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Work Stress & Eating Habits: A Health Risk in the United States.

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Abstract

Obesity, diabetes, and heart disease have increased dramatically in the United States. Previous studies have shown the main causes of these diseases are a result of poor eating habits. The purpose of this study is to correlate work stress and unhealthy eating habits. A snowball sample of (N=102) participants were surveyed to investigate the validity between work stress and the effects on eating habits. The measurement used consisted of two questionnaires and a demographic analysis. Results indicated a significant positive relationship between work stress total score ($M=35.22$, $SD= 8.9$) and unhealthy eating habit total score ($M=37.48$, $SD= 11.35$), $r(82)= .398$, $p<.01$, $r^2= .16$. The result illustrates that work stress explains 15.84% of the variance of unhealthy eating habits. In a second analysis, a step was taken to partial out age and gender yielding a greater significance. Results indicated age and gender had a slight impact on work stress and eating habits, however, data was limited to report any significant findings.

Keywords: work stress, eating habits, eating disorders, coping mechanism

The American workplace is based on cultural values; these values are the foundation for causes between work stress and related illness (Peterson & Wilson, 2004). With an annual price tag of over 300 billion in government preventative job stress measures, negative effects of work-related stress have become greater and more detrimental to health throughout the years; 35% reported their jobs are harming their physical or emotional health and 42% say job pressures are interfering with their personal relationships; half say they have a more demanding workload this year than last (Harris Interactive, 2001). While societal and technological advances continue, job responsibilities become more difficult. As job tasks become more complex, work stress is perceived to increase. Studies show that work stress contributes to risky health related behaviors, both physiological and psychological; high efforts with low reward conditions were associated with causes of back pain and repetitive strain injuries (Polanyi et al., 1997; Shannon, Mayr, & Haines, 1997). By simply observing technological advancements, American society is in constant motion moving at greater speeds with every maturing year. Our culture demands a faster and easier lifestyle. America is programmed to eat unhealthy foods through a series of marketing strategies including radio, television and print (Parylak et al., 2012). In addition, fast food restaurants are a billion dollar industry and also the link to America's obesity epidemic.

Work stressors are caused by a series of negative issues in the work environment. Some of the issues include workload, lack of autonomy and interpersonal conflicts (Lu et al., 2011). Any changes in the work environment such as downsizing or new management can also cause strain due to uncertainty. High efforts and low rewards, lack of authority

or performing under constant close supervision can be associated with work stress.

Defining literature for job stress can generally be described as an employee's feeling of work-related difficulties, worry, anxiety, frustration, distress and emotional exhaustion; these work-related stressors when interpreted by the employees (cognitive interpretation), may lead to stress (Wickramasinghe, 2009).

Job Insecurities

Job insecurity is becoming higher while employment becomes more demanding. Job insecurities have been separated in two distinct categories. First, objective insecurity, describes employment contract or employment opportunity as temporary, casual or short term, and second, perceived or subjective job insecurity, where workers constantly worry about or are fearful of job loss and the continuation of employment (Strazdins, D'Souza, Lim, Broom, & Rogers, 2003). People spend most of their adult time at work as most are identified by the position they hold at the organization they work for. Work stressors such as job insecurities combined with high demands and low control affect physical as well as psychological health (De witte & Nasswell, 2003). Workers in temporary employment reported some fear of losing their job or career where other employees who were on contract reported slight worry due to downsizing or restructuring and even less shifts than promised (Hesselink & van Vuuren, 1999).

Emotional Eating

With a worldwide count of over 1 billion people currently overweight and a projection of 1.5 billion by 2015, health issues will increase while more preventative measures will need to take place (Adriaanse, 2011). Emotional eating is often correlated with overeating; this is defined as the tendency to overeat as a response to emotional

negativity often found in stressful situations (van Strien et al., 2007). Eating in general produces temporary satisfaction, releasing endorphins and redirecting focus on the act itself. The human body in a stressful state demands a coping mechanism or release, while food is often accessible, particularly fast foods, people turn to eating in order to cope with any anxiety or irritability they may be having. Like drug addictions, food addictions have a similar dependence and are both a shift away from positive reinforcement to negative reinforcement as both drugs and food are relied on to prevent or relieve negative conditions. While food consumption has both positive reinforcement (pleasurable effects), and negative reinforcement (comforting effects), this can distinctly be attributed to an individual's response to stress (Parylak et al., 2012).

Diabetes

A major health problem growing in the United States is diabetes. With more than 13 million Americans diagnosed with diabetes each year, the number continues to grow substantially (Kokkonen et al., 1997). Physical morbidity, occupational and social impairment, and increased use of health care services are associated with diabetes; eating disorders leading to overweight or underweight, and obesity are also associated with diabetes (Goodwin, 2003).

Obesity

While the U.S continues to spend billions of dollars on health care, obesity has been associated with numerous morbidities, including diabetes, heart disease, hypertension and cancer which is growing at a phenomenal rate. In addition obesity plays a factor in lowering productivity, raising disability and shortening life spans (Ahima, 2011). Furthermore, obesity lowers the immune system and creates a resistance to

insulin, becoming one of the major causes of diabetes. Not only a problem in well developed nations, obesity has developed in middle and lower-class countries (Ahima, 2011). While diet along with exercise is not enough, and anti-obesity drugs prove ineffective, a drastic change in lifestyle must be enforced. Negative moods and stress factors can impact unwanted eating behaviors as studies show food consumption is used as a coping mechanism to relieve stressors.

Given the current literature, stress in the workplace and unhealthy eating habits can cause a plethora of negative effects not only in the work industry but in America's health as a nation. This study seeks to measure the scope of work stress on poor eating habits while regarding age as an influence. Based on previous research, it is hypothesized that work stressors will play a significant role on the deciding factors of poor food choices and unhealthy eating habits yielding a higher score in comparison to those with less stress and healthier eating habits. For the second analysis, it is hypothesized that age and gender will have no significant affect between the participant's scores of work stress on eating habits.

Method

Participants

The population chosen for this study was defined broadly as employed U.S citizens, ages 21 and over, with no required range limit for work experience or level of education.

Working with a variety of networking sites, a snowball sampling method was used where one hundred and two male and female participants (N=102) were asked to complete a survey via web link (surveymonkey.com) consisting of two questionnaires, demographic

information and a consent form. As with most research projects utilizing surveys, volunteer samples were used.

Procedure

All surveys were administered electronically via internet. Requests were sent through various social networks where participants were invited to complete an online survey. In addition, the snowball sampling method was adopted as participants were asked to help recruit other volunteers by forwarding the link to family, friends, and colleagues. Before surveys were administered, participants were required to read a consent form (See Appendix A) explaining the rules, rights, and regulations including information stating the study and its non affiliation with their organization as information collected will remain anonymous. Moreover, the participants were made aware of the risk involved in participating. In completing of the survey, the participant provided informed consent and understood all information that may have applied. Participants completed a demographic questionnaire (See Appendix B) which contained questions related to: gender, age, nationality, marital status, education, length of employment and residency.

The assessment tool for this study involved two questionnaires created by the researcher. The first questionnaire (See Appendix C) contained 15 items based on a five-point Likert scale used to measure levels of work stress in an organization. For measuring purposes, the five point scale contains questions about stress which ranges a response scale of 1(never) to 5 (nearly all the time).

Next, a self assessment questionnaire was conducted on eating habits (See Appendix D). The questionnaire was again self developed with similarities to the work stress questions, based on a five-point Likert scale ranging a response from 1(Never) to 5

(Nearly all the times). The scale contained 15 items specifically designed to measure the participant's eating habits.

Data collection was calculated using SPSS, both total scores from work stress and eating habits were analyzed; some demographic information was individually studied and recorded to find any variability within the scores.

Statistical Analysis

To confirm reliability of the two measures used in this current sample, Cronbach's alpha was computed. For both measurements Cronbach's alpha were both greater than .70, this is considered to be at an acceptable range. Pearson's r correlation was conducted between the work stress total score and unhealthy eating habit total score to analyze the relationship. To confirm none of the demographic had an influence on either measurement additional Pearson's r was conducted. Partial-correlation was conducted on the comparison between work stress and unhealthy eating habits taking in account for demographic data which may have an impact on these scores (if $r > .2$). For this study, the Type-I error was set to 0.05 (two-tailed).

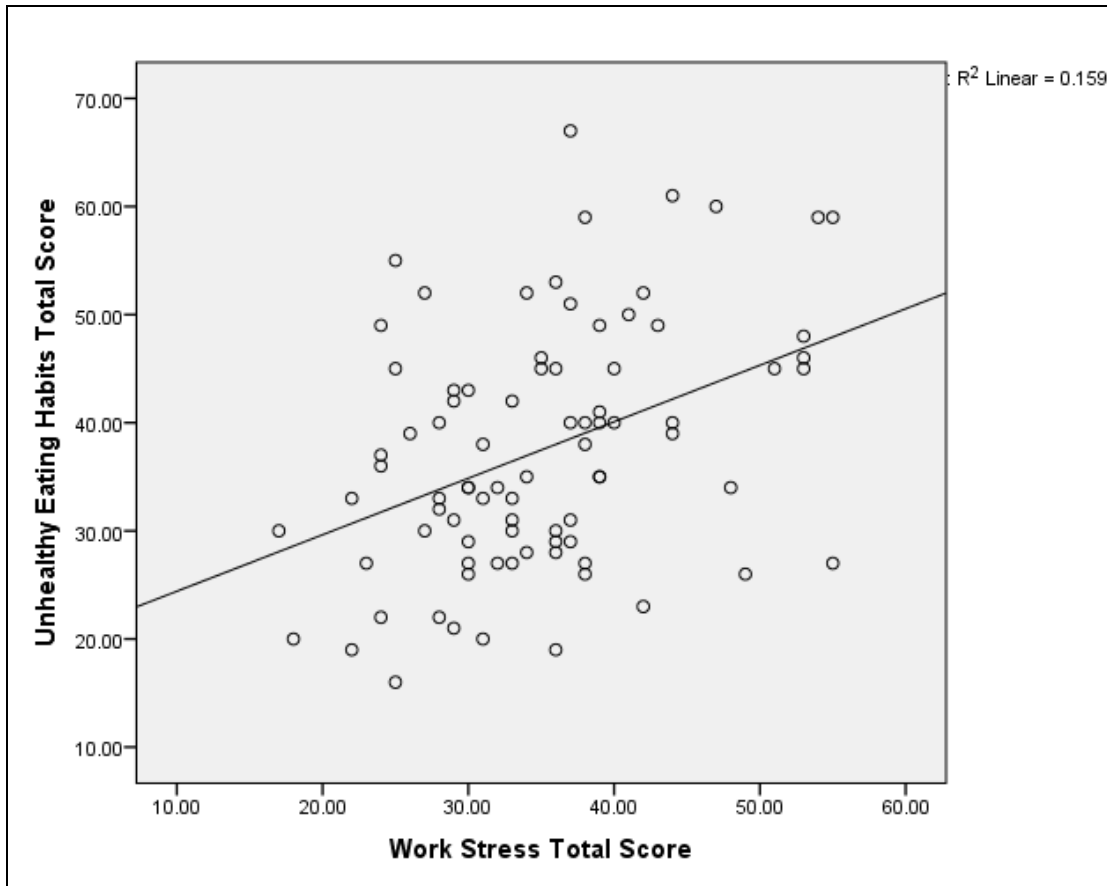
Results

The internal consistency measured by Cronbach's alpha demonstrated acceptable range for both work stress questionnaire ($\alpha=.812$) and unhealthy eating habit questionnaire ($\alpha=.913$). This proves the test to be reliable within the current sample.

As hypothesized there was a significant positive relationship between work stress total score ($M=35.22$, $SD= 8.9$) and unhealthy eating habit total score ($M=37.48$, $SD= 11.35$), $r(82)= .398$, $p<.01$, $r^2= .16$. The result illustrates that work stress explains 15.84% of the variance of unhealthy eating habit. This effect size (r^2) is considered to be

between “RMPE: recommended minimum effect size representing a ‘practically’ significant effect for social science data ($r > .2$ or $r^2 > .04$)” (Ferguson, 2009) and Moderate effect ($r > .5$ or $r^2 > .25$). See figure 1 for the scatter-plot of this data.

Figure 1. Work Stress and Unhealthy Eating Habit Total Scores Correlation



None of the demographic information showed significant correlation with either work stress total score or unhealthy eating habits total score. See table 1 for the specific correlation. It is important to note that Gender and Work Stress Total Score, and Age and Unhealthy Eating Habits Total Score both had RMPE level of correlation ($r > .2$ or $r^2 > .04$). This indicates a possible relationship where males feel less work stress compared to females, and younger individuals having better eating habits than older

individuals. However, this cannot be concluded in this research as there was not enough power (sample size) to find a significant finding. To ensure accuracy, additional partial-correlation was conducted controlling for age and gender. The finding showed stronger positive correlation once controlled for these two demographic data, $r(80)=.414$, $p<.001$, $r^2= .1714$. This indicated stronger evidence of the relationship between work stress and unhealthy eating habits.

Table 1.

Pearson's R Correlation between Demographic Data and Work Stress Total Score and Unhealthy Eating Habits Total Score.

	Work Stress Total Score	Unhealthy Eating Habits Total Score
Gender	-.202	-.037
Age	.011	-.202
Employed	.181	-.050
Employment Length	.168	.025
Current Residency	.096	-.189
Ethnicity	.023	-.195
Marital Status	.013	.026
Education	.050	.007

Discussion

Based on the results, the hypothesis that work stress is correlated with unhealthy eating habits was supported by this study. Management, labor unions, and various occupational organizations have undoubtedly become vigilant on the importance of work stress and are displaying greater interest in preventative measures or developing ways to minimize its effects (Murphy, 1987).

Further research should account for health risk and require additional demographic information such as height and body weight to calculate Body Mass Index (BMI). A quasi-experimental laboratory based setting can be conducted with multiple test groups. Group 1: experiencing high levels of work stress, Group 2: experiencing moderate levels of work stress, Group 3: experiencing little to no work stress. The following foundation can produce a pass analysis study of work stress, eating habits and health risk. While Laboratory settings may be too costly, other directions may be pursued to establish mentioned groups. Questionnaires can be administered to select the desired target and recorded as a product of natural work settings.

Further implications should also include a broader range of participants, while recording and coding their food consumption daily. Higher expenses will be associated while resources may be limited. Locating or producing a measuring tool with high validity and reliability may also produce difficulties. Experience has shown participants are more likely to under report weight and over report height; this may cause further difficulties during data analysis.

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Appendix A Consent Form

You are invited to participate in a research study. Please read all the following questions carefully and choose the answers to the best of your knowledge.

Investigators

The investigator of this study will be Raymond Matias. The investigators are affiliated with the Psychology Department at Carlos Albizu University. If you have any questions you may e-mail the faculty advisor Dr. Toni Didona, Tdidona@albizu.edu.

Purpose of the Research

This research study is designed to investigate how bad eating habits are used as a coping mechanism between two cultures. The study will also provide research experience to student in the research methods course.

Procedures

If you volunteer to participate in this study, you will be asked to fill out a survey and provide honest answers as well as personal information. The questions may consist of improper eating habit and frequency. Other information includes but is not limited to: family history of eating habits, stress factors, coping mechanisms and occupation.

Potential Risks of discomforts

Slight unease when answering questions on eating habits.

Potential benefits of the research

No direct benefits are anticipated with your participation. Your participation may help further research studies to preventative substance abuse as well as the enrichment activities of the Research Methods Psychology course.

Confidentiality and Data Storage

The responses you provide will not be associated with your identity in anyway. The data collection from this study will be stored in Dr. Didona's office for an unsaid amount of time. Only student researchers and their faculty will have access to the data.

Participation and Withdrawal

Your participation in this research is voluntary. You may refuse to participate without penalty. If you decide to participate you may withdrawal at any time without penalty. To withdrawal from the study simply cancel the questionnaire at any time. However, since the data is not associated with your name the data may be collected and used for the purpose of the study.

Participant agreement

I have read the information provided above. In completion if this survey, you are providing consent of the data to be used for research purposes.

Appendix B
Demographic Information

Please Circle the Appropriate Answer that best fits you

Gender: M F

Age: 21-30 31-40 41-50 51-60

Current

Employment: Yes No

Length of

Employment: Less than 1 Year 1-5 years 6-10 years Over 10 years

Current

Residency: U.S.A Other

Ethnicity: White Hispanic Middle Eastern Latin Other:_____

Marital

Status: Single Married Divorce Separated Widowed

Education: High School/ G.E.D Some College 2-Year Associates Degree

4-Year Degree (B.A or B.S) Masters Degree Doctoral Degree

Professional Degree (MD or JD)

Appendix C
Work Stress

#	Circle the score which best matches you. (If stuck between two numbers choose the larger number)	Never	Seldom	Some times	Often	Nearly All the Times
1	How often do you feel a lack of authority when carrying out your responsibilities?	1	2	3	4	5
2	How often do you feel confused about the range and responsibilities of your job?	1	2	3	4	5
3	How often are you aware that opportunities for advancement and promotion exist for you?	1	2	3	4	5
4	How often do you feel your responsibilities at work are too overwhelming making them impossible to complete during the ordinary work day?	1	2	3	4	5
5	How often do you feel that you will not be able to satisfy the conflicting demands of various people around you?	1	2	3	4	5
6	How often do you feel unqualified to handle certain job tasks?	1	2	3	4	5
7	How often are you uncertain about your job performance or how your supervisor evaluates it?	1	2	3	4	5
8	How often do you find difficulties in obtaining the information necessary to perform your job?	1	2	3	4	5
9	How often do you worry about making decisions that affect the lives of people you know?	1	2	3	4	5
10	How often do you feel unaccepted or not liked your co-workers?	1	2	3	4	5
11	How often do you feel you have little or no say over managerial decisions and actions that affect you?	1	2	3	4	5
12	How often are you confused by what's expected of you by your supervisor?	1	2	3	4	5
13	How often do you think the volume of work you must complete may intrude with how well it is performed?	1	2	3	4	5
14	How often do you feel you have to perform tasks on the job that are against your better judgment?	1	2	3	4	5
15	How often do you feel your job intrudes between you and your family life?	1	2	3	4	5
	TOTAL (Add all circled numbers)					

Appendix D
Eating Habits Questionnaire

#	Circle the score which best matches you. (If stuck between two numbers choose the larger number)	Never	Seldom	Some times	Often	Nearly All the Times
1	How often do you eat fast food?	1	2	3	4	5
2	When making a choice on what to eat, how often do you turn to junk food?	1	2	3	4	5
3	I often find myself skipping a healthy dinner	1	2	3	4	5
4	I often find myself skipping a healthy breakfast	1	2	3	4	5
5	I often find myself skipping a healthy lunch	1	2	3	4	5
6	I often binge when eating. (Eating in excess)	1	2	3	4	5
7	When eating, I'm more prone to foods higher in sweets (sugar) or sodium (salt) than average.	1	2	3	4	5
8	I find that when I start eating certain foods, I end up eating much more than planned.	1	2	3	4	5
9	I find myself continuing to consume certain foods even though I am no longer hungry.	1	2	3	4	5
10	I eat to the point where I feel physically ill or pain.	1	2	3	4	5
11	Not eating certain types of food or cutting down on certain types of food is something I worry about.	1	2	3	4	5
12	I spend a lot of time feeling sluggish or fatigues from overeating.	1	2	3	4	5
13	During situations of stress I often eat unhealthy foods (high in sugar/carbs, fat/oil, processed, etc.)	1	2	3	4	5
14	Eating helps me cope with problems at work or home.	1	2	3	4	5
15	I often fluctuate in weight.	1	2	3	4	5
	TOTAL (Add all circled number)					