**

	Model 1		Model 2	
	B	$\beta$	B	$\beta$
Constant	6.266*** (.626)	--	6.461*** (.686)	--
Number of Kids	.155† (.094)	.036	.101 (.093)	.024
Sex	.521* (.238)	.04	.502* (.24)	.039
Education	-.217* (.109)	-.04	-.216* (.108)	-.04
Married	-.829** (.276)	-.064	-.734** (.274)	-.056
Age	-.015 (.01)	-.031	-.015 (.01)	-.031
African American	-1.715*** (.363)	-.09	-1.83*** (.361)	-.096
Other Race	-.83* (.369)	-.042	-.847* (.366)	-.043
Income	-.097** (.03)	-.067	-.105*** (.03)	-.073
Part-Time Work	--	--	-1.053* (.426)	-.062
Not Working	--	--	4.172*** (.759)	.109
Working 40+	--	--	-.462 (.365)	-.033
Year	--	--	.978*** (.238)	.074
R <sup>2</sup>	.023	--	.045	--
Change in R <sup>2</sup>	--	--	.023	--
F for Model	8.557***	--	11.632***	--
F for Change in R <sup>2</sup>	--	--	17.403***	--

Notes: † p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001 (two-tailed tests). General Social Survey. (N=2849). The following were reference categories: Employed and white.

These findings support the descriptive statistics results from a two sample t-test, which was conducted to compare mental health in 2006 and 2012. There was a significant difference in the scores for mental health (t=-4.026, p<.000) in 2006 (M=2.78, SD= 6.45) and in 2012 (M=3.75, SD=6.49). The full model in Table 3, however, incorporates control variables. Since the year coefficient remains

statistically significant, this implies that the negative effects of the U.S. recession lasted at least three years after its official end. In other words, even though economists and policy makers may argue that the economy is no longer in a recession based on socially constructed definitions, the real-life effects of a recovering economy last much longer.

### Summary and Overview

In this chapter the results of the analysis exploring the direct relationships between employment characteristics, the economy, and mental health have been presented. A significant relationship was found between work stress, economic year and mental health, as well as partial support for part-time and unemployed workers and mental health. A discussion of the results will be further discussed in Chapter Five in terms of connecting them to the previous literature. Limitations of this thesis and suggestions for further research will also be presented.

## CHAPTER V

### DISCUSSION

The purpose of this thesis was to look at how employment characteristics affect mental health, and specifically whether the national economy can impact the mental health of the people of the nation. This thesis used a representative sample of non-institutionalized Americans. Data from the 2006 and 2012 years of the General Social Survey were used to address a couple of research questions: 1) To what extent do employment characteristics contribute to mental health problems?; and 2) To what extent does the national economy affect the public's mental health? To address the first question, different employment characteristics have been analyzed, which have been established by previous literature. The second question was addressed by comparing a year of data before and a year of data after the national economic recession of 2007 to 2009 in the United States. This was done to compare mental health rates.

This chapter will summarize and discuss the results of this thesis. In doing so, past literature on employment characteristics and mental health will be discussed. Limitations of this thesis, as well as suggestions for future research, will be brought up. Finally, a conclusion will be provided that will briefly summarize the findings of

this thesis, along with discussing the overall contribution to the larger body of literature.

## Discussion of Results

### Control Variables and Mental Health

Before discussing the relationships between the employment characteristics and mental health, it is important to discuss the significant control variables. Results suggest that sex is associated with poor mental health in one of the models, with women being more likely to report more days of poor mental health. This finding is similar to findings by Bernard (1981) and Hoschschild (1997). Women may be more likely to report more days of poor mental health because they may feel stress from not being able to fulfill multiple roles (Hochschild, 1997). This may be from having to fulfill roles at work and other roles at home. The findings also suggested that those with less education reported more days of poor mental health. This is also supported by the work of Lauderdale (2001) and Zhang and colleagues (2010). There is a positive correlation between overall health and their education level. Once again, this is only supported in model 1. Sex and education, however, were not significant in the models for 2012. The recession likely had a leveling effect between these groups with respect to poor mental health. That is, both genders and all education groups experienced stress due to the recession and therefore afterward experienced poor mental health.

Another variable that was significant was race. In both models, being African American had a significant negative relationship. In model 3, being of a race other than white or African American was also significant. This is surprising, as past

literature suggests that people of color have worse overall health and are more likely to report a mental health problem in their lifetime (Dohrenwend, 1975). Perhaps, there are differences based on how poor mental health is measured. It could also be a sign that the recession had an impact on white's mental health. While African Americans and those of a race other than white may struggle to find work even when the economy is strong, struggling to find work may have been a new phenomenon for whites. This could have led to the increase in poor mental health days, because of the inability to find work. Income was also a significant variable. This is supported by past literature by Dohrenwend (1975), which found that lower income individuals had a greater prevalence of mental health problems. This was found to be significant in model 1, but not in model 3. Again, it is possible that the recession evened out the differences by income regarding poor mental health. While before the recession, those with less income reported more days, after the recession income was not a significant variable. The recession may be a factor, as those who had a higher income now worried about losing their jobs, or became unemployed. This could have led to having more days of poor mental health.

The number of kids and marriage were also significant variables in model 3. It showed that those with more kids reported more days of poor mental health, and that those who were married reported less days of poor mental health. For those who have kids, having multiple roles may be a cause for more poor mental health days (Biddle, 1986). Multiple roles of caring for kids having to work may impact mental health. It is a significant variable after the recession, which could lead to people worrying about caring for their kids while they also could lose their job.

## Employment Characteristics and Mental Health

The results of this thesis show that some employment characteristics have a significant association with mental health, while others do not. Particularity, this thesis found that being employed leads to better mental health days than those who are not working. This is supported by research, which shows some of the benefits from being employed. This includes lower rates of depression, anxiety, and overall wellbeing (Bigg, Fergusson & Horwood, 2011). Employed workers also benefit from being paid for their work. With this, they can afford better health care and insurance (Kleiner & Pavalko, 2010). This thesis finds that part-time work is a significant variable with regards to mental health in 2006, but not in 2012. Past literature has shown that part-time workers suffer from more stress (2010). However, similar to past literature, which shows being unemployed has been correlated with many negative outcomes in past literature, including depression and anxiety (Linn, Sandifer & Stein, 1985). This thesis has similar findings about the unemployed. There are many possible reasons for these results, including loss of income, worsening standard of living, and loss of social contacts (Institute for Work and Health, 2009). While part-time work and unemployment are significant variables in the 2006 model, they are not significant in 2012. This could be that full-time workers are still feeling pressure from the recession. They still may be fearful of losing their job. With the recession still fresh in people's mind, fear of losing their job may still be causing the full-time workers stress. This is similar to findings by Rocha, Crowell, & McCarter (2006) who found that even when people are not in

jeopardy of losing their job, they still experienced stress from perceived job insecurity.

One interesting finding of this thesis is that working more than 40 hours a week was not found to be a significant variable in predicting poor mental health. This is contrary to the findings by Grosch and colleagues (2006) and Raediker and colleagues (2006). They found that working overtime led to more health complaints. Some potential reasons that this may not be a significant variable are the benefits that come from working so many hours. This includes an increase in earnings, as well as healthier neighborhoods (Kleiner & Pavalko, 2010). With this increase in earnings, people are able to afford better health care, which in turn would lead to being able to prevent mental health problems. Another potential reason is that individuals who are working longer hours may view work as a large part of their life and identity. They may not have a problem with working these long hours because that is a part of how they view themselves.

Another significant finding was that work stress is significantly and positively correlated with poor mental health. Past literature has also found a positive relationship between work stress and mental health (Pearlin, 1989; Price & Hooijberg, 1992). Work stress has been associated with anxiety and depression (1992). With a high stress job, individuals may experience burnout when it comes to their job. This can lead to negative mental health outcomes. There may be many reasons that people feel stress at their jobs, including working in a high stress position to not being comfortable or competent at their work. If someone is worried about doing their job poorly, this feeling can lead to an increase in stress and to poor

mental health. Job stress may have been high because of when it was measured. People's jobs may have seemed more stressful because of the recession. They may have felt pressure to perform because of fear of losing their job. While the recession is supposed to be over in 2012, the high unemployment rate is still fresh in people's minds. This can lead to stressing over perceived job insecurity.

At the same time, the research from this thesis adds to the findings from prior research by using different measures, in some cases, and updated datasets. For example, an interesting finding in this thesis is that poor mental health rates were not worse after the economic recession for part-time workers and the unemployed. As already talked about, part-time work and unemployment were significant variables in 2006, but not in 2012. One potential reason for this unexpected finding is that unemployed respondents may have stopped worrying about getting a job. Before the recession, when jobs were easier to come by, those who still could not find work may have felt stress and a lack of fulfillment because of the inability to find work. After the recession, they may have come to terms with the inability of finding work, and blame the lack of employment on the economy instead of themselves. Several of the national reports from the Bureau of Labor Statistics indicate that many people have just stopped looking for work because the labor market is so tight (BLS, 2012), which ironically would account for a lack of strength in the unemployment variable in 2012 versus 2006.

Another finding is that those working more than 40 hours did not have a significant relationship with mental health in either 2006 or 2012. This thesis hypothesized that working more than 40 hours would report more poor mental

health days in 2012 than those in 2006. With the idea that work after the recession is more of a commodity after people saw many Americans lose their job, instead the results show that working more than 40 hours was not significant in either year. Hoschschild (1997) suggests that many people, especially women, may find work to be a refuge from the stress of family life. It is possible that some of the overtime workers fall into this category.

The results did show that the year was a significant variable in terms of mental health. The results show that people reported less days of poor mental health before the recession, while more poor days of mental health were reported after the recession. This may be because of job stress felt by employees and their family. Before the recession, people were not as worried about jobs because there was a high employment rate. After the recession, people saw that losing a job was a real possibility, and this likely increased the job insecurity for them and for their family. Work is able to contribute to many things in a person's life, including how they live, an avenue to express themselves, and the ability to show achievement (Linn, Sandifer, & Stein, 1985). With the thought of losing this, people are more stressed at work, and fear losing or having to change their lifestyle. Work is how people identify themselves, and having to worry about losing one's job can increase their days of poor mental health.

### Implications

The main contribution of this thesis is finding how some employment variables, including work stress and unemployment, increase an individual's poor mental health in a new year of data. This thesis also makes an important

contribution by showing how Americans' mental health is influenced by the national economy. With a national recession being only six years in the past, and only recently recovering, analyzing how this has impacted the nation's mental health is important.

There are many social implications. The individuals who are unemployed reported more days of poor mental health, which can be cause for alarm. While an individual is not working, they may not be making money, which is needed to pay for health care and other resources. They may not have the ability to find care for themselves. Poor mental health can lead to poor physical health, which can be costly for the general population in terms of spreading infectious diseases and additional medical costs, such as pharmaceuticals and operations. Policies could be implemented that allow for unemployed individuals the ability to receive mental health care. This thesis also found that those who are working reported less days of poor mental health than those who were not. A policy that helps place individuals who are currently struggling to find work in contact with potential employers could be beneficial. While these policies may be difficult to enact, they could be beneficial to the overall mental health of those struggling to find work, as well as could give them the ability to pay for their own health care after finding work, which could have an overall positive effect on the nation's families and economy.

This thesis also has implications for the workplace. It found that those who experience a high amount of work stress report more days of poor mental health. To combat this problem, workplaces, specifically typically high stress workplaces, could have policies in place to help employees with mental health problems. Even

low stress places can put policies in place if their employees are struggling with stress because of a lack of work knowledge. This could not only be beneficial to the employee but also to the employer. When an employee is struggling with poor mental health, this can lead to a decrease in productivity, which leads to a loss of profits for the employer (Harvard Health Publications, 2010). If policies are in place to combat poor mental health because of work stress, both parties can experience benefits.

Additionally, this thesis shows that the national economy can have an impact on employee's mental health. After the nation has come out of a recession, the problems are not necessarily over. People still experience job insecurity, which leads to an increase in stress. This stress can be actual or perceived (Rocha, Crowell, & McCarter, 2006). This is something that employers need to be aware of. Their employees are still worried about their jobs, which can create unnecessary stress.

#### Limitations

A few limitations of this study should be noted. One limitation is that the work stress variable was not available in both datasets. While this was found to be significant in the 2012 data set, the variable was not available in 2006. Another limitation is that mental health was measured as a self-reported variable. While some research has shown that self-reports have been found to be reliable (CDC, 2000), it is still a self-report so it may not be accurate. Another limitation is that the data were not available during all years of the recession. With this, a more precise measure of how the economy affected the nation's mental health could have been measured.

## Suggestions for Future Research

For future research, a look at all years before, during, and after the recession could be beneficial. Instead of looking at only before and after, all years would add to the literature of how mental health is impacted during a recession. A trend could be assessed. Other variables could also be added to looking at how employment characteristics impact mental health. Some variables, which could be added, may be work-to-family conflict, coworker support, supervisor support, as well as other variables. These factors may also influence an individual's mental health.

## Conclusion

This thesis analyzed the relationships between certain employment characteristics and mental health amongst non-institutionalized Americans. It also looked at how the national economy has an impact on mental health. This is an important topic because work, especially in America, is an important part of everyone's life, and how someone makes a living can impact many things. This includes access to healthcare, lifestyle, and how people view themselves. Certain employment characteristics can impact mental health. The primary contributions of this thesis to the literature are the findings that work stress and unemployment have a positive relationship with poor mental health. Another key contribution is showing how the national economy has an impact on mental health. Mental health days were shown to be worse after a national recession than before. Overall, the findings in this thesis have implications for improving workplace policies, which can lead to better care for employees, as well as being beneficial to the work organizations.

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