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Khari J. Huff

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A Needs Assessment of Employee Wellness on a College Campus

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By

Dr. Melissa Powers

Dr. Ed Cunliff

Dr. Amy Townsend

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Abstract

The purpose of this research project was to conduct a needs assessment to determine employee interest, preference, and current health status among faculty and staff on a college campus. A review of the literature showed employers should assess needs and preferences of employees to increase participation in Worksite Health Promotion Programs (WHPPs). For the current study, Biometric Screenings (BS) were conducted to establish faculty and staff current health status prior. In addition, the American College Health Association-National Faculty and Staff Health Assessment (ACHA-NFSHA) was sent out to 1,415 faculty and staff at the university to assess interests, preferences, and health status. The results of the needs assessment showed 71.6% of participants considered themselves to be good or very good in overall general health and 78.0% stated it was important or very important to model health and wellness behavior to students. The number one barrier to participation in employee wellness programs was time management (64.2%). Both the survey and biometric screenings indicated a need for diabetes and heart health education programs to be offered on campus to employees. In conclusion, multi-component needs assessments are important tools for accurately identifying needs, preferences, and health status of university employees.

Introduction

Background

It is estimated that 164 million Americans will have at least one chronic disease by the year 2025 (Watkins, Macy, Lartey, & Golla, 2016). The United States (US) has a public health burden with the rise of chronic disease rates. Three behaviors lead to 75% of chronic diseases: tobacco use, inactivity, and poor nutrition (Dombrowski, Snelling, & Kalicki, 2014). One of the leading chronic diseases among Americans is diabetes mellitus. According to the Centers for Disease Control and Prevention (CDC, July 20, 2017) there are over 100 million Americans living with diabetes (30.3 million) or prediabetes (84.1 million) in the US. According to Anderko et al. (2012) the passing of the Affordable Care Act (ACA) makes worksite wellness programs part of the public health strategy to help combat the increase of chronic diseases, which are predicted to cost the US healthcare system $4.2 trillion dollars annually by 2023 (Anderko et al., 2012). Health care premiums have increased by 87% since 2000 (Watkins et al., 2016). The current health care environment have effective strategies to improve care and to help keep health care cost down through health promotion and disease prevention (Dombrowski et al., 2014). According to the U.S. Department of Health and Human Services (USDHHS) as cited in Drombowski, Snelling, and Kalicki (2014), Healthy People 2020 have called for more worksites to offer health promotion programs.

The USDHHS (2002) states that worksites are ideal to help improve the nation's health and are a great setting to offer preventative activities and services as cited in Middlestadt, Sheats, Geshnizjani, Sullivan, and Arvin (2011). Americans spend one third of their time at work and depending on the type of job this could result in sedentary. Worksite wellness programs have been around for more than 30 years and aim to assess health status and promote positive health

behavior among employees, and these worksite programs have shown to be effective (Middelstadt et al., 2011). Worksite Health and Wellness Programs (WHWPs) should have a common goal of improving the overall health of the employees (Cahalin et al., 2015). The implementation, development, and operation of the WHWPs need to promote a culture of health and well-being through strong organizational support (Cahalin et al., 2015). The CDC (May 13, 2016) also recommends a workplace health program as a comprehensive strategy to include programs, benefits, and policies at both the individual and organizational level.

Universities are in a unique position to contribute to the health of society through health promotion of students, faculty, staff, and the community through policies and practices, and by developing partnerships with public health services (Sarmiento, 2017). The university is considered to be a nontraditional setting and provide wellness resources and programs integrating a wellness philosophy across campus (Anderko et al., 2012). Hill-Mey et al. (2015) states that little research has focused on the effectiveness of Worksite Health Promotion Programs (WHPPs) in the college setting. According to the American College Health Association (ACHA) in 2012, as cited in Sarmiento (2017), Healthy Campus 2020 is a framework which aims to improve overall health on college campuses nationwide that focus on five main objectives to include: (a) physical and social environments that promote good health, (b) efforts to increase academic success, (c) retention of faculty, staff, and students that ensures lifelong learning, (d) achieving long high quality lives, and (e) achieving health equity.

In an article by Blake, Zhou, and Batt (2013) using an ecological model of health to target population at all levels. This model provides opportunities to make healthy lifestyle choices, implements policies, and manipulates the physical environment geared towards improving health and well-being of employees (Blake, Zhou, & Batt, 2013). The passing of the

ACA promotes employee wellness programs as part of the public health strategy to help fight against the development of chronic disease. Financial incentives to participate in employee wellness programs could shift cost onto non participants or lower income employees (Jones, Molitor, & Reif, 2018). A study at a university in Illinois by Jones, Molitor and Reif (2018) is the first Random Control Trial (RCT) study in worksite wellness that developed a comprehensive program that included: biometric health screenings, online health risk assessment, and a variety of wellness activities. The aim of the study is to inform the national conversation regarding workplace wellness to help empower employers, public health officials, and policy makers regarding decisions with implementation of worksite wellness programs in the U.S. (Jones et al., 2018).

According to the ACHA in 2007 as cited in Tapps, Symonds, and Baghurst (2016) wellness programs are a way to promote health and improve quality of life for faculty and staff. Wellness providers on college campuses are in a prime position to create wellness programs based on needs data provided by the employees (Tapps et al., 2016). According to the ACHA Guidelines for Standards of Practice for Health Promotion in Higher Education (SPHRHE) third edition, Institutes of Higher Education (IHEs) are communities, and should use the socioecological model approach to examine and address health issues on multiple levels to include faculty and staff ("Standards of practice," 2015).

According to the Institute for Health Productivity Studies (n.d.), employers that tailor programs to meet the needs and desires of their employees to establish health behavior change is very beneficial, and can maximize participation and engagement in programs. Research shows that most health and wellness surveys done on college campuses look at the needs of students, as opposed to looking at the needs and preferences of faculty and staff (Tapps et al., 2016).

According to the Center for Survey Research (CSR, 2018) the components of a needs assessment include web surveys to help gather information from a target population to help identify objectives, improve programs, and develop a strategic plan. An article by Ryan, Chapman, and Rink (2008) states that needs identification helps employers know what the needs are of employees to be addressed in the programming offered for the upcoming year. The article goes on to state that some of the areas of needs to focus on include: health risk, injury risk, chronic illness, disabilities, absenteeism, medical care cost, disabilities, and presenteeism (Ryan, Chapman, & Rink, 2008).

According to the ACHA in 2007, as cited in Tapps et al. (2016), the scope of practice for wellness programs in college or university settings should include both environmental and individual approaches that include public health policies. A well designed wellness program at a university in the U.S. can serve as a model for other schools, and such a model can help reach national health initiatives. Programs for university employees have proven to be successful: therefore, employee's needs and preferences for wellness programs need to be taken into consideration (Tapps et al., 2016). Identifying employee's needs and motivations is critical to program implementation and success and in order to do this employers must seek consultation with employees. These consultations can be self-identified through surveys that are implemented through an external source to ensure integrity and confidentiality of the data collected. The aggregate results can be analyzed to determine future programming that would appeal to employees (Ropp & Rankin-Horvath, 2016).

Purpose

The purpose of this study was to conduct a needs assessment to determine employee interest, preference, and current health status among faculty and staff on a college campus.

Limitations/Delimitations/Assumptions

In implementing an online needs assessment survey involving an outside source a number of things need to fall into place and come together in order to implement the needs assessment survey. Several assumptions for this would include administration support, departmental support, and Employee Wellness Committee (EWC) support for data being sought out. The researcher assumes faculty and staff to be willing to participate, and must obtain consent of participants before the survey can be accessed and completed. Another assumption, working with the IT department to make sure the online needs assessment survey is filtered properly so that the online survey does not go to spam/junk/clutter mail, and actually gets to the employees e-mail inbox. Some limitations of the survey included: (a) the data were self-reported, (b) the reliability and validity of the assessment survey has not been tested, (c) some of the questions may not be clear to participants, and (d) participants may have been hesitant to answer some of the questions due to questions being too intrusive of their health status, or fear of being identified by the data. Some of the delimitations for the needs assessment survey included: (a) convenience sample survey, (b) participants work at a college/university, and (c) participation is completely voluntary. There is no age restrictions to participate in the survey.

Operational Definitions

According to the CDC website, Biometric Health Screening (BHS) is "the measurement of physical characteristics such as height, weight, body mass index, blood pressure, blood cholesterol, blood glucose, and aerobic fitness tests that can be taken at the worksite and used as part of a workplace health assessment to benchmark and evaluate changes in employee health status over time" (CDC, February 1, 2018).

Comprehensive Programming as defined in Ammendolia et al. (2016) provide health education, links related employee services, supportive physical and social environment for health improvement, integration of health promotion in organization culture, and employee screening with adequate follow up. Ropp and Rankin-Horvath (2016) stated the World Health Organization (WHO) defined Health as "a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity".

The American College Health Assessment (2012) defined Healthy Campus 2020 as a framework for improving overall health on college campuses nationwide based on objectives and indicators (Saremiento, 2017). O'Donnell (2002) defined Health Promotion as "the science and art of helping people change their lifestyle to move toward a state of optimal health" (Dombrowski et al., 2014).

For the purposes of this study, according to the Center for Survey Research (2018) components of a Needs Assessment gather detailed information from our target population of UCO faculty and staff utilizing a web based survey, to generate objectives, identify current health status, future improvement in programs, and help establish an overall strategic plan.

The WHO stated in Ropp and Rankin-Horvath (2016) "a healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and

promote health, safety and well-being of all workers and the sustainability of the workplace based on identified needs".

As cited in Hill-Mey et al. (2015) Worksite Health Promotion Programs (WHPPs) involves an organized, employer sponsored program that supports employees as the adopt and sustain behavior change that can lower health risks, improve physical and mental quality of life, and enhance productivity.

Literature Review

Abstract

The purpose of this literature review was to examine components of assessment that can impact wellness programs among employees. All searches took place from January- August of 2018; only peer reviewed articles were searched. Databases included: EbscoHost Academic Search Premier, EbscoHost Sport Discus with full text, Elsevier Science Direct Journals, ProQuest Central (New), Oxford University Press, EbscoHost CINAHL with full text, Sage Premier 2013, Sage Journals, Sage Journals 2003, DOAJ Directory of Open Access Journals, Journals@OVID, and Taylor/Francis Journals Complete. Inclusion criteria included: (1) employees of worksite wellness programs across multiple sectors, (2) studies not limited to United States, (3) studies addressed multiple health behaviors, health issues, or interventions (4) no specific study design, (5) no articles excluded due to the duration of the study. Exclusion criteria included: (1) if the study focused on only one specific health issue, (2) if the study focused on male or females, (3) if the study focused on a specific ethnic population. Thirty-six articles were identified for review. Studies looked at employee wellness programs in multiple sectors to include: college or university settings, manufactures, hospitals, and corporations. Several other studies focused on comprehensive interventions that include Intervention Mapping (IM) and Health Score Card (HSC) through the Center for Disease Control (CDC). Evidence showed that employers should assess needs and preferences of employees to increase participation in Worksite Health Promotion Programs (WHPPs); however, too few studies have been conducted on this topic to make specific recommendations. Further study is warranted.

Introduction

The purpose of this Literature Review (LR) was to examine what components of assessment can impact employee wellness programs among faculty and staff on college campuses. According to the CDC,cardiovascular disease (CVD) costs the U.S. $329 billion each year, which is the highest of all health conditions (CDC, January 18, 2019). A wellness program to help employees adopt a healthier lifestyle is part of a long-term strategy that employers can use to lower the risk of their employees developing costly chronic diseases (CDC, January 18, 2019). Beck, Hirth, Jenkins, Sleeman, and Zhang (2016) stated chronic disease leads to increased healthcare cost, and around 60% of Americans obtain health insurance through their place of employment. In a study by Roemer et al. (2013) heart disease and stroke are among the most costly of chronic conditions and can also be the ones that are most preventable with behavior change. The increase of Americans being diagnosed with chronic disease from inactivity and poor nutrition has many employers struggling to keep up with the increase in health care premiums. Legislation has encouraged employers to implement worksite wellness programs to help reduce the rising cost of healthcare (Beck et al., 2016). Middlestadt et al. (2011) states that most employees spend almost one third of their time at work and depending on what their occupation entails this could result in increased sedentary behavior throughout the work day. Sedentary behavior can lead to the development of one or more chronic diseases (Middlestadt et al., 2011).

Research showed that individuals who adopt and change their health behaviors are more likely to do so if these healthy behaviors are supported in their work environment (Roemer et al., 2013). Wellness programs in the workplace are more successful when you offer programs that affect your employees as a whole to include: mind, body, and spirit (Ropp & Rankin-Horvath,

2016). In order to offer the right programs, it is critical for employers to identify the needs of the employees to have the most impact to support their well-being (Ropp & Rankin-Horvath, 2016). In another article by Hill-Mey et al. (2015) WHPPs need to take a comprehensive approach and suggest successful programs be implemented from the top down. A study by Merrill, Anderson, and Thygerson (2011) stated that addressing employee preferences will increase the employees' ability to maintain long term health behavior and wellness program designs should seek input from all employees. Hill-Mey et al. (2015) suggests a needs assessment will help create a framework to plan programming among employees, and administrative leadership and management need to be the ones to help drive the overall culture. Hill-Mey et al. (2015) also suggests that the comprehensive approach utilized resources, incentives, and rewards to help increase employee participation in WHPPs. This multifaceted approach should include: health risk assessment, health education, health screenings, health coaching, and worksite activities to name a few (Hill-Mey et al, 2015). The article goes on to say that there has been very little research that has focused on how effective WHPPs can be specifically in a college setting (Hill-Mey et al, 2015).

According to Rongen et al. (2014), there is a lack of quantitative studies that look at needs and preferences of employees when it comes to health promotion programs, which result in low participation in worksite wellness programs. The article goes on to say frameworks like precede-proceed model emphasize the importance of a needs assessment, and is vital for developing health promotion programs in worksites to meet the preferences of employees (Rongen et al., 2014).

Methodology

Search strategy/ data extraction. As shown in Table 1, thirteen article searches were conducted on the University of Central Oklahoma (UCO) library website at different times from January to August 2018. The searches were conducted to look at Worksite Wellness Health Programs (WWHPs) across multiple sectors, and how employers can effectively assess employee needs and interests to help improve participation in wellness programs. Twelve electronic databases searched for articles included the following: EbscoHost Academic Search Premier, EbscoHost Sport Discus with full text, Elsevier Science Direct Journals, ProQuest Central (New), Oxford University Press, EbscoHost CINAHL with full text, Sage Premier 2013, Sage Journals, Sage Journals 2003, DOAJ Directory of Open Access Journals, Journals@OVID, and Taylor/Francis Journals Complete. Inclusion criteria included: All articles were peer reviewed, ten searches included the years 2010-2018, and needed to be an original/primary research article. Two more searches conducted were not restricted to any time frame to make sure there were no articles excluded, and all research articles needed to be original/primary. The results from the searches are listed below.

The first search included the keywords: Benefits of Employee Wellness Programs on College Campuses. A total of 114 articles came back from the search, 107 articles did not pertain, one article was considered a secondary source, and six articles were selected for the review.

The second search included the keywords: ACHA, National Faculty & Staff Health Assessment. A total of 110 articles came back from the search, several articles were duplicates, one was considered a secondary source, and one article was considered a commentary and was included in the LR.

The third search included the keywords: What motivates employees to participate in employee wellness programs? A total of 83 articles came back from the search, 81 articles did not pertain, one was considered a secondary source, and one was selected for review.

The fourth search included the keywords: Needs Assessment of Employee Wellness Programs on College Campuses. A total of 99 articles came back from the search, 97 articles did not pertain, one article was considered a secondary source, and one article was selected for review.

The fifth search included the keywords: Employee Wellness, Worksite, University, and Motivation. A total of 326 articles came back from the search, 320 articles did not pertain, two article were considered a secondary source, and four articles were selected for review.

The sixth search included the keywords: Wellness Self-Efficacy and Employees. A total of 70 articles came back from the search, one article was a duplicate, one article was a secondary source, and one was selected for review.

The seventh search included keywords: Components of an employee wellness needs assessment. A total of 155 articles came back from the search, 151 of these did not pertain, two articles were considered secondary sources, and two articles were selected for review.

The eighth search included keywords: CDC, Worksite Health Score Card. A total of 40 articles came back from the search, 38 articles did not pertain, one article was considered a secondary source, and one article was selected for review.

The ninth search included the keywords: Employee Wellness Programs Impact on Faculty and Staff. A total of 41 articles came back from the search, and one article was selected for review.

The final searches were done using a broader scale of keywords because more articles were needed for the LR. The tenth search included the keywords: Employee Wellness, Faculty and Staff Health Assessment. A total of 578 articles came back from the search, two articles were considered a secondary source, six articles were chosen for the review, and one of the articles chosen for review is considered to be a methodology.

The eleventh search was conducted with no time frame limitation to make sure all peer reviewed full text articles were searched on this topic. The eleventh search included the keywords: Needs Assessment for worksite wellness. The results of this search found 1,231 articles, two were considered a secondary source, and eight articles were selected for the LR.

The twelfth search did not have a time frame limitation and the keywords in the search included: What motivates employees to participate in employee wellness programs? The results of this search found 112 peer reviewed articles and three articles were selected for review.

The thirteenth and final search included one final comprehensive workplace wellness article that was considered to be a working paper series from National Bureau Of Economic Research, Inc. (NBER) and was included in the LR. The keywords included: What do workplace wellness programs do?

Selection criteria.

Inclusion criteria. Articles that were included had the following characteristics:

- The Sample: employees that participated in worksite wellness programs.
- The Setting: employees of worksite wellness programs on college campuses or across other multiple sectors.
- Articles not specific to studies just in the United States (US).
- Articles not restricted to age limits.

- Articles looked at studies that addressed multiple health behaviors, health issues, or interventions.
- Articles looked at national level assessment tools to help assess policy and programming for employers.
- Physical Activity (PA): No specific criteria for how PA was measured or implemented.
- Duration of Study: No articles excluded due to the duration of the study.
- Study Design: No specific study design was selected. Different types of study designs included mixed methods, cross sectional, cluster randomized control interventions, and qualitative research.

Exclusion criteria. Articles that were not included in the study had the following characteristics:

- Articles that focused the intervention specific to only one health issue or health behavior (such as obesity, diabetes, weight loss, walking intervention or tobacco use) so the results would not be impacted one way or another.
- Articles that focused on only a specific gender (male or female) were removed because of potential biases.
- Articles that focused on a specific ethnic group were removed for potential biases. Articles were not included if the intervention was done in a specific population (such as Physical Therapist, Nurses, or Adult Senior Living)

Quality standards. After the establishment of inclusion and exclusion criteria for articles searched. The articles were assessed for quality of standards. The ranking included a high or low ranking as shown in Table 2. Studies ranked highest based on sample size, duration of the study,

if the study was conducted on a college campus specifically, and if additional testing was included other than a needs assessment. There was a total of 9 studies that ranked high as shown in Table 3. Studies ranked low based on low sample size, study duration, if the study only included a needs assessment or survey, and if the study took place in another sector other than a university setting. Twenty-seven studies ranked low.

Results

A total of 36 studies were selected and evaluated for the LR. All studies took place in the workplace and a majority of the studies took place in a college or university setting. Other studies focused interventions done in non-college or university settings implementing programs using National and International interventions; however, a few studies focused on other approaches that involved Intervention Mapping (IM), which is a more comprehensive approach to programming and interventions to meet the needs of employees (Ammendolia et al., 2016). Studies were included that implemented online surveys, questionnaires, focus groups, and interviews.

Non-college/university setting. Out of the 36 studies selected for review, 19 of the studies took place in a non-college or university setting. Studies across multiple sectors included: manufacturing, government agencies, financial institutions, and engineering and construction companies to name a few. Out of the 19 articles, three studies focused on specifically on national or international programs. Six articles focused on comprehensive programing, while two other studies included focus groups or interviews. The remaining eight studies included online surveys or questionnaires.

***National/international wellness programs*.** Three articles selected utilized national or international wellness programs. Two articles focused on the CDC program Health ScoreCard

(HSC) assessment tool in the US, while one study focused on a five year wellness intervention in National Health Services (NHS) workplaces in the United Kingdom (UK). A study by Watkins, Macy, Lartey, and Golla (2016) looked at worksite wellness across the state of Kentucky; 365 out of 994 invited companies provided some portion of feedback with the HSC assessment. The results showed that businesses in the state of Kentucky do not offer WHPPs and rely on their health insurance to treat chronic disease instead of wellness programs to help with prevention and reduction. If WHPPs are accessible and comprehensive they have the potential to improve individual health status of employees (Watkins et al., 2016).

A case study at John Hopkins Medicine (JHM) by Safeer, Bowen, Maung, and Lucik (2018) utilized the HSC to see if it is an effective way to measure WHPPs with multiple entities, environments, and workers within an a large organization. Twelve different entities completed the HSC at year one and year two. The results showed 11 out of the 12 entities improved their overall score from year one to year two. The HSC was determined to be to be an effective method to provide evidence based programming to JHM employees (Safeer, Bowen, Maung, & Lucik, 2018).

The third study by Blake et al. (2013) took place in the UK as the government called for NHS workplaces to set the example for wellness programs. An intervention was developed using a needs-based ecological approach. The program targeted populations at all levels and included: new policy, healthy choices in the physical environment, community and social support, and providing education and intervention on the individual level. The intervention was delivered over a five year period (2006-2011) and questionnaire surveys were completed at baseline (n = 1,452) and at the end of the five year program (n = 1,134). At the end of the five years the results compared to baseline showed: employees were more active while at work, more employees met

Physical Activity (PA) recommended guidelines, fewer sick days reported, greater job satisfaction, and greater organizational commitment (Blake et al., 2013).

***Comprehensive programming*.** Six comprehensive programming articles were identified for the LR in non-college or university settings. Two articles are case studies, two studies focus on programs based on the WellSteps model, and two studies focused on Intervention Mapping (IM). The first case study "Wellness Unites" (2017) took place in a collegiate K-12 school in Richmond Virginia focused on a wellness program that involved all 1,600 students as well as 425 school staff. The program developed was called Link it & Live it and was based on the CDC model Whole School, Whole Community, Whole Child (WSCC). The program focused on the connection between sleep, healthy eating, and physical activity ("Wellness Unites", 2017). The results from the program observed faculty and staff had an increase in productivity, an increase in morale and retention, reduced absenteeism, and reduction in medical claims ("Wellness Unites", 2017).

The second case study by Scherrer, Sheridan, Sibson, Ryan and Henley (2010) took place in an institution in Western Australia. The company participated in a Global Corporate Challenge (GCC) four month physical activity wellbeing program. The GCC program focused on three main components of long-term exercise sustainability to include: enjoyment, measurable achievement, and supportive environment (Scherrer et al., 2010). The data was collected using guided introspection and looked at various aspects of participation to include: barriers, motivation, team dynamics, and physical activity levels. The results from the study showed the program raised awareness of physical activity levels of employees, encouraged social interaction, and showed the importance of employer support (Scherrer et al., 2010).

The next two studies focused on the wellness program called WellSteps at an engineering, science, and operations company in the US (LeCheminant & Merrill, 2012; Merrill, Anderson, & Thygerson, 2011). Both studies were done on the same study population and looked at health behavior change over 12 months, and then again at 24 months. The first study by Merrill, Anderson, and Thygerson (2011) implemented a WellSteps program to 472 of their employees. The WellSteps program included a simplified version of the precede-proceed model for the planning process and was made up of three main frameworks to include: collecting data to drive health efforts, crafting an operating plan, and choosing appropriate interventions (Merrill et al., 2011). The program consisted of employees completing a Personal Health Assessment (PHA), and focused on six behavior changes over the course of the year that included weekly tasks. The results from the one year study showed a significant improvement in the participants (a) frequency of exercise, (b) consumption in whole grains, vegetables, and fruit, (c) increased restful sleep, and (d) seatbelt use. Participation in a well-designed and well planned program such as this can help employees develop and maintain healthy behaviors (Merrill et al., 2011).

The follow up study by LeCheminant and Merrill (2012) looked at the same population at 24 months after implementation of the WellSteps program. The results showed a 61% increase in PA from baseline of 4 days per week at 12 months, and maintained at 24 months. The results also showed an even larger increase in the number of employees eating fruits and vegetables at 24 months had a 122% increase from baseline. Long-term health behavior change can translate into positive health outcomes in health promotion interventions in worksite settings and improve productivity (LeCheminant & Merrill, 2012).

The next two comprehensive studies involved a design called Intervention Mapping (IM); (Ammendolia et al., 2016; Kolbe-Alexander et al., 2012). A study by Ammendolia et al. (2016)

looked at a large international financial company of 8,000 employees in Canada used the IM design to develop a wellness program. The IM design involved multiple steps for intervention. The first step was to conduct a needs assessment to assess health problems, population, and determinants (Ammendolia et al., 2016). The steps for the needs assessment included (a) administrative and claims data, (b) online wellness surveys, (c) one on one 60 minute interviews, and (d) four 90 minute group sessions. The results from the IM design that utilized a needs assessment to develop the design of the wellness program showed that mental health was the top health problem in the company, and depression and stress were the highest reasons to affect productivity. The comprehensive specific strategies aimed at encouraging multiple health behaviors was a useful method to help improve presenteeism of employees (Ammendolia et al., 2016).

In a methodology article by Kolbe-Alexander et al. (2012) looked at IM design in a South African workforce focused on improving PA behavior for employees with increased risk with CVD. This randomized control cluster trial followed protocol in IM design, utilizing six steps to develop the intervention: (a) needs assessment, (b) program objectives, (c) theories and practical strategies, (d) design of intervention, (e) implementation, and (f) evaluation (Kolbe-Alexander et al., 2012). The needs assessment comprised of a LR and focus group discussions to examine if implementation of healthy lifestyle based intervention would be supported in the work-place. The results from the needs assessment showed that employees preferred individual counseling. The researchers decided to utilize motivational interviewing for intervention of the program. The participants will be assigned to a control or intervention group and the intervention strategy for targeting employees with CVD is preferred (Kolbe-Alexander et al., 2012).

Focus groups/interviews. Two studies were selected for review that included focus groups or interviews. One study took place in the U.S. and one took place in Australia (Loudon & Townsend, 2017; Russell, 2017). The U.S. study by Russell (2017) conducted three separate focus groups in distinct industries in Maryland. The 22 participants were non supervisor frontline employees. The qualitative study looked at the employee's perception of personal wellness and how their current organizations promote personal wellness (Russell, 2017). The results from the study indicated employees want a supportive work environment when it comes to wellness and their place of work can positively influence their personal wellness through strategies and practice (Russell, 2017). The second study took place in a construction industry in Australia. Loudon and Townsend (2017) conducted interviews and focus groups with 80 trade workers from multiple sites and looked at their perceptions of WHPPs of workers at all levels. The results showed that unhealthy behavior can impact job sites in three main areas: productivity, safety, and interpersonal relations (Loudon & Townsend, 2017).

Online surveys/questionnaires. Eight articles were selected across multiple sectors that included online health surveys, online questionnaires, mail in questionnaires, and one pilot study that utilized a Workplace Scale (WPS). The pilot study by McHugh (2016) incorporated the WPS which was a 31 item Likert-type scale sent out electronically to 108 participants across several countries. The WPS is meant to be a user friendly assessment tool to evaluate an employee's knowledge of practices and procedures at work that focus on a healthy and supportive workplace (McHugh, 2016). The results from the pilot study indicated the WPS is a user friendly assessment tool and is an effective way to assess important dimensions of a healthy workplace and is an effective communication mechanism for management to monitor employees progress (McHugh, 2016).

Three articles looked at barriers to participation in worksite wellness, two in the U.S. and one in Austria. Nöhammer, Stummer and Schusterschitz (2014), looked at a quantitative questionnaire in four separate companies in Austria that measured 22 potential barriers to Worksite Health Promotion (WHP) participation from the employee's point of view. There were 237 respondents to the questionnaire and six identified barriers from the employee point of view that lacked in their respective companies. The barriers included: integrated into daily routines, information, imbalance of benefits and cost, involvement, interpersonal, and their company's commitment to the program. The results of the questionnaire can be used to help prevent barriers in future when designing WHPP's (Nöhammer, Stummer & Schusterschitz, 2014).

A U.S. study by Kruger, Yore, Bauer, and Kohl (2007) looked at a HealthStyles mail survey to examine barriers and incentives among full-time and part-time adult employees outside the home. The results showed of the 2,337 respondents the most common barriers to participation was no allotted time during the work day, and no time before or after work to participate. Employees also reported that policies providing paid time to exercise and healthy vending and cafeteria options were preferred. The HealthyStyles survey along with needs data from the company's workforce may be helpful to design wellness programs that may attract employees, improve participation, and improve behavior change among employees (Kruger et al., 2007).

The third study looked at barriers to participation that took place in a Head Start Program in Colorado (Hibbs-Shipp, Milholland, & Bellows, 2015). The purpose of the study was to conduct a needs assessment to understand perceptions, barriers, and motivators to help improve behaviors among Head Start staff. There were 154 respondents that completed surveys, with 25 completing additional telephone interviews to provide feedback. The needs assessment provides

direct information to employers to develop worksite wellness programs. The results from the needs assessment showed that 86.6% of the teachers want wellness programming and the barriers to participation included: time, fatigue, and money (Hibbs-Shipp et al., 2015).

The next four articles looked at worksite wellness programs that utilized surveys in manufacture companies, in Sweden, Netherlands, and the U.S. The first study by Gånedahl, Viklund, Carlén, Kylberg, and Ekberg (2015) in Sweden distributed an online questionnaire to 2,500 employees in a manufacturing company that looked at self-efficacy, PA, and general health with employees that participate and do not participate in worksite wellness programs. The online questionnaire results showed that employees that participated in the worksite wellness programs rated their general health and PA levels as a higher assessment than employees who did not participate. Higher self-efficacy of employees however, was not associated with employees that participated in the worksite wellness program indicating that (Gånedahl et al., 2015).

The next two studies took place in manufacturing companies in the U.S (Healey & Marchese, 2006; Kelly, 2007). A study by Healey and Marchese (2006) distributed a health survey that focused on items pertaining to health promotion to 800 employees in a manufacturing company. Four items from the survey that focused on a marketing approach to employee wellness that included: (a) health topics employees want information about, (b) willingness to participate, (c) what activities employees would like, and (d) which health screenings employees would take advantage of (Healey & Marchese, 2006). The company had over 51% of employees complete and return the health survey (n= 406). The results from this study showed that employees have initiated activities to help improve overall health status over the past two years,

and employees are being trained in disease prevention and motivational techniques to improve participation (Healey & Marchese, 2006).

The second U.S. study by Kelly (2007) conducted a mail-in survey to a national paper processing manufacturer. A total of 623 employees received the mail-in survey with a response rate of 29% (n=178). The results from the survey indicated 79% of employees had one or more unhealthy behaviors, and that a needs assessment can be used to assess behaviors, identify employees, and focus interventions to employees who want to see behavior change (Kelly, 2007).

In Rongen et al., (2014) the study took place in a plastics and paint manufacturing companies in the Netherlands. The study looked at needs and preferences of employees, and if the Health Promotion Programs (HPPs) offered by the employer matched employees needs and preferences. The results from the six month follow up study consisted of 738 participants that provided feedback from the online questionnaire. The results indicated 55% of the employees wanted programs that addressed PA and that most employees wanted HPPs provided and organized by their employers. Companies that take into consideration the needs and preferences of their employees will enhance participation in the HPPs programs (Rongen et al., 2014).

College/university setting. Of the 36 studies reviewed, 17 studies focused interventions specifically in a college or university setting, and of the 17 studies, 16 of the studies took place in the United States, and 1 study took place at a University in Australia (Leicht, Sealey, & Devine, 2013). According to Hill-Mey et al. (2015) worksite employee wellness programs are incomplete without a proper needs assessment. To have the highest impact employers should utilize those identified needs to strategically plan future wellness programs offered to employees (Hill-Mey et al., 2015). The American College Health Assessment (ACHA) as cited in Tapps et al. (2016)

stated that employee wellness programs can improve health status and quality of life for faculty and staff on college campuses. Educators are in an ideal position because they can both teach health and implement programs based on needs of employees (Tapps et al., 2016).

***Comprehensive programming*.** Eight studies included in the LR on college campuses looked at employee wellness programs that were comprehensive or multifaceted. These studies included several different components or interventions to determine the overall results of the study.

Of the eight comprehensive studies, three articles were considered to be pilot programs (Bright et al., 2012a; Butler, Clark, Burlis, Castillo, & Racette, 2015; Fisher & Fisher, 1995). Bright et al. (2012a) evaluated several chronic diseases diagnosed in faculty and staff on college campus, and the management of these diseases through a comprehensive wellness program. The goal of the wellness program was to improve employee health, improve job satisfaction, decrease health expenditures, and provide education (Bright et al., 2012a). The study enrolled 20 participants in the program and the results showed that after three months participants had improved health outcomes in HbA1 c, blood pressure control, and cholesterol (Bright et al., 2012a).

Another pilot study by Butler et al. (2015) included 121 university employees participated in an eight week program that looked at CVD risk factors, PA was measured by daily step count, and exercise self-efficacy measured using the Barriers Specific Self-Efficacy Scale (BARSE) and the Multidimensional Outcomes Expectations for Exercise Scale (MOEES). The results showed the wellness program improved participants PA and cardiorespiratory fitness, and showed modest improvements CVD risk factors (Butler et al., 2015).

The third pilot study by Fisher and Fisher (1995) had an intervention group (n = 33) and a control group (n = 32). The purpose of the study was to help participants change their lifestyle behaviors. The study assessed blood lipids, BP, BF, and aerobic capacity pre and post program over a six month period. Exercise prescription was designed for those in the intervention group. The results from the study showed that 97% of the participants that attended the one hour educational sessions said they would change their individual health behavior as a result of the program (Fisher & Fisher, 1995).

Anshel, Brinthaupt, and Kang (2010) implemented a ten week physical fitness and mental well-being program to 164 faculty and staff. The program included pre and post testing utilizing the Disconnected Values Model (DVM). The study included cardiovascular fitness, muscular strength, and body composition to assess participant's physical fitness. To measure mental well-being researchers used the Psychological General Well-Being Index (PGWBI). The results from the study showed the DVM improved both physical fitness and anxiety. It also showed depression was significantly reduced in participants over the ten week period (Anshel, Brinthaupt, &Kang, 2010).

A commentary article by Eifert, Hall, Gropper, and Kondor (2017) looked at one universities experience with implementing activities on campus established from the Institution of Higher Education (IHE) and Healthy Campus 2020. The university focused on four areas to include (a) health lifestyle, (b) substance use reduction, (c) mental health, and (d) sexual health and well-being (Eifert et al., 2017). The healthy lifestyles objectives were a combination from the Healthy Campus 2020 and results from the current data from the National College Health Assessment (NCHA). A needs assessment was conducted to identify existing programs, services, and ideas for improvement. The results from the needs assessment was an initiative called

"Health Owls Challenge". The initiative utilized social media to show participants completing three healthy behaviors that focused on: creating positive attitudes towards the health behavior, normalizing health behavior, and changing students, faculty and staff perceptions of their abilities to perform healthy behavior (Eifert et al., 2017).

Carter, Kelly, Alexander, and Holmes (2011) looked a collaborative approach on a college campus that implemented health promotion through a wellness model framework recommended by the CDC. The model consisted of health screenings, health advising sessions with timely feedback, and monitoring and providing support especially to employees at higher risk. The results from the study showed that 763 out of 4,400 eligible employees participated the first year. Benefits to the program included: improved health of employees, improved costs, and supports a culture of wellness to help encourage high-risk employees to improve their vitality (Carter et al., 2011).

The final two comprehensive studies are considered high quality standards (Beck et al., 2016; Jones et al., 2018). Beck et al. (2016) looked at a university worksite wellness program that was evaluated over a 5 year period (2008-2013). The elements included in the evaluation process included: Health Risk Assessment (HRA), Biometric Screening (BS), PA tracking program, wellness activities, and participation incentives (Beck et al., 2016). The results showed that female, white, and non-union employees who want preventative care are most likely to participate. The results from this evaluation can be useful in future planning to help target specific programs to specific employees, and decrease institutional barriers to participation (Beck et al., 2016).

The second high quality standards study included in the LR is a working paper from NBER by Jones et al. (2018) and was a Random Control Trial (RTC) comprehensive employee

wellness program at a large university. The wellness program included: an online HRA, BS, and a variety of healthy lifestyle activities. The study was designed to examine incentives on participation in the programs. It also examined the effects of the wellness program on: health care costs, health behaviors, well-being and productivity (Jones et al., 2018). After the first year the results showed no improvement on medical cost, health behaviors, employee productivity, or self- reported health status; however, the study has continued to collect data to see if there are any long term effects (Jones et al., 2018).

Focus groups/interviews. Three studies looked at employee wellness programs on college campuses by conducting focus groups or interviews of participants. Hill-Mey, Merrill, Kumpfer, Reel, and Hyatt-Neville (2013) conducted four 90 minute focus groups comprised of six to eight participants including faculty and staff that participated in employee wellness programs and faculty and staff that did not participate. The researchers conducted the discussions using questions from the validated 2004 Healthstyles national survey. The results showed that BS had the largest impact on behavior change among participants, and 47% said that the incentives initiated the process to begin the program (Hill-Mey et al., 2013).

The second study interviewed 19 participants after completion of a ten week wellness program focusing on various health topics each week. These topics were selected due to the employee health screenings and the health needs that were discovered from those screenings. The results for the top three barriers to participation discovered in the interviews included: insufficient incentives, inconvenient locations, and time limitations (Person, Colby, Bulova, & Eubanks, 2010). The third study by Reger, Williams, Kolar, Smith, and Douglas (2002) looked at a Participatory Planning Approach (PPA) in a university setting that utilized faculty, staff, retirees, administration, and students to help design a wellness program. The 12 week one hour

sessions involved numerous planning approaches to include: reflection, discussion, problem solving, small-group interaction, barriers, and resources to implement a wellness programs. The results from the PPA implementing wellness programs in a university setting showed to be effective in overcoming institutional barriers and recommended use of this approach in other settings (Reger et al., 2002).

***Online surveys/questionnaires*.** Of the 17 studies reviewed on college campuses, 6 studies involved online surveys or questionnaires of the participants. One article specifically looked at a needs assessment of faculty and staff on college campuses (Tapp et al., 2016). This study utilized a 33 question survey that combined two instruments to include: The Fort Martin/Albright Survey and the Worksite Wellness Tompkins County New York Survey. The survey assessed campus employee's wants and needs. The survey results found that it is important to find the employees interest prior to developing the employee wellness program to keep employees engaged in the programs (Tapp et al., 2016).

Another survey study by Leininger, Adams, and DeBeliso (2015) looked at barriers to participation of employee wellness programs at a University over the last six months. The survey utilized the International Physical Activity Questionnaire (IPAQ). The IPAQ is a self-reported tool measuring PA to see if participants meet the weekly recommendations for PA. This tool was also used to see the difference between PA levels and job classifications of the participants. The results from this study provided information on barriers such as time constraint, schedule conflicts, and exercise programs based on job classification of faculty, staff, and administration of the university. The study recommended barriers, job needs, and classification be taken into consideration when implementing employee wellness programs to be effective (Leininger, Adams, & DeBeliso, 2015).

An empirical study by Abraham, Feldman, Nyman, and Barleen (2011) included a survey that was completed by 3,038 participantion with an overall response rate of 17% at a large University in Minnesota. The survey included questions related to exercise frequency, attitudes about benefits, and barriers to exercise, self-efficacy, and awareness of rewards program. The results of the study indicated that employees who have prior exercise behavior are more likely to sign up for a rewards program than employees who do not have prior exercise behavior (Abraham et al., 2011).

Middlestadt et al. (2011) looked at factors associated with participant's decisions to participate in worksite wellness programs. In all, 279 participants completed the worksite wellness survey and the results showed that employees want programs that provide benefit and would be more apt to participate if they had support from coworkers and supervisors (Middelstate et al., 2011). The final two survey studies were considered cross sectional surveys conducted at universities (Leicht et al., 2013; Bright et al., 2012b). The first cross sectional study in Australia Leicht, Sealey, and Devine (2013) sent out a survey to employees to assess current Quality of Life (QOL), PA levels, barriers, and motivators between faculty and staff, and male and females within the university. The study also looked at sitting times and working hours because of the association with PA, health status, and risk factors (Leicht et al., 2013). The results of the study showed that male faculty members work the most hours compared to female staff members. The most common barriers to meeting recommended PA levels for both faculty and staff members was lack of time due to work and family commitments and a lack of energy (Leicht et al., 2013). The top motivators to participate in PA for both faculty and staff was to improve energy levels and to feel good. Looking at PA barriers and motivators should be

important factors to focus on when moving forward in the development of wellness programs to improve the overall health and wellbeing of faculty and staff (Leicht et al., 2013).

The second cross sectional survey conducted a needs assessment to determine employee attitudes and barriers towards participation in employee wellness programs (Bright et al., 2012b). The most common barrier to participation in wellness programs from the survey showed employees were too busy and their work schedule would not allow it. The results from this needs assessment determined that the majority of employees surveyed have a desire to participate regardless of their current health status, and provides insight that the needs and preferences of employees need to be considered when developing programs (Bright et al., 2012b).

Discussion

Worksites need the implementation of a needs assessment to design and impact WHPPs. Russell (2017) stated that overall wellness is obtained when employees have a balance in the eight dimensions of wellness to include: environmental, financial, emotional, social, spiritual, occupational, physical, and intellectual. Russell (2017) stated that it is valuable to explore employee perceptions of wellness and in doing so it may help organizations design programs and practices to improve employee wellness. Blake et al. (2013) findings showed use of a multi - level ecological worksite wellness intervention improved employees meeting the daily recommendation for PA, and for employees to continue to improve behavior change WHPPs need to be flexible and require adjustment to target activities to employee needs (Blake et al., 2013). Worksite wellness programs should seek input from all employees at all levels to ensure relevant wellness initiatives (Merrill et al., 2011). A multifaceted worksite intervention targeting employees have shown promise to improve behavior change (LeCheminant & Merrill, 2012).

The first step to designing a comprehensive WHPP is to conduct a needs assessment to define the population, and list and prioritize important health conditions that can impact employee presenteeism (Ammendolia et al., 2016). Hibbs-Shipp et al. (2015) showed that the needs assessment provided direct information for the worksite to develop a comprehensive wellness program for all levels of employees. A needs assessment identifies health behavior that could result in disease or injury, and can provide a more cost effective focused programs to employees (Kelly, 2007). Another study by Kruger et al. (2007) implemented a HealthyStyle survey among employees and results showed that in order to improve and support behavior change among employees worksites must design programs that meet employees needs and preferences (Kruger et al., 2007). Frameworks like intervention mapping and precede-proceed model utilize a needs assessment to develop WHPPs that attract and meet the needs and preferences of targeted employees (Rongen et al., 2014).

Health promotion in higher education should be based on outcomes and a successful component of this is collaboration across campus with multiple departments ultimately have a lasting impact on employee and student health (Eifert et al., 2017). College campuses are a unique environment for worksite wellness programs and program components should be tailored to individuals who are less likely to participate (Butler et al., 2015). Universities have many advantages and resources for worksite wellness and a successful WHPP should involve and gather input from employees in the program design (Hill-Mey et al., 2013). A university study showed that completion of a survey indicated that employees have a desire to participate, and needs and preferences of employees provide insight and showed the value of a needs assessment in developing WHPPs (Bright et al., 2012b). As stated in Middlestadt et al. (2011) social ecological models are used to design interventions on behavior change and to look at

determinants to participation. The study showed to increase participation in WHPPs employers should design a variety of programs that appeal to multiple dimensions of health (Middlestadt et al., 2011).

Tapps et al. (2016) showed there is a variety of wellness needs on a college or university campus. When developing WHPPs the unique needs of employees need to be addressed as opposed to health promotion tailored to students. WHPPs should be designed based upon the needs and interest of current employees, and in order to be effective the unique needs and of each campus must be assessed (Tapps et al., 2016).

Limitations were addressed in all of the studies reviewed. In many of the studies limitations listed self -reports subject to being misclassified or bias (Abraham et al., 2011; Blake et. al., 2013; Kruger et al., 2007; Middlestadt et al., 2011). Other limitations mentioned included needing a larger sample size (Abraham et al., 2011; Leininger et al., 2015; Rogen et al., 2014). Voluntary participation was another limitation reviewed in the study (Bright et al., 2012b). In Reger et al. (2002) one of the limitations mentioned was lack of random assignment and control group.

Gaps in research stated in Abraham et al. (2011) reported when evaluating return on investments it is difficult because participation in wellness programs are voluntary and not required. Future research suggests that employers need to understand factors that influence participation and employees decision to exercise regularly (Abraham et al., 2011). Another gap in the research is little research to show theory of behavior interventions focused on participation at the individual employee level. Worksite wellness programs should promote a variety of wellness activities that appeal to multiple dimensions of health (Middelstadt et al. 2011). In Rogen et al. (2014) low participation in WHPPs could be due to a mismatch in needs and

preferences of employees and what programs are actually being offered by the employers. Research showed there is a lack of investigating WHPPs needs and preferences and if these preferences are met will it increase employee participation (Rogen et al., 2014).

Hill-Mey et al. 2013 suggested that in theory WHPPS should be very effective in a university setting because of all of the advantages and resources for promoting health; however, most outcomes from WHPPs typically are cited from non-university based worksite wellness programs. Kruger et al. (2007) suggests there are few studies that publish data on employees perceived needs and that individual worksites need to collect their own specific data with an internal needs assessment (Kruger et al., 2007). Tapps et al. (2016) concluded most research regarding interest in employee wellness programs is done in large corporations and does not account for the unique setting of college campuses and universities. When assessing needs and interests of employees, colleges and universities must consider the diverse composition of employees when designing wellness programs (Tapps et al., 2016).

Methodology

The purpose of this study was to conduct a needs assessment to determine employee interest, preference, and current health status among faculty and staff on a college campus. The needs assessment survey gathered detailed information from our target population that utilized a web-based survey to generate objectives, identify current health status, improve future programs and help establish an overall strategic plan (CRS, 2018). The primary researcher obtained a letter from the Assistant Vice President (AVP) for the Department of Wellness and Sport (DWS) at the University of Central Oklahoma (UCO) giving the following permissions: (a) use of Biometric Health Screening (BHS) data from the fall of 2018 for research in the thesis to establish employee wellness baseline, (b) permission to conduct the ACHA Faculty and Staff Survey on campus anonymously through the Employee Wellness Committee (EWC), and (c) permission to conduct this research and use for the thesis dually in researchers role as an employee of the university (see Appendix A). The primary researcher in return provided a summary of the findings from the ACHA survey with recommendations for future programming for faculty and staff at UCO. All data were de-identified. UCO IRB determined that the ACHA-NFSHA survey is exempt from further IRB review (#2019-012; see Appendix B).

Setting

The participants selected for this study were full-time faculty and staff members at UCO. UCO is a Midwest regional public university and has approximately 1,400-1,500 full-time faculty and staff at any given time throughout the year. This university was chosen out of convenience. The primary researcher has access to the university as a full-time staff member for the DWS, a graduate student at UCO, and serves on multiple committees across campus including the EWC. UCO is known to support healthy behavior. The university has been

recognized for many years as a certified healthy campus with excellence status, and a certified healthy business with excellence status through the Oklahoma State Department of Health (OSDH). One major accomplishment that occurred at UCO in the spring of 2018, was President's Cabinet approval of the Physical Activity (PA) policy on campus allowing employees two hours of relief time while they are at work to workout with supervisor or departmental approval.

Biometric Health Screening

Biometric Health Screening Data (BHS) according to the CDC, a BHS is "the measurement of physical characteristics such as height, weight, body mass index, blood pressure, blood cholesterol, blood glucose, and aerobic fitness tests that can be taken at the worksite and used as part of a workplace health assessment to benchmark and evaluate changes in employee health status over time" (CDC, February 1, 2018). The researcher used aggregate data from the BHS provided by Oklahoma University Physicians Health Clinic (OUPHC) to help establish baseline health of full-time faculty and staff at UCO (see Appendix C). The BHS was conducted on the campus of UCO from October through December of 2018. All full-time UCO faculty and staff were asked to sign up for one of the 15 dates and times offered for the BHS.

If the employees did not schedule an appointment OUPHC offered employees the opportunity to just walk in to get the BHS done. The BHS was offered as a benefits incentive to full-time faculty and staff to receive $250 dollars off their upcoming 2019 medical insurance premiums. Faculty and staff who had not completed an annual physical with their primary care doctor could participate in the BHS by December 31, 2018 as an alternative to the annual physical to receive the benefits incentive. As mentioned previously the BHS aggregate data was used to establish baseline health of full-time faculty and staff at UCO before the intervention.

The aggregate data were de-identified and provided to the researcher, DWS, and the EWC in February of 2018.

The tests in the BHS included: age, gender, height, weight, body mass index (BMI), blood pressure (BP), blood cholesterol, blood glucose, body fat (BF), stress management, and nutrition. During the BHS, the participants met with a certified personal trainer to review their results from the BMI, muscle mass, BF, PA levels, and nutrition. Participants also met with a Physician's Assistant to review the results of the BP, blood glucose levels, and cholesterol. If participants needed to be referred to their primary care doctor based on the results of the BHS they were instructed to do so at the time.

ACHA-NFSHA

The American College Health Association-National Faculty and Staff Health Assessment (ACHA-NFSHA) survey is used as a needs assessment for college campuses to assess and identify needs specific to faculty and staff on college campuses. The NFSHA was used as a needs assessment to determine current health status, interests, and preferences of full-time faculty and staff at UCO. The following topics assessed in the survey included: general health, work performance, work culture, safety and violence in the workplace, physical activity, weight and nutrition, alcohol and tobacco use, mental health, stress, demographics, and employment information of employees (see Appendix D).

All full-time faculty and staff at UCO were eligible to participate in the study. All participants must give consent to access, complete, and submit the online survey. According to the American College Health Association (ACHA, August 8, 2016) the recommended sample size is based on a 95% confidence level, with an estimate of a 20% return on completed and submitted surveys. It was determined to send the ACHA-NFSHA survey to all full-time faculty

and staff, instead of randomly selecting employees to complete the survey, in order to achieve the 20% completion rate based on the current number of fulltime faculty and staff at UCO. The ACHA prepared the survey to be distributed to all 1,415 fulltime faculty and staff to the e-mail addresses provided by the Human Resources Benefits office at UCO.

The recruitment of all full-time faculty and staff took place with an initial e-mail/ introduction letter sent from the ACHA to inform all full-time faculty and staff of the survey. The introduction letter included the following information: (a) participation in the survey, (b) explain in further detail the purpose of the survey, (c) how the information was being used, (d) what the participants can expect, and (e) description of data collection methods (see Appendix E). Participation in the survey was voluntary, participants must be 18 years of age or older. The primary researcher's contact information was provided in the introduction letter sent out to all participants for questions or concerns.

There was two ways that consent in participation was implied. First, when the employee clicks on the link within the introduction letter to access the survey. Second, on page one of the survey it gave additional instructions about the survey and states that by clicking on "Begin Survey" the participant agrees that the purpose of the study has been explained, and the participant agrees to participate in the survey (see Appendix E). It was explained to all participants that at any point the participant would like to withdraw or drop out of the survey they have permission to do so. It also explained that participants do not have to answer any questions they are uncomfortable answering. The participant can skip any question they wish, and can still complete and submit the survey within the participants comfort level.

An incentive provided to faculty and staff that complete and submit the survey included five $50 gift cards to the UCO Bookstore on campus. The ACHA provided the five randomly

selected winners to the primary researcher by e-mail once the survey was closed. The primary researcher contacted the participant winners to let them know they were selected and to collect their $50 gift cards.

The University chose to add one additional question to the ACHA survey to assess knowledge and participation in the UCO physical activity (PA) policy. UCO's PA policy was adopted in April of 2018. The PA policy allows UCO employees to participate in two-hours of PA each week during work time with supervisor approval. The question stated: Which of the following best describes your participation in the UCO PA Policy in the past year? (a) My supervisor approved and I participated, (b) My supervisor approved, but I did not participate, (c) My supervisor did not approve, so I could not participate, and (d) I do not know about the UCO PA Policy, so I did not participate (see Appendix F).

The NFSHA was a 4-week needs assessment online survey implemented on UCO's campus from March 26th-April 19th, 2019. The survey was sent out by the ACHA to 1,415 full-time faculty and staff. The initial e-mail sent from the ACHA on Tuesday March 26th, 2019. The email included the introduction letter to all full-time faculty and staff describing the purpose of the survey and how the participants would benefit by participating. The subject line in the initial e-mail from the ACHA for the survey letter of introduction was "Complete the UCO Employee Wellness Survey for your chance to win a $50 gift card to the UCO Bookstore". The survey will take each participant approximately 15-20 minutes to complete. Once the survey is completed and the participant hits the "submit survey" button the participant will see a thank you for participating message.

Three additional reminder e-mails were sent out to all faculty and staff following the initial e-mail. All e-mails had the same subject line with the word reminder in front of the

original subject line. Each reminder e-mail included the same information that was sent in the initial e-mail. When participants completed the survey, they did not receive the additional reminder e-mails. The first reminder e-mail was sent out on April 4th, the second reminder was sent on April 8th, and the final reminder e-mail was sent out on April 12th, 2019. The survey stayed open for one final week and closed on Friday April 19th, 2019.

All data for the 4 week survey were collected online by the ACHA. The faculty and staff e-mail addresses that were provided to the ACHA were only used for the purposes of requesting participation in the ACHA-NFSHA survey. According to the ACHA-NFSHA FAQ Document (ACHA, August 8, 2016) during data collection the e-mail addresses are stored on a password protected secure server at the ACHA. After the data are collected and the results are released to the campus, the file containing the e-mail addresses are deleted. The survey is confidential and the Qualtrics software generates a unique survey link for each employee on the mailing list. The survey link is connected to randomly generate a response ID number, which is destroyed upon survey submission (ACHA, August 8, 2016). No survey results were given to the participating campus until all files containing e-mail addresses were removed from both the ACHA and Qualtrics servers. The de-identified results of the aggregate data was provided to the participating campus and to the primary researcher 4-6 weeks after data collection was complete.

Analysis

The study is a descriptive study conducted using existing data from university health screenings and surveys. There was no control group as it was determined to survey all 1,415 full-time faculty and staff to be able to get a 20% completion rate of the ACHA-NFSHA needs assessment survey. This study design was not considered to be a true experiment and therefore cause and effect cannot be established. To measure the effectiveness of the intervention,

statistical tests were conducted in SPSS 24 using descriptive statistics, looking at frequency and percentages of participants to determine health status, interests and preferences.

Results

ACHA-NFSHA Descriptive Data

The ACHA-NFSHA survey was electronically distributed to 1,415 full-time faculty and staff at UCO. The survey had a 31% response rate with a total of 441 participants that completed and submitted the survey. The highest rate of respondents identified themselves as staff (*n*= 271) or faculty (*n*= 145) with the remainder identifying as administration, adjunct faculty, graduate student, or other as illustrated in Figure 1. A majority of the participants that completed the survey were female (72.7%) and white (81.8%). The age group with the highest participation rate in the survey was 30-40 years at 24.3% followed by 50-60 years at 24.1%.

Participants were asked to describe their overall general health status in the following categories: excellent, very good, good, fair, poor, and don't know as shown in Figure 2. Of the participants 316 (71.6%) described their overall general health as very good or good and 21 staff members described themselves as excellent in overall general health compared to 24 of the faculty members as shown in Table 4.

Participants were asked if a doctor or healthcare provider have told them if they currently have any of the following health conditions (a) anxiety, (b) depression, (c) elevated blood sugar or diabetes, (d) elevated cholesterol level, (e) high blood pressure/ hypertension, and (f) low back injury or spine problems. The results showed that participants identified the health condition in most need of treatment diagnosed by a health care provider was elevated cholesterol levels (*n*= 57). The second health condition identified in most need of treatment was elevated blood sugar or diabetes (*n*=21) as shown in Table 6.

The NFSHA survey asked participants about how important they feel it is to model health and wellness behavior to students. The overall response, as shown in Table 5, was that 78%

stated it was extremely important or very important. Participants were also asked if their college or university supports a culture of health; 86.8% of participants strongly agree or agree that UCO does support a culture of health.

As shown in Table 7, looked at barriers to participating in worksite wellness programs, participants reported the top reasons for not participating included: time management (64.2%), job responsibilities (46.5%), schedule of programs offered (45.1%), and lack of personal motivation (39.5%). The top reasons that participants reported not being barriers to participation and support the culture of health included: supervisor permission to attend (93.4%), supported by coworkers (93.7%), cost was not a barrier (91.8%), and the location of the programs are convenient (88.4%).

The researcher looked at the three behaviors that can lead to chronic diseases: tobacco use, inactivity, and poor nutrition. Participants were asked to report if they had used tobacco with-in the last 30 days that included: cigarettes, e-cigarettes, and smokeless tobacco. Participants reported 380 (86.2%) have never used cigarettes, 410 (93.0%) have never used e-cigarettes, and 421 (95.5%) have never used smokeless tobacco shown in Table 8.

As illustrated in Figure 3, participants were asked how much time they spend on average sitting while at work. Participants reported sitting 20.9% (approximately 6.4 hours per day), followed by 17.9% (approximately 7.2 hours per day), and 15.0% (approximately 5.6 hours per day). The results show that over half of participants at 53.8% sit 5.6 hours per day or more. Three questions on the survey asked how much time participants spent doing PA in the past 7 days. Participants were asked to fill in their total minutes of exercise for moderate PA and vigorous PA. Participant reported that the most time spent doing moderate PA was 60-120 minutes with 113 (26.6%), followed by 1-60 minutes with 87 (20.5%), and 120-240 minutes with

77 (18.1%). Participants spent less time doing vigorous PA with 44.5% report that they did zero minutes of vigorous activity, followed by 1-30 minutes with 74 (17.6%), and 30-60 minutes with 54 (12.9%). The final PA question asked how many days for the past 7 days did they spend doing exercises to strengthen or tone their muscles. The highest percentage at 47.6% did not do any days of strength training, followed by 23.2% doing 1-2 days, and 17.4% doing 2-4 days as shown in Figure 4.

The study asked participants how many servings of fruits, vegetables, whole grains, lean protein, low fat dairy, and sugary beverages they had each day as shown in Table 9. The results showed food groups with the highest percentages of servings reported were 286 (64.9%) 1-2 servings of fruit, 221 (50.1%) 1-2 servings of vegetables, 245 (55.6%) 1-2 servings of whole grains, 280 (63.5%) 1-2 servings of low-fat dairy, 186 (42.2%) 1-2 servings of lean protein, and 254 (57.6%) 0 servings of sugar-sweetened beverages. Participants were asked if they consider themselves to be: underweight, a healthy weight, overweight, obese, or unsure. The results showed that 50.6% considered themselves to be overweight compared to 38.1% to be at a healthy weight as shown in Figure 5.

The NFSHA survey asked participants if they were trying to do any of the following regarding their weight? The participants selected from the following choices (a) I am not trying to do anything about my weight, (b) stay the same weight, (c) lose weight, and (d) gain weight. The results showed that 60.3% of participants are trying to lose weight.

Biometric Health Screening Data Summary

Biometric Health Screenings (BHS) data was used to establish baseline of current health status. The BHS had a 25.5% response rate with a total of 361 participants that completed the screenings. A majority of the participants that completed the health screenings were females (*n*

= 236, 65%). The age group with the highest participation rate in the screenings was 55-59 years at 13.8% followed by 35-39 years at 12.7%.

The results showed 60% of participants were in the overweight category or higher (BMI> 25 kg/m^2), 30% of participants were in obese class 1 or higher (BMI >30 kg/m^2), and 37% of participants were considered to be in the healthy weight category (BMI 18.5-24.9 kg/m^2). Cholesterol test were completed on the participants with 301 (84%) ranked within the normal desirable range for total cholesterol (< 200 mg/dL), 44 (12%) were considered borderline high (200-239 mg/dL), and 15 (4%) were considered to be in the high range (> 239 mg/dL).

Triglycerides also had a high percent of employees that were in the normal range (<150 mg/dL) with 283 (79%), 48 (13%) were in the borderline high range (150-199 mg/dL), and 29 (8%) were considered to be in the high range (200-499 mg/dL). Fasting glucose tests were also administered and 212 (59%) of participants are pre-diabetic, 19 (5%) are considered diabetic, and 130 (36%) are in the normal range for glucose.

Another test completed was BP screenings and the results showed participants diagnosed pre-hypertension, stage II hypertensive, and stage II hypertension. Pre-hypertension had 94 participants with high systolic pressure and 121 participants with high diastolic pressure. Stage II hypertensive had 34 participants with systolic pressure 140-159 and 67 participants with diastolic pressure 90-99. Stage II Hypertension had 4 participants with 160 or higher systolic and 12 participants with diastolic of 100 or higher. For the complete aggregate data (see Appendix C).

Discussion

Summary of Findings

The current study implemented an employee wellness needs assessment survey in the spring of 2019 to all faculty and staff at a Midwest regional public university. The survey had a response rate of 31% with a total of 441 participants completing the survey. In all, the majority of participants rated their overall general health status as either good or very good (71.6%). Participants were asked if a doctor or healthcare provider have diagnosed them with any current health conditions. The top two identified health conditions among faculty and staff were elevated cholesterol levels and elevated blood sugar or diabetes. When participants were asked to identify barriers for not participating in worksite wellness programs, time management at 64.2% was listed as the number one barrier to participation; however, 93.4% listed having supervisor permission to attend wellness programming. When looking at how much time employees spent sitting throughout the workday, 53.8% said they sit approximately 5.6 hours per day or more. Half of the participants (50.6%) considered themselves to be overweight and 60.3% said they are trying to lose weight.

When the survey looked at how much time in the past 7 days that participants spent doing PA, the results showed that 26.6% spent 60-120 minutes doing moderate PA during the week. UCO added an additional question to the ACHA-NFSHA survey regarding how many employees use the Employee Wellness PA policy. The results of the participants showed: 35.7% have supervisor permission and participate in PA while at work, 31.3% have supervisor permission but do not participate, and 27.8% did not know UCO had a PA policy.

The study also looked at the results from BHS that were offered to all full-time faculty and staff in fall of 2018 to establish baseline of current health status among employees. The BHS

screenings had a response rate of 25.5% with a total of 361 faculty and staff that participated. The results from the BHS indicate that 60% of the participants were in the overweight category or higher (BMI> 25 kg/m^2). Fasting glucose tests were administered and 59% of participants were considered to be pre-diabetic. Another test conducted included total cholesterol with 44 (12%) considered borderline high (200-239 mg/dL). Blood pressure screenings were also administered and 59.5% of participants were considered to be pre-hypertensive.

Interpretation of Results

The top two health conditions from the survey report that participants have elevated cholesterol levels and elevated blood sugar or diabetes. Participants in the survey identified their current health status as either good or very good (71.6%). The results from the BHS indicate that 59% of participants are pre-diabetic and pre-hypertensive. The results from the BHS and the survey show the current health status of participants and provide support for education in diabetes and heart health and employee wellness programs need to focus on prevention in order to help improve health status of those who are at greatest risk of developing diabetes and heart conditions.

The results from the BHS indicated that 60% of participants are overweight (BMI> 25 kg/m^2). The participants from the needs assessment survey reported that 60.3% are trying to lose weight and 50.6% considered themselves to be overweight. The results show a similar outcome using the data from the BHS and the survey to assess body weight of the participants, and provide support there is a need on campus to help participants lose weight.

Participants indicated that 18.1% (120-240 minutes) meet the recommended minutes of PA each week; however, 53.8% report sitting for approximately 5.6 hours per day or more. Most (93.4%) participants report having supervisor permission to attend employee wellness programs,

yet the number one barrier to participation reported was time management. The passing of the UCO PA policy in the spring of 2018 showed that 31.3% of participants have supervisor permission to take advantage of the policy, but do not participate in PA during work time and 27.8% were not aware of the policy. This provides support that wellness programs need to educate, promote, and provide more options of programs that support the PA policy to increase participation and PA among employees.

Overall, 86.8 % of participants in the survey strongly agree or agree that UCO supports a culture of health and 78% stated that it was important to model health and wellness to students. Employee wellness programs support a culture of health and creating behavior change among employees can not only improve faculty and staff health, but could improve student health and behavior.

Relationship of Results to the Literature

WHPPs are incomplete without a thorough needs assessment of the population to be served and program planning should be strategized by these identified needs. The needs assessment helps create a framework to plan and provide quality programs to participants to help improve participation and health status of employees (Hill-Met et al., 2015). Colleges and universities are a unique setting and require special consideration when it comes to designing and implementing wellness programs. Assessing these unique needs is crucial to offer effective programming (Tapps et al., 2016). A needs assessment can provide more insight to wellness coordinators in assessing preferences and barriers into worksite wellness participation (Bright et al., 2012b).

It is important to recognize barriers and create a targeted communication to help participants overcome these barriers to increase participation (Leininger & Adams, 2015). The

results from this study show that time management is the number one barrier to participation, and providing support of overcoming barriers, setting priorities, and time management education to employees could increase participation. Middlestadt et al. (2013) implemented a needs assessment at a Midwestern university and results stated when offering employee wellness programs it is important to have co-worker and supervisor support to increase participation. This study showed that UCO faculty and staff reported 93.4% have supervisor support to attend wellness programs, and 93.7% felt they were supported by coworkers.

Application of the Results

Employee wellness programming is recommended based on the results from the BHS, the ACHA-NFSHA needs assessment survey, and building on current programming already being offered. UCO currently has assessment data at the organizational level from the Certified Healthy Business program with the OSDH and the CDC Health Scorecard (see Appendix G) that give a snap shot of what UCO as an entity needs to focus on. Now, not only focusing on data at the organizational level, UCO has assessment at the individual level to further support their programming efforts. BHS and ACHA-NFSHA data indicate top health conditions of employees to focus on include: pre-diabetes, pre-hypertensive, and employees who are obese or trying to lose weight. Based on these results the researcher provided a list of recommendations for employee wellness programming to the campus to consider for implementation (see Appendix H). Yearly ongoing programs are recommended to help support prevention efforts. The yearly ongoing programs include: diabetes prevention education, weight watchers or total wellness program through OCCHD, tobacco cessation program, PA promotion campaign, wellness champions program, farmers market co-op, and reduced healthy eating options on campus for employees. Monthly programs are recommended to keep employees engaged in health and

wellness and will focus on the above mentioned health conditions along with programs that include the eight dimensions of wellness (see Appendix H). The yearly ongoing programs along with monthly challenges/ programs offered to help improve knowledge and participation. The programs can impact the culture of health on campus leading to positive behavior change among employees and eventually can impact student's behavior.

Recommendations for Future Study

Hill-Mey et al. (2015) states that little research has focused on the effectiveness of WHPPs in college settings. Tapps et al. (2016) reported that most research assessing employee needs and interests takes place in large corporations, and further supports research efforts assessing employee needs on college campuses. Future analysis of the needs assessment and BHS should look at different groups on college campuses such as faculty, staff, administration, gender, age, and employee status to target more specific programming and increase participation. Focus on assessing what incentives employees want on college campuses can impact participation and is something the ACHA-NFSHA needs assessment survey did not assess and could be vital to future programs and an increase in participation on college campuses.

Conclusions

The results from this study confirm that needs, interest, preferences, and health status need to be assessed in order to plan effective WHPPs for faculty and staff on college campuses. In order for programming to be effective employee wellness coordinators must understand the needs of their employees and know what barriers prevent employees from participating in programming in order to improve participation. As previously stated, worksite wellness programs are needed to help with the rise of chronic disease in the US, and worksite wellness programs are now a public health strategy to help prevent the development of chronic disease

(Anderko et al., 2012). The needs assessment survey showed that faculty and staff felt that UCO supports a culture of health, and reported they have supervisor and coworker support for participation in employee wellness programs.

In conclusion, the ACHA-NFSHA needs assessment survey can establish current health status among employees. The needs assessment can help employee wellness coordinators target programming to meet the needs of employees and offer programs to help improve health behavior thus lowering the risk of developing a chronic disease.

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Table 1

Articles Searched and Selected for Literature Review

Article Searches and Terms	Articles Not Meeting Criteria	Articles Reviewed
Search 1 Benefits of Employee Wellness On College Campuses	106	6
Search 2 ACHA, National Faculty & Staff Health Assessment	108	1
Search 3 What motivates employees to participate in employee wellness programs?	81	1
Search 4 Needs Assessment of Employee Wellness Programs on College Campuses	97	1
Search 5 Employee Wellness, Worksite, University, and Motivation	320	4
Search 6 Wellness Self-Efficacy and Employees	68	1

Search 7 Components of an employee wellness needs assessment	151	2
Search 8 CDC, Worksite Health Score Card	38	1
Search 9 Employee Wellness Programs Impact on Faculty and Staff	40	1
Search 10 Employee Wellness, Faculty and Staff Health Assessment	570	6
Search 11 Needs Assessment for worksite wellness	1,221	8
Search 12 What motivates employees to participate in employee wellness programs?	109	3
Search 13 What do workplace wellness programs do?	0	1
Total Articles Selected		36

Table 2

Table Showing High and Low Quality Standards of Articles

High Quality Standards	Low Quality Standards
Large sample size	Low sample size
Duration of the study	Short study
Needs Assessment/survey used in study	No Needs Assessment used in study
Study Specific to College Campus	Study conducted in another sector
Additional testing other than a Needs Assessment	

Table 3

Table Listing High Quality Standards Studies

High Quality Standards Studies
Study 1 Assessing employee wellness needs at colleges and universities: A case study
Study 2 Differences in healthy promotion program participation, barriers, and physical activity among faculty, staff, and administration at a university worksite
Study 3 Relationship between employment category and gender on quality of life, physical activity and their barriers and motivators, for full-time university staff
Study 4 Employee attitudes towards participation in a work site-based health and wellness clinic
Study 5 What do workplace wellness programs do? The Illinois workplace wellness study
Study 6 The disconnected values model improves mental well-being and fitness in an employee wellness program
Study 7 A collaborative university model for employee wellness
Study 8 Factors associated with participation in a university worksite wellness program
Study 9 Implementing university-based wellness: A participatory planning approach

Table 4

Overall General Health Crosstabulation with Employee Classification of Participants in Survey

Employee Classification	Excellent	Very Good	Good	Fair	Poor	Don't Know	Total
Staff	21	94	111	38	6	1	271
Faculty	24	70	41	8	2	0	145
Administration	2	5	6	2	0	0	15
Adj. Faculty	0	0	1	0	0	0	1
Grad Student	1	0	0	0	0	0	1
Other	0	2	1	0	0	0	3

Table 5

Frequency and Percentages of Responses Regarding the Importance to Model Health and Wellness Behavior to Students

Ranking	Frequency	Percentage
Not Applicable	13	2.9
Extremely Important	168	38.1
Very Important	176	39.9
Moderately Important	65	14.7
Slightly Important	14	3.2
Not at all Important	4	0.9
Missing	1	0.2
Total	441	100.0

Table 6

Frequency of Responses Regarding Participants Current Health Conditions

Health Condition	No	YES/No Treatment	Yes/Treatment	Total
Anxiety	344	17	72	433
Depression	345	15	74	434
Elevated Blood Sugar/Diabetes	385	21	25	431
Elevated Cholesterol Levels	330	57	46	433
High Blood Pressure/Hypertension	338	17	76	431
Low Back Injury/ Spine Problems	353	22	56	431

Table 7

Percentages of Participants Barriers to Participation in Wellness Programs

Barriers	No	Yes
Job Responsibilities	53.3%	46.5%
Forgot to Attend	70.5%	29.0%
Confidentiality Concerns	89.1%	10.4%
Lack of Personal Motivation	59.0%	39.5%
Time Management	34.5%	64.2%
Schedule of Programs	54.6%	45.1%
Location of Programs	88.4%	11.1%
Supervisor does not allow time	93.4%	5.9%
Lack of Interest	82.1%	17.7%
Injury or Disability	84.8%	14.3%
Cost	91.8%	5.9%
Not Supported by Co-Workers	93.7%	5.9%
Not Comfortable Participating	82.5%	17.0%
No Knowledge of Programs	90.0%	9.5%

Table 8

Percentages of Participants Use of Tobacco Products

Tobacco Products	Never Used	Used/ Not in past 30 Days	Daily Use
Cigarettes	86.2%	9.8%	1.8%
E-cigarettes	93.0%	4.1%	1.1%
Smokeless Tobacco	95.5%	2.7%	0.5%

Table 9

Percentages Showing Food Group Servings Each Day of Participants in Survey

Food Group	0 Servings	1-2 Servings	3-4 Servings	5-6 Servings	+6 Servings
Fruits	12.0%	64.9%	17.7%	2.7%	2.5%
Vegetables	5.2%	50.1%	32.4%	7.7%	4.3%
Whole Grains	12.0%	55.6%	24.9%	5.9%	1.1%
Low-fat Dairy	13.8%	63.5%	17.5%	2.9%	1.4%
Lean Protein	10.2%	42.2%	34.2%	10.2%	2.7%
Sugary Sweetened Beverages	57.6%	33.6%	6.1%	1.8%	0.7%

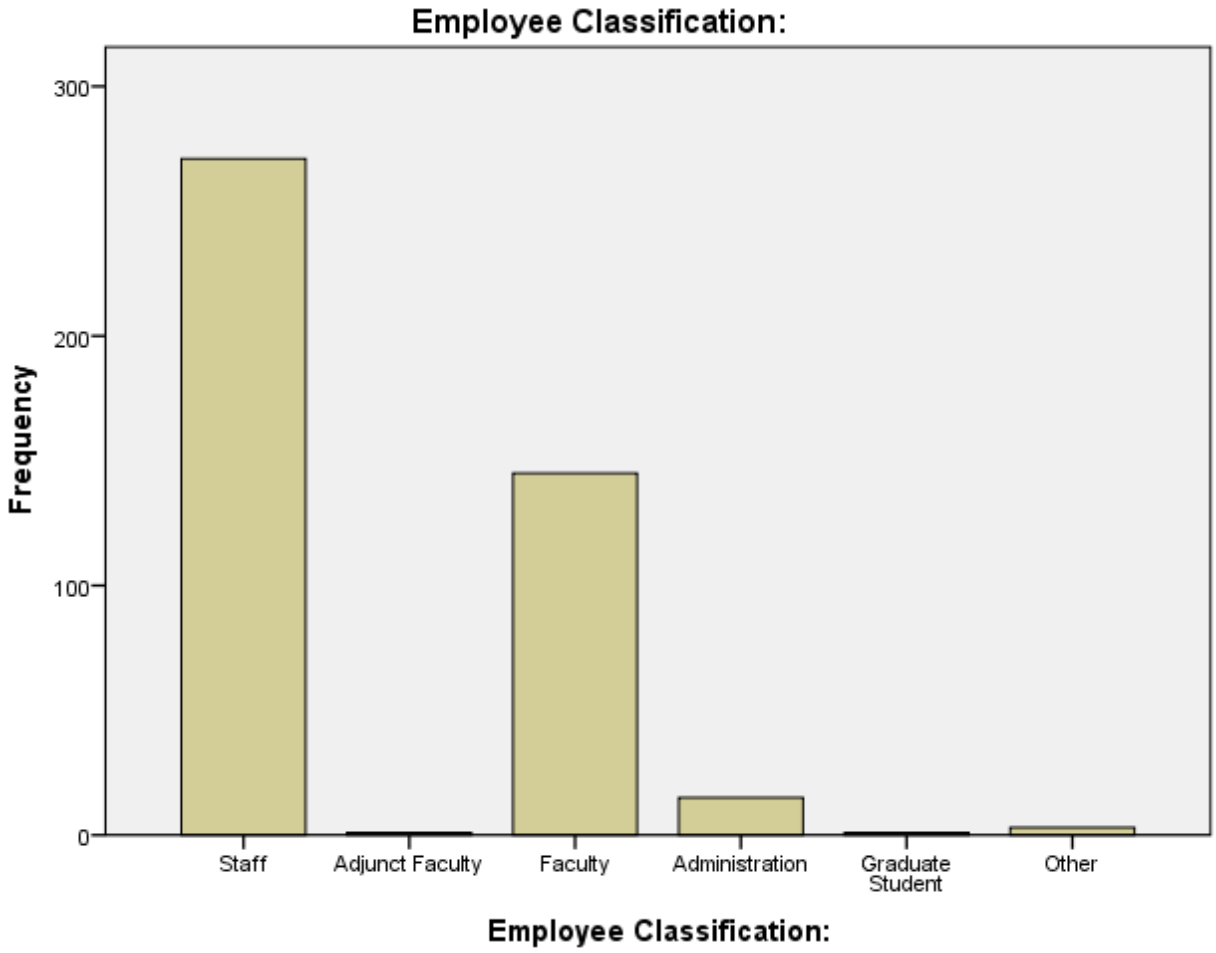

Figure 1. Bar chart of frequency of responses of participant employee classification

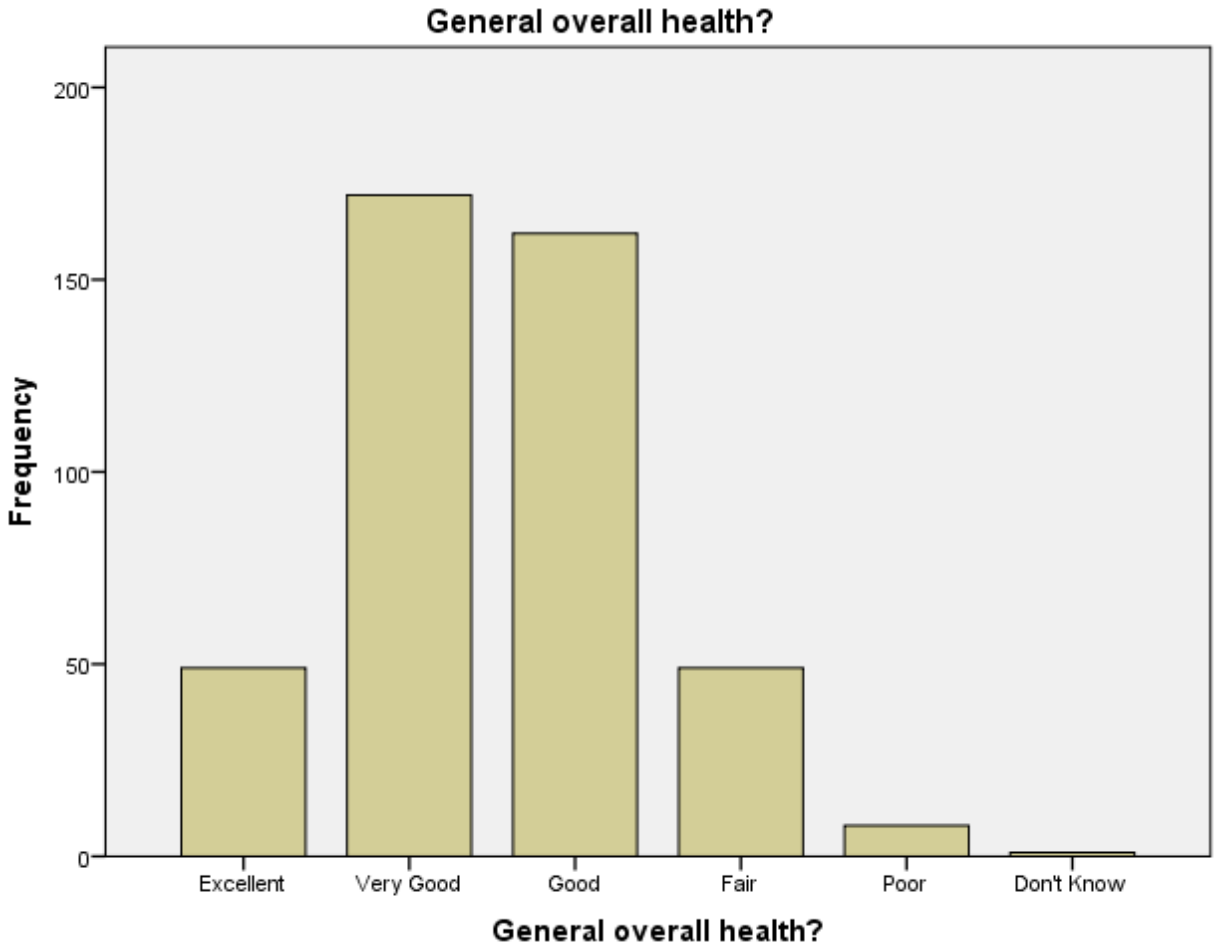

Figure 2. Bar chart of frequency of responses regarding overall general health of participants

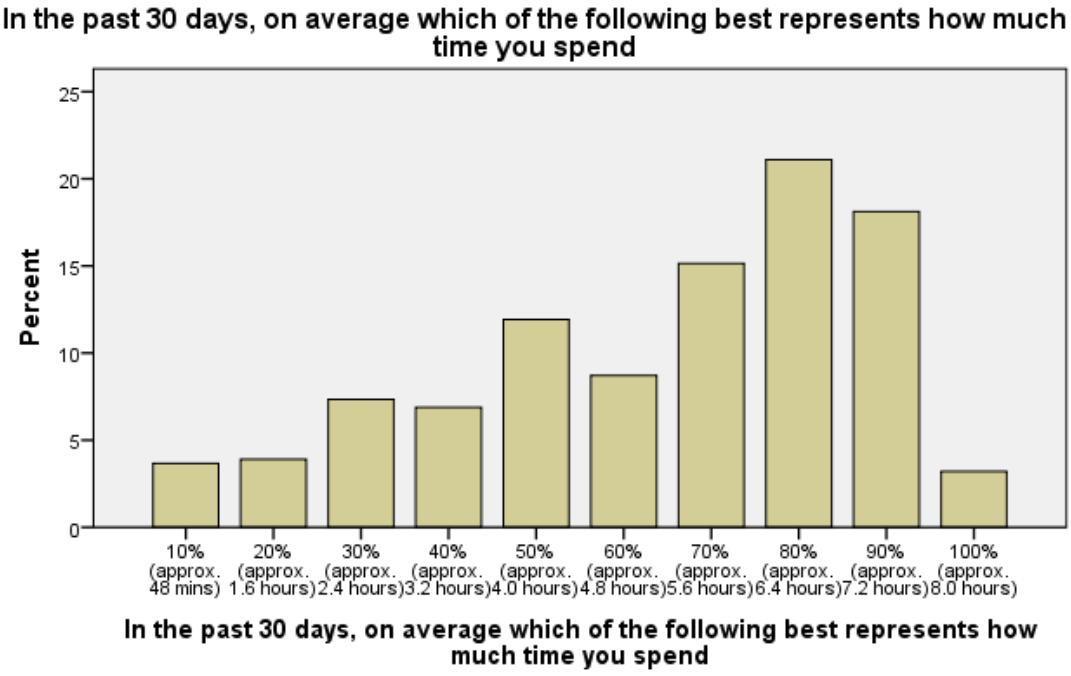

Figure 3. Bar graph showing percentage of participants' time spent sitting while at work

Figure 4. Bar graph showing percentages of participation of how many days participants spent doing strength training

Figure 5. Bar graph showing percentage of participants rating their health status

APPENDIX A

VP LETTER OF APPROVAL

DEPARTMENT OF
Wellness and Sport
UNIVERSITY OF CENTRAL OKLAHOMA

February 5, 2019
University of Central Oklahoma
Department of Wellness and Sport

Khari Huff
University of Central Oklahoma
100 N. University Drive
Edmond, OK 73034

Dear Ms. Huff,

On behalf of the Department of Wellness and Sport at the University of Central Oklahoma, it is my pleasure to give you the following permissions as an employee of the department and as a UCO student conducting her thesis:

- Use of the health screening data from the fall of 2018 for research in the thesis to establish employee wellness baseline before intervention. This data must be de-identified.
- Permission to conduct the ACHA Faculty and Staff Survey on campus anonymously through the Employee Wellness Program. This data must also be de-identified.
- Permission to conduct this research and use for the thesis dually in your role as an employee of the university.

In return for the above, it is requested you provide UCO a summary of the findings with recommendations for future programs.

Thank you for your commitment to this research. If you have any questions or need additional information, please do not hesitate to contact me at 405-974-3144 or kshaklee1@uco.edu.

Sincerely,

Katrina Shaklee

Katrina Shaklee
Assistant Vice President, Wellness and Sport

APPENDIX B

IRB APPROVAL LETTER

February 14, 2019 IRB Application #: 2019-012

Proposal Title: A Descriptive Study of Employee Wellness

Type of Review: Initial Review-Expedited Exempt

Investigator(s):

Khari Huff
Melissa Powers, Ph.D.

Dear Ms. Huff and Dr. Powers:

Re: Application for IRB Review of Research Involving Human Subjects

We have received your materials for your application. The UCO IRB has determined that the above named application is APPROVED BY EXEMPT REVIEW. The Board has provided expedited review under 45 CFR 46.110, for research involving no more that minimal risk and research category (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation..

Date of Approval: February 14, 2019

If applicable, informed consent (and HIPAA authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. A stamped, approved copy of the informed consent form will be made available to you. The IRB-approved consent form and process must be used, where applicable. Any modification to the procedures and/or consent form must be approved prior to incorporation into the study.

Please let us know if the IRB or Office of Research Integrity and Compliance can be of any further assistance to your research efforts. Never hesitate to contact us.

Sincerely,

Robert D. Mather, Ph.D.
Assistant Chair, Institutional Review Board
University of Central Oklahoma
100 N. University Dr.
Edmond, OK 73034
405-974-5497
irb@uco.edu

APPENDIX C

BIOMETRIC SCREENING DATA

OU Physicians
CORPORATE HEALTH
& WELLNESS PROGRAM

University of Central Oklahoma 2018
Biometric Screening Summary

Provided by:
Krystin Corrujedo, BS, LSS BB, CMI
Corporate Health & Wellness Manager
OU Physicians Executive Office
Sylvia-corrujedo@ouhsc.edu

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CORPORATE HEALTH & WELLNESS PROGRAM

UCO 2018 Data Review
Biometric Screening Baseline Results

Summary:

OU Physicians Corporate Health & Wellness team provided onsite biometric screenings for UCO employees/faculty late October 2018-December 2018 during a 15 service day period. Service also extended to family members covered on BCBS UCO employee insurance plan listed as dependents.

Totals

- 361 employees received Biometric Screenings
- Screenings provided at following locations
  - Nigh University Center Room 103 *(Highest turnout)*
  - OU Physicians Wellness Clinic *(Lowest turnout)*
  - Wellness Center Room 104 *(Average turnout)*

UCO Screening Dates 2018

10/29/18	12/05/18
10/31/18	12/11/18
11/14/18	12/12/18
11/15/18	12/13/18
11/20/18	12/17/18
11/28/18	12/18/18
11/29/18	12/19/18
12/04/18	

Marketing

- Communication provided directly by UCO Human Resources.
- Received good turnout even with short notice email push.
- Marketing Recommendations for Rollout 2019: Deploy email August 2019
- Expand dates offered-35 Days total
  - September-10 days
  - October-10 days
  - November 10 days
  - December 5 days

UCO Aggregate Participant Information & Health Findings

Gender Distribution

- Largest number of participating employees included **females 65% (236 female participants)**
- Male participants included **35% (125 male participants)**
- How does this compare to UCO employee demographics male vs female?

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Age of Participants

- Largest group of participants included ages 55-59 (50 total)
- Second largest group included ages 35-39 (46 total)
- Should consideration be made to provide further outreach to older and younger population to avoid/prevent costly findings?

AGE OF PARTICIPANTS (YEARS)	(n)
18-24	**28**
25-29	**29**
30-34	**41**
35-39	**46**
40-44	**40**
45-49	**42**
50-54	**33**
55-59	**50**
60-64	**27**
65-69	**18**
70+	**7**
Total	**361**

BMI Demographics

- 60% of participants in overweight category or higher (BMI >25)
- 30% of participants in Obese Class 1 or higher (BMI>30)
- 3% of participants in underweight category (BMI <18.5)
- Only 37% of participants identified to be in healthy weight category (BMI 18.5-24.9)

BMI	(n)	
<18.5 kg/m2	**9**	**3%**
18.5-24.9 kg/m2	**130**	**37%**
25-29.9 kg/m2	**105**	**30%**
30-34.9 kg/m2	**64**	**18%**
35-39.9 kg/m2	**24**	**7%**
>40 kg/m2	**22**	**5%**
Total (n)	**354**	

(7 Participants opted to not receive body composition/weight)

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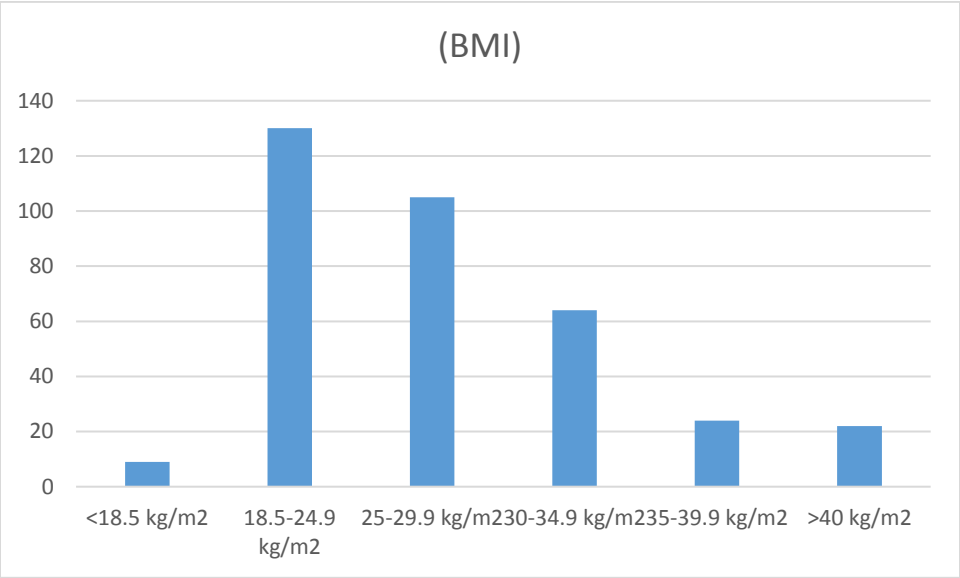

BMI Summary

Oklahoma continues to see an increasing epidemic of obesity resulting in additional health diseases. Individuals with obesity have an increased chance of developing the following health problems:

- High blood glucose (sugar) or diabetes
- High blood pressure (hypertension)
- High blood cholesterol and triglycerides (dyslipidemia, or high blood fats)
- Heart attack due to coronary heart disease, heart failure, and stroke
- Bone and joint problems, more weight puts pressure on bones and joints. Can lead to osteoarthritis-disease causing joint pain and stiffness
- Sleep apnea-stopping breathing while sleeping resulting in daytime fatigue, lack of focus and productivity
- Gallstones and liver problems
- Some cancers

BMI Recommendations Items to Consider2019

- What current weight loss/healthy BMI efforts are provided by UCO Wellness?
- Corporate Health and Wellness can help market UCO Wellness healthy BMI efforts upon strategic identifiers established.
- UCO Wellness Program efforts recommended to include strong focus on BMI/Weight loss programs/efforts if programs/efforts not already established.

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- What are the nutrition options at or near UCO campus?

Additional Efforts for BMI Improvement Provided by OUP Corporate Health & Wellness

- OU Physicians Corporate Health & Wellness team can offer option to bring Registered Dietitian on site monthly during time screenings are provided at UCO campus
- Healthy lunch option list can be developed for nutrition improvement

Lipid Results

FULL LIPID PANEL	(number of participants)	(percentage of participants)
TOTAL CHOLESTEROL		
Desirable < 200 mg/dL	301	84%
Borderline High 200-239 mg/dL	44	12%
High> 239 mg/dL	15	4%
LDL "Bad" Cholesterol		
Optimal <100 mg/dL	234	65%
Near/Above optimum 100-129 mg/dL	92	25%
Borderline High 130-159 mg/dL	24	7%
High 160-189 mg/dL	6	2%
Very High > 189 mg/dL	4	1%
HDL "Good" Cholesterol		
Low (undesirable) <40 mg/dL	38	11%
High (desirable) 40-59 mg/dL	202	56%
>59 mg/dL	120	33%
TRIGLYCERIDES		
Normal <150 mg/dL	283	79%
Borderline High 150-199 mg/dL	48	13%
High 200-499 mg/dL	29	8%
Very High >499 mg/dL	0	0%

Lipid Results Summary

- Total Cholesterol: Most of UCO participants ranked within desirable range (84%)
- Only 4% in "high range" category for Total Cholesterol
- LDL "Bad" Cholesterol: Most of UCO participants ranked within optimal range (65%)
- LDL "Bad" Cholesterol: Only 3% ranked in High/Very High Category
- Triglycerides: 79% ranked within Normal category
- Triglycerides: 8% ranked within High Category

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Glucose Results

FASTING GLUCOSE	(n)	
Normal < 100 mg/dL	**130**	**36%**
Pre-Diabetes 100-125 mg/dL	**212**	**59%**
Diabetes ≥ 126 mg/dL	**19**	**5%**

Glucose Summary

- 59% of Participants identified as Pre-Diabetic
- 5% of Participants identified as Diabetic
- New findings during lab results-patients also received A1C upon fasting glucose of >126
- 36% of participants in normal range category

Glycosylated Hemoglobin (HbA1C) Results

Hb A1C	(n)
< 5.7 %	**7**
5.7-6.4 %	**2**
≥ 6.5 %	**2**
Total (n)	**11**

- Inclusion Criteria:
  - Fasting blood glucose of ≥ 126 mg/dL
  - Known history of impaired fasting glucose or formally diagnosed T2DM
  - Participant Non-Fasting
- HbA1C measures % of glycosylated hemoglobin
  - Non-Enzymatic process
  - Direct correlate with glycemic control over previous 90 days (approx.) – corresponds to lifespan of average RBC

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UCO Elevated Blood Pressure Values

	Systolic	Diastolic
Pre-Hypertensive (Systolic 120-139) (Diastolic less than 80)	94	121
Stage I Hypertension	34	67
State II Hypertension	4	12

UCO Blood Pressure Summary

- **Pre-Hypertension:** (94 patients identified high systolic) (121 patients with high diastolic)
- **Stage II Hypertensive**: (34 patients identified with systolic 140-159) (67 patients with diastolic of 90-99)
- **Stage II Hypertension:** (4 patients with 160 or higher) (12 patients with diastolic of 100 or higher)

Categorizing the Severity of the BP Elevation

	SYSTOLIC	DIASTOLIC
Normal	≤ 129 mmHg	≤ 79 mmHg
Pre-Hypertensive	130-139 mmHg	80-89 mmHg
Stage I HTN	140-159 mmHg	90-99 mmHg
Stage II HTN	≥ 160 mmHg	≥ 100 mmHg

Does not categorize patients as having SBP, DBP elevation or **both**
Does ***not exclude* patients / employees with pre-existing, formal diagnosis of HTN

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***Additional Suggestions/Recommendations for UCO Wellness Team**:

- Strong focus on efforts promoting the following:
  - Healthy BMI
  - Stress Management
  - Healthy Diet/Nutrition Options
  - Exercise/Active Lifestyle
  - Continue screenings to compare improvements 2019 vs 2018
  - Registered Dietician Option
  - Targeting Healthy BMI can help improve overall health metrics related to blood pressure, cholesterol, glucose, etc.
- Increasing Biometric Screening Offerings
  - To increase participation, Corporate Health & Wellness Team is recommending a minimum of 35 screening days fall 2019 (September-December)
  - Corporate Health & Wellness Team to provide Registered Dietitian option monthly during screening assessments.
  - Any additional locations to setup/high traffic areas
- Referrals/follow-up on Screenings send to UCO Wellness Clinic
  - Track how many employees are attending after appointment is made
  - Track no-shows
  - Track health improvements
- Survey UCO Employees
  - What would they like to see more within Wellness Program-more likely efforts will be used and resources will not be wasted.
- Development of Healthy Lunch/Dinner Options List
  - Research healthy lunch options at or near UCO campus-include calorie count/serving size.
  - Have form available on website and key locations.

Questions or feedback related to summary please contact:

Krystin Corrujedo, BS, LSS BB, CMI
Corporate Health & Wellness Manager
Sylvia-corrujedo@ouhsc.edu

APPENDIX D

ACHA-NFSHA SURVEY

Introduction

National Faculty and Staff Health Assessment

"Assessing the Health of Faculty, Staff and Graduate Student Employees"

The ACHA-NFSHA asks about various aspects of your health and is completely voluntary. You may skip any question you do not want to answer. You may complete the survey in multiple sessions. Use the buttons at the bottom of the survey to navigate through the survey. Do not use your browser's back button.

By clicking the 'Begin Survey' button below, you agree that:

The purpose of this study has been thoroughly explained to you; you are at least 18 years of age; and you consent to participate in the survey.

Please direct any questions about the survey to the campus contact identified in your survey invitation email.

NFSHA SURVEY

General Wellness

1) How would you describe your general overall health?

Excellent	Fair
Very good	Poor
Good	Don't know

2) My college/university cares about my health and well-being.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

3) Do you believe the health and well-being of university staff and faculty impact student success and learning?

No

Yes

Don't know

4) How important do you feel it is to model positive health and wellness behavior to students?

Not applicable

Extremely important

Very important

Moderately important

Slightly important

Not at all important

5) Within the last 12 months have you received a flu vaccination (shot or mist)?

No

Yes

Don't know

6) Within the last 12 months, how often did you...

	Not applicable	Never	Rarely	Sometimes	Most of the time	Always
Experience pain, discomfort, or numbness in your **hands, wrists, arms, or shoulders** when using a computer or working at a desk?	○	○	○	○	○	○

	Not applicable	Never	Rarely	Sometimes	Most of the time	Always
Experience pain, discomfort, or numbness in your **hands, wrists, arms, or shoulders** when performing work tasks **NOT** at a desk or a computer?	○	○	○	○	○	○
Experience pain, discomfort, or numbness in your **neck or low back** when using a computer or working at a desk?	○	○	○	○	○	○
Experience pain, discomfort, or numbness in your **neck or low back** when performing work tasks **NOT** at a desk or a computer?	○	○	○	○	○	○

7) How long has it been since you had the following checked? (Please mark the appropriate column for each row)

	Less than 12 months ago	1 year ago but less than 2 years ago	2 years ago but less than 3 years ago	3 years ago but less than 5 years ago	5 or more years ago	Never	Don't know
Blood pressure	○	○	○	○	○	○	○
Blood sugar	○	○	○	○	○	○	○
Cholesterol	○	○	○	○	○	○	○
Dental exam	○	○	○	○	○	○	○
Eye exam	○	○	○	○	○	○	○
Hearing exam	○	○	○	○	○	○	○
Physical exam	○	○	○	○	○	○	○
Triglycerides (blood fat)	○	○	○	○	○	○	○

8) Has a doctor or other healthcare provider told you that you currently have any of the following conditions? (Please mark the appropriate column for each row)

	No	Yes, diagnosed/no treatment	Yes, diagnosed/received treatment
Anxiety	○	○	○
Depression	○	○	○
Elevated blood sugar or diabetes	○	○	○
Elevated cholesterol level	○	○	○

	No	Yes, diagnosed/no treatment	Yes, diagnosed/received treatment
High blood pressure/hypertension	○	○	○
Low back injury or spine problems	○	○	○

9) On how many of the <u>past 7 days</u> did you get enough sleep so that you felt rested when you woke up?

0 days	4 days
1 day	5 days
2 days	6 days
3 days	7 days

10) Over the last 2 weeks, what is the average amount of sleep you have gotten on <u>weeknights</u> (excluding naps)? (Please select the response closest to your answer)

Less than 4 hours

4 hours

5 hours

6 hours

7 hours

8 hours

9 hours

10 or more hours

11A) How long does it usually take for you to fall asleep at night once you close your eyes?

Under 5 minutes

5-15 minutes

16-30 minutes

31 minutes – 1 hour

Over 1 hour

11B) In the last 12 months have you experienced the following? (Please mark the appropriate column for each row)

	No	Yes

	No	Yes
Experienced difficulty staying asleep	○	○
Used an over-the-counter medication to promote sleep	○	○
Used a prescription medication to promote sleep	○	○
Experienced difficulty coping with stressful events or situations	○	○

	No	Yes
Felt so depressed that it was difficult to function	○	○
Felt overwhelming anxiety	○	○
Felt overwhelmed by all you had to do	○	○

Work Performance

12A) Within the last 12 months, how often have the following negatively impacted your performance and/or productivity at work? (Please mark the appropriate column for each row)

	Not applicable, did not happen within the last 12 months	Never	Rarely	Sometimes	Most of the time	Always
Anxiety	○	○	○	○	○	○
Death of a close friend or family member	○	○	○	○	○	○
Depression	○	○	○	○	○	○
Financial concerns	○	○	○	○	○	○
Lack of quality sleep	○	○	○	○	○	○
Severe headaches/migraines	○	○	○	○	○	○
A family member's (child, parent, spouse/partner) special needs, illness, injury or surgery	○	○	○	○	○	○
My own special needs, illness, injury or surgery	○	○	○	○	○	○
Violence in my home (spouse/partner, child)	○	○	○	○	○	○

12B) Within the last 12 months, how often have the following negatively impacted your performance and/or productivity at work? (Please mark the appropriate column for each row)

	Not applicable, did not happen within the last 12 months	Never	Rarely	Sometimes	Most of the time	Always
Personal problem with addiction to alcohol or drugs	○	○	○	○	○	○
Addiction to alcohol or drugs of a close friend or family member	○	○	○	○	○	○
Lack of interest in my work	○	○	○	○	○	○
Lack of tools and resources to perform functions of my job	○	○	○	○	○	○

12C) Within the last 12 months, how often have the following negatively impacted your performance and/or productivity at work? (Please mark the appropriate column for each row)

	Not applicable, did not happen within the last 12 months	Never	Rarely	Sometimes	Most of the time	Always
Relationship in my personal life	○	○	○	○	○	○
Relationship with coworkers	○	○	○	○	○	○
Relationship with supervisor	○	○	○	○	○	○
Stressful environment within my department/unit	○	○	○	○	○	○
Supervisor or management support	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○

Work Culture

A culture of wellness refers to norms, standards, and structures that are helpful for individuals' wellness to include: Supportive leadership and colleagues, environmental cues and resources that support healthy living.

13) My college/university promotes a culture of wellness.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Don't know

14) Please indicate whether each of the following are a barrier that prevents you from participating in wellness-at-work programs.

	No	Yes
Job responsibilities make it difficult to participate (shift work, coverage, fee based work)	○	○
I forget to attend or participate	○	○
Concerns about confidentiality	○	○
Lack of personal motivation	○	○
Time management (have trouble fitting anything else into my busy schedule)	○	○

	No	Yes
Schedule of programs do not work for me	○	○
Wellness programs are not offered at a convenient location	○	○
My supervisor does not allow me to attend	○	○
Lack of interest in wellness activities available to me	○	○
Injury or disability	○	○

	No	Yes
Cost	○	○
Not supported by coworkers	○	○
Do not feel comfortable participating in wellness-at-work programs	○	○
Do not have the knowledge needed to participate	○	○
Other (please specify	○	○

15) Within the last 12 months I have felt... (Please mark the appropriate column for each row)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
My work is consistent with my values.	O	O	O	O	O
My office/department values my work.	O	O	O	O	O
My supervisor provides the support that I need to cope with the demands of my job.	O	O	O	O	O
I have received adequate feedback to judge my work performance.	O	O	O	O	O

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The flow of communication within my office/department clearly defines expectations so I know how to effectively do my job.	O	O	O	O	O
I have been offered opportunities to learn and grow.	O	O	O	O	O
My department values the balance between my job and life outside the work setting.	O	O	O	O	O

Safety and Violence

16) My college/university is concerned about my safety.

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

17) How safe do you feel: (Please mark the appropriate column for each row)

	Not applicable, do not live/work on campus	Not safe at all	Somewhat unsafe	Somewhat safe	Very safe

	Not applicable, do not live/work on campus	Not safe at all	Somewhat unsafe	Somewhat safe	Very safe
On this campus (daytime)?	O	O	O	O	O
On this campus (nighttime)?	O	O	O	O	O
In the community surrounding this campus (daytime)?	O	O	O	O	O
In the community surrounding this campus (nighttime)?	O	O	O	O	O

18) Within the last 12 months, how often did you: (Please mark the appropriate column for each row)

	Not applicable, did not do this activity within the last 12 months	Never	Rarely	Sometimes	Most of the time	Always
Wear a seatbelt when you rode in a car?	O	O	O	O	O	O
Wear a helmet when you rode a bicycle?	O	O	O	O	O	O
Wear a helmet when you rode a motorcycle?	O	O	O	O	O	O

19A) In the past twelve months, <u>have you observed any of</u> the following behaviors among your coworkers?

	No	Yes
Ignoring phone calls or emails from coworkers	O	O
Silent treatment towards coworkers	O	O
Spreading gossip about coworkers	O	O
Coworkers are excluded from work-related social gatherings	O	O

	No	Yes
Coworkers take credit for work or ideas of others	O	O
Coworkers make insults about personal lives of others	O	O

	No	Yes
Coworkers display intimidating or humiliating behaviors toward others	○	○
Coworkers are being ignored/ostracized by others	○	○

	No	Yes
Coworkers experience verbal abuse	○	○
Coworkers experience physical abuse	○	○
Coworkers experience sexual abuse	○	○
Misuse of authority within an organization for personal or financial gain	○	○

19B) In the past twelve months, have the following behaviors <u>been directed toward you</u> in the workplace?

	No	Yes
Ignoring my phone calls or emails	○	○
Silent treatment towards me	○	○
Spreading gossip about me	○	○
Coworkers exclude you from work-related social gatherings	○	○

	No	Yes
Coworkers take credit for your work or your ideas	○	○
Coworkers make insults about your personal life	○	○
Coworkers display intimidating or humiliating behaviors	○	○
Verbal abuse	○	○

	No	Yes
Physical abuse	○	○
Sexual abuse	○	○
Supervisor abuses their power over me	○	○
Coworkers are ignoring/ostracizing me.	○	○

Workplace bullying refers to repeated, unreasonable actions of individuals (or a group) directed towards an employee (or a group of employees), which are intended to intimidate, degrade, humiliate, or undermine; or which create a risk to the health or safety of the employee(s).

20) In the last twelve months, I have missed work due to being bullied in workplace.

Not applicable, I have not been bullied in the workplace in the last 12 months.

No

Yes

21) Please indicate the extent to which you agree or disagree with each of the following statements: In the last twelve months:

	Not applicable, I have not been bullied in the workplace in the last 12 months	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
My **emotional** health (irritability, inability to concentrate, anxiety, depression, etc.) has been negatively affected due to being bullied at work.	○	○	○	○	○	○
My **physical** health (headaches, diarrhea, impaired immune system, diabetes, etc.) has been negatively affected due to being bullied at work.	○	○	○	○	○	○
My **stress** (social isolation, family issues, marriage issues, etc.) level has been increased due to being bullied at work.	○	○	○	○	○	○

The next two questions ask about physical activity. The levels of intensity can be characterized in terms of breathing difficulty. A person doing moderate physical activity can typically talk, but not sing while doing the activity. A person doing vigorous physical activity typically cannot say more than a few words without pausing for a breath while doing the activity.

22A) In the past 7 days, how many (total) minutes did you spend doing moderate physical activity? Examples: Walking briskly, water aerobics, biking slower than 10 miles per hour, doubles tennis.

Minutes

22B) In the past 7 days, how many (total) minutes did you spend doing vigorous physical activity? Examples: Jogging or running, swimming laps, biking more than 10 miles per hour, aerobic dance, singles tennis.

Minutes

22C) In the last 7 days, how many days did you spend doing exercises to strengthen or tone your muscles? Examples: push ups, sit ups, weightlifting/training

Days

23) In the past 30 days, on average which of the following best represents how much time you spend sitting while at work?

10% (approx. 48 mins per day)
20% (approx. 1.6 hours per day)
30% (approx. 2.4 hours per day)
40% (approx. 3.2 hours per day)
50% (approx. 4.0 hours per day)
60% (approx. 4.8 hours per day)
70% (approx.5.6 hours per day)
80% (approx. 6.4 hours per day)
90% (approx. 7.2 hours per day)
100% (approx. 8.0 hours per day)

24) Has a doctor or other health care provider instructed you to restrict your current physical activity?

No
Yes

25) Do you currently have difficulty walking or using stairs or require an assistive device to help with mobility?

No
Yes

26) In the past 30 days, how often do you use the stairs instead of an elevator or escalator while at work?

Not applicable (e.g., I have a disability, or a job that does not require me to move between floors)

Never

Rarely

Some of the time

Most of the time

Always

Weight and Nutrition

27) I consider myself to be:

Underweight

A healthy weight

Overweight

Obese

Unsure

28) Are you trying to do any of the following about your weight?

I am not trying to do anything about my weight

Stay the same weight

Lose weight

Gain weight

29) In the last week, how many servings of fruit did you eat on average per day? (One serving is a medium piece of fresh fruit, ½ cup of fresh, frozen, or canned fruit, ¼ cup of dried fruit, ¾ cup of 100% fruit juice)

0 servings/day

1-2 servings/day

3-4 servings/day

5-6 servings/day

>6 servings/day

30) In the last week, how many servings of vegetables did you eat on average per day? (One serving is ½ cup of fresh, frozen, or canned vegetables, ¾ cup 100% vegetable juice, 1 cup salad greens)

0 servings/day

1-2 servings/day

3-4 servings/day

5-6 servings/day

>6 servings/day

31) In the last week, how many servings of <u>whole grains</u> did you eat on average per day? (One serving is 1 slice of whole grain bread, 1 mini whole grain bagel, 1 cup of whole grain ready-to-eat cereal, ½ cup cooked brown/wild rice, whole grain pasta, or oatmeal, 1 small 6" inch whole grain tortilla)

0 servings/day

1-2 servings/day

3-4 servings/day

5-6 servings/day

>6 servings/day

32) In the last week, how many servings of <u>low-fat dairy or calcium fortified products</u> did you eat on average per day? (One serving is 1 cup of fat-free or low-fat milk, yogurt, or calcium fortified juice, 1/3 cup shredded low-fat or reduced-fat cheese, 1.5 ounces of natural cheese or about the size of 6 dice)

0 servings/day

1-2 servings/day

3-4 servings/day

5-6 servings/day

>6 servings/day

33) In the last week, how many ounces of <u>lean proteins</u> did you eat <u>on average per day</u>?

One ounce is 1 egg; ¼ cup cooked beans or peas, roasted soybeans, or tofu; 2 tablespoons of hummus; 1 tablespoon of peanut butter or almond butter; ½ ounce nuts and seeds (12 almonds, 24 pistachios, 7 walnut halves); or 1 ounce lean beef, pork, chicken, fish (about the size of a matchbook cover)

<u>For example:</u>
3 ounces of lean beef, pork, poultry, or fish = size of a deck of cards
If you ate 2 eggs, 1 small hamburger, and 1/2 cup of beans throughout the day = 7 ounces total

0-2 ounces per day

3-5 ounces per day

6-8 ounces per day

9-11 ounces per day

More than 11 ounces per day

34) In the last week, how many servings of <u>sugar-sweetened beverages</u> did you drink on average per day? (One serving is 12 oz of soda, 8 oz of sugar-sweetened, flavored water or sports drink, 6 oz of sugar sweetened coffee, tea, or juice)

0 servings/day

1-2 servings/day

3-4 servings/day

5-6 servings/day

>6 servings/day

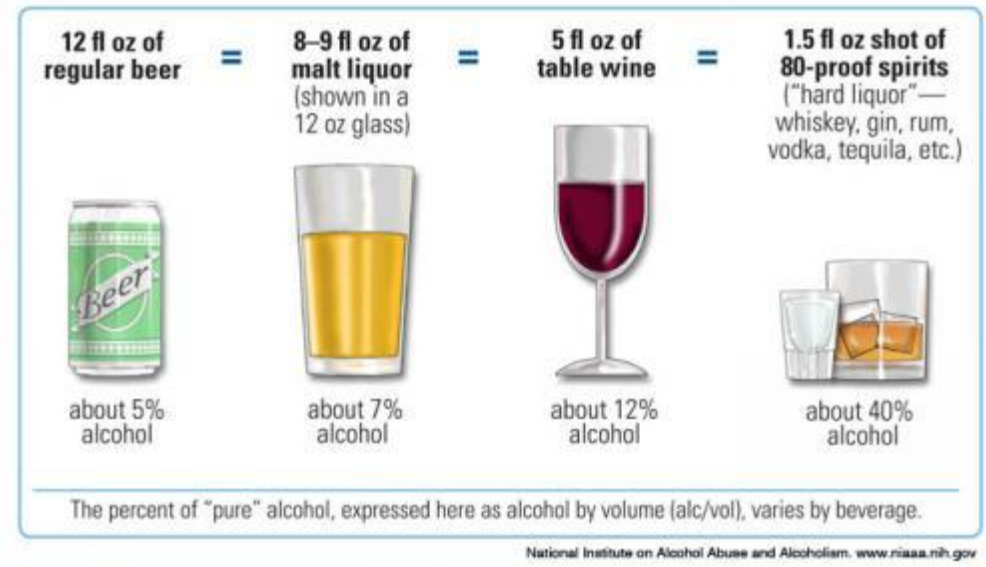
Alcohol and Tobacco Use

35) Within the last 30 days, on how many days did you use: (Please mark the appropriate column for each row)

	Never used	Have used, but not in **last 30 days**	1-2 days	3-5 days	6-9 days	10-19 days	20-29 days	Used daily
Alcohol (beer, wine, liquor)	O	O	O	O	O	O	O	O
Cigarettes	O	O	O	O	O	O	O	O
Cigars, little cigars, clove cigarettes	O	O	O	O	O	O	O	O
E-cigarettes or other vape products	O	O	O	O	O	O	O	O
Smokeless tobacco (chew, snuff)	O	O	O	O	O	O	O	O
Tobacco from a water pipe (hookah)	O	O	O	O	O	O	O	O

A standard drink of alcohol is defined as:

- **12 fluid ounces of regular beer**
- **8-9 ounces malt liquor**
- **5 fluid ounces table wine**
- **1 ½ ounce shot of 80 proof liquor**



36) Over the last two weeks, how many times have you had five or more drinks of alcohol at a sitting?

- Not applicable, don't drink
- None
- 1 time
- 2 times
- 3 times
- 4 times
- 5 times
- 6 times
- 7 times
- 8 times
- 9 times
- 10 or more times

37) When you drink alcohol, how many drinks do you typically have? (If you did not drink alcohol, please enter 0)

[ ] Number of Drinks

38) In the last 12 months, have you felt the need to reduce your drinking?

- Not applicable, don't drink
- No
- Yes

39) In the last 12 months, has a family member, friend, colleague, or anyone expressed concern about your drinking or suggested you reduce your consumption?

Not applicable, don't drink

No

Yes

40) Are you having any financial, work, family, or other problems as a result of your drinking?

Not applicable, don't drink

No

Yes

41) Are you in recovery from alcohol or other substance abuse or dependence?

No

Yes

This part of the survey will help us understand your personal characteristics. While we strive to present an inclusive list of options for the questions that follow, the categories may not represent your full identity nor use the language you prefer. For the purpose of this survey, please indicate which choice best describes you.

Demographic Characteristics

42) How do you usually describe yourself? (Mark all that apply)

American Indian or Native Alaskan

Asian or Asian American

Arab/Middle Eastern/North African Origin

Black or African American

Hispanic or Latino/a

Native Hawaiian or Other Pacific Islander Native

White

Biracial or Multiracial

Another Identity (please specify)

42A) Are you:

Mexican, Mexican Am., Chicano

Puerto Rican

Cuban

Another Hispanic, Latino, or Spanish origin

42A) Are you:

East Asian (e.g., Chinese, Japanese, Korean, Taiwanese)

Southeast Asian (e.g., Cambodian, Vietnamese, Hmong, Filipino)

South Asian (e.g., Indian, Pakistani, Nepalese, Sri Lankan)

Other Asian

43) How old are you?

Years

44) What is your height in feet (') and inches (")?

45) What is your weight in pounds?

Pounds

46) What sex were you assigned at birth?

Female

Male

Intersex

47) Do you identify as transgender?

No

Yes

48) Which term do you use to describe your gender identity?

Woman

Man

Trans woman

Trans man

Genderqueer

Agender

Genderfluid

Intersex

Nonbinary

Another identity (please specify)

49) What term best describes your sexual orientation?

Straight/Heterosexual

Bisexual

Gay

Lesbian

Pansexual

Queer

Questioning

Another identity (please specify)

50) Relationship status:

Single, never married

Single, divorced

Separated

Engaged

Married

Widowed

Other (Please specify)

51) Highest level of education:

Grades 1-8

Grades 9-11 (some high school)

Associate's degree

Bachelor's degree

High school graduate or GED	Master's degree
Some college (no degree)	Doctoral Degree
Trade/technical/vocational	Professional Degree (e.g., MD, DDS, DVM, LLB, JD)

52) For the following statements, please say whether the statement was <u>often</u> true, <u>sometimes</u> true, or <u>never</u> true for you in the last 30 days.

	Often True	Sometimes True	Never True
The food that I bought just didn't last, and I didn't have money to get more.	○	○	○
I couldn't afford to eat balanced meals.	○	○	○

53) In the last 30 days, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

Yes, almost every day

Yes, some days, but not every day

Only 1 or 2 days

No

54) In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?

Yes

No

55) In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?

Yes

No

56) Within the past 12 months, to what extent have your values, sense of purpose, faith or spirituality been useful to you?

To no extent

To little extent

To some extent

To great extent

To very great extent

57) Are you currently or have you been a member of the Armed Services?

No

Yes and I have served in geographic area of hazardous duty

Yes and I have not served in a geographic area of hazardous duty

Employment Information

58) Employee Classification: (Choose your primary position)

Staff

Adjunct Faculty

Faculty

Administration

Graduate/professional student, fellow, resident or post-doc

Other

59) Pay type:

Hourly

Salaried

60) What shift do you usually work?

Day (1st)

Evening (2nd)

Night (3rd)

61) What is your yearly appointment?

9 month

10 month

11 month

12 month

62) Employment status:

Part-time without benefits

Part-time with benefits

Full-time without benefits

Full-time with benefits

63) Are you:

Employed by the college/university

Employed by an outsourced group

64) Do you have health insurance?

No

Yes

I don't know

65) Years of employment at this institution or outsourced group at this institution:

<=5

6-10

11-15

16-20

21-25

26-30

31-35

36-40

More than 40 years

66) Are you a member of an employment union?

No

Yes

The End

Almost there! Please hit the "submit survey" button below.

Browser Meta Info

This question will not be displayed to the recipient.
Browser: **Chrome**
Version: **71.0.3578.80**
Operating System: **Windows NT 10.0**
Screen Resolution: **1920x1080**
Flash Version: **-1**
Java Support: **0**
User Agent: **Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/71.0.3578.80 Safari/537.36**

APPENDIX E

ACHA-NFSHA INTRODUCTION LETTER

ACHA-NFSHA Letter of Introduction/Consent Template

Dear "first name"

All full-time University of Central Oklahoma employees are being asked to participate in the National Faculty and Staff Health Assessment (ACHA-NFSHA) sponsored and distributed by the American College Health Association (ACHA). The ACHA-NFSHA is a survey designed to assess faculty, staff and graduate student employees' health behaviors in order to provide better services and support for UCO employees. You may benefit by knowing that you have assisted in providing accurate information regarding health/wellness behaviors on our campus. The information will be used to develop wellness programs and services for UCO.

The ACHA-NFSHA is completed online via the Internet. We encourage you to complete the survey in one sitting, which typically takes about 20-30 minutes. **All employees who submit a survey will be automatically entered in a random drawing for one of five $50 gift certificates for the campus bookstore!**

There may be some personal discomfort with the content of certain questions. For example, there are questions regarding substance use. If you'd like to talk with someone about issues addressed in the survey, you may contact the UCO Employee Assistance Program, Deer Oaks EAP Services at 1-866-327-2400 or eap@deeroaks.com.

Your participation is completely voluntary and confidential. To ensure confidentiality, e-mail addresses are destroyed by ACHA before data are compiled and shared with UCO. The raw data file that is shared with your school will not contain any unique identifiers. If you feel that answering specific demographic questions might reveal your identity, you may leave them blank. You may answer only some questions, or you may choose not to participate in the survey at all. Any reports or publications based on this research will use only group data and will not identify you or any individual as being affiliated with this project.

By taking this survey, you consent to participate in the study and agree that the purpose of this study has been satisfactorily explained to you. You understand you are free to discontinue participation at any time if you so choose and that the researcher will gladly answer any questions that may arise during the course of the research. Refusing or withdrawing from this study will be at no penalty or loss of benefits to you.

You may contact Khari Huff, 405-974-3119 or khuff4@uco.edu if you have questions or concerns about the survey.

Data transmission is encrypted and firewall securities are in place. After you submit the survey to the secure server, a message thanking you for taking the ACHA-NFSHA will be displayed in your browser window, and you will receive a confirmation email.

This project has been approved by the University of Central Oklahoma Institutional Review Board (2019-012). If you have any questions regarding your participation, you may contact the UCO IRB at 405-974-5497 or irb@uco.edu.

If you agree to participate in the ACHA-NFSHA survey, click on the following Internet address to continue:
(ACHA to insert survey link here)

Thank you for your cooperation!
The UCO Employee Wellness Committee and the American College Health Association

If you do not want to receive reminder messages about completing the survey, please click here to remove yourself from the survey mailing list:
(ACHA to insert unsubscribe link here)

APPENDIX F

UCO PHYSICAL ACTIVITY POLICY QUESTION

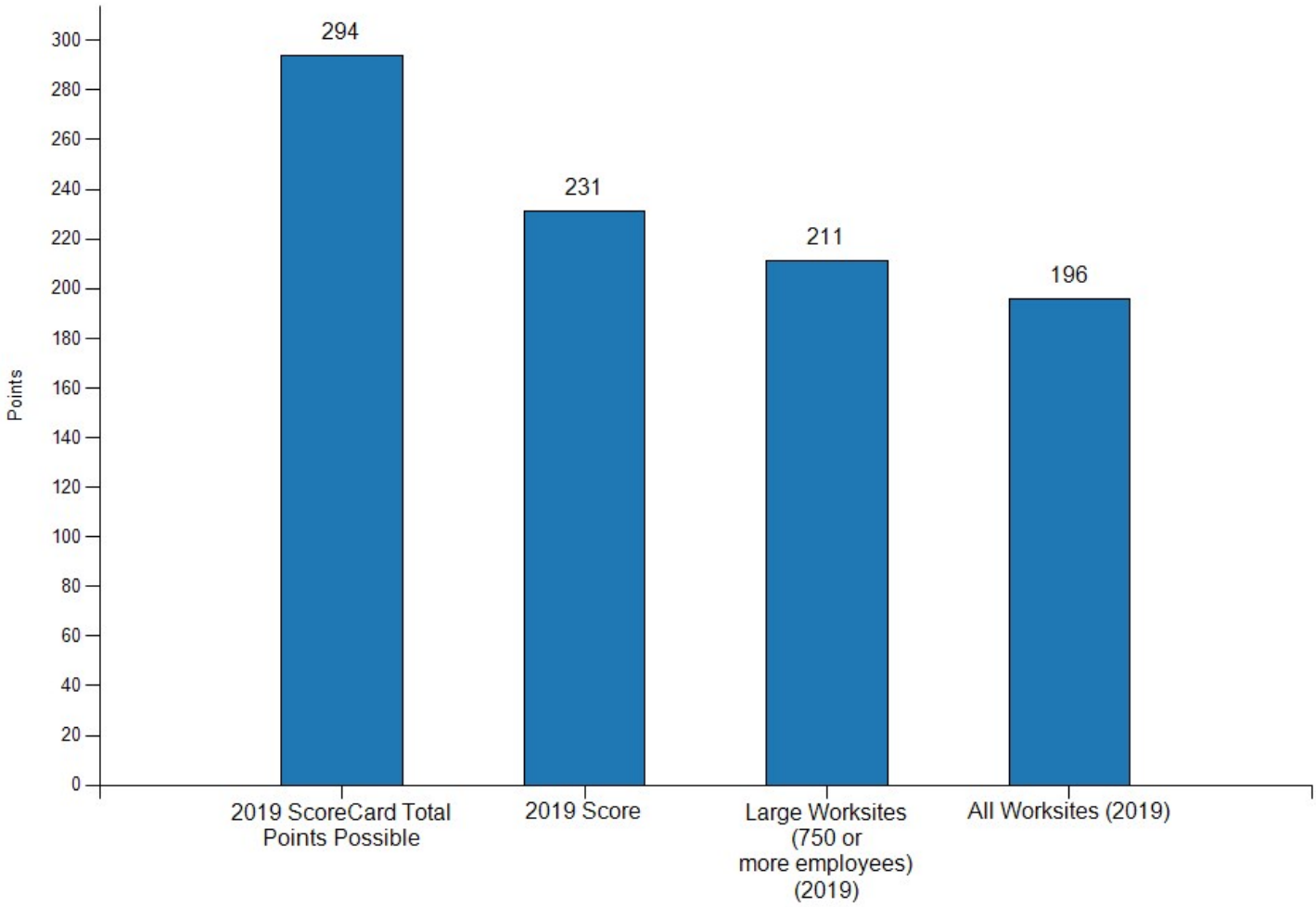
The UCO Physical Activity Policy was adopted in April of 2018. The PA Policy allows UCO employees to participate in two-hours of physical activity per week during work time with supervisor approval. Which of the following best describes your participation in the UCO PA Policy in the past year?

- My supervisor approved and I participated.
- My supervisor approved, but I did not participate
- My supervisor did not approve, so I could not participate
- I do not know about the UCO PA Policy, so I did not participate.

APPENDIX G

CDC HEALTH SCORECARD RESULTS FOR UCO

University of Central Oklahoma - University of Central Oklahoma
2019 Summary Benchmark Report - Overall Total



Source

CDC Worksite Health ScoreCard Online

National Center for Chronic Disease Prevention and Health Promotion
Division of Population Health

			2019 Sample Scores	
TOPIC	**2019 ScoreCard Total Points Possible**	**2019 Score**	**Large Worksites (750 or more employees)[c]**	**All Worksites[d]**
Organizational Supports	44	**37**	35	32
Tobacco Use	18	**14**	14	13
High Blood Pressure	16	**10**	12	11
High Cholesterol	13	**10**	9	9
Physical Activity	22	**19**	17	15
Weight Management	8	**8**	7	8
Nutrition	24	**7**	13	11
Heart Attack and Stroke	19	**17**	14	13
Prediabetes and Diabetes	15	**12**	11	10
Depression	16	**14**	11	10
Stress Management	14	**14**	9	9
Alcohol and Other Substance Use	9	**8**	6	6
Sleep and Fatigue	9	**4**	3	3
Musculoskeletal Disorders	9	**7**	6	5
Occupational Health and Safety	18	**16**	15	14
Vaccine Preventable Diseases	14	**14**	12	11
Maternal Health and Lactation Support	15	**12**	11	10
Cancer	11	**8**	6	6
TOTAL	**294**	**231**	**211**	**196**

Footnotes

[c]Total number of worksites included in Large Worksites 2019 average: 37

[d]Total number of worksites included in All Worksites 2019 average: 93

Source

CDC Worksite Health ScoreCard Online

APPENDIX H

RECOMMENDATIONS FOR CAMPUS PROGRAMMING

Recommendations for University of Central Oklahoma Employee Wellness Programming

Yearly Programs to Support Prevention and Participation
Wellness Champions Program
Diabetes Prevention Education
Physical Activity Promotion Campaign
Tobacco Cessation Program
Weight Watchers/ Total Wellness Program
Farmers Market Co-op
Faculty and Staff Reduced Priced Healthy Options on Campus

Monthly programming based on aggregate data results from Biometric Health Screenings, ACHA-NFSHA Needs Assessment, and current programs offered.
Incorporating the eight dimensions of wellness.

- January: A Healthier You Challenge
  - CHOS' Health – Overcoming barriers and setting priorities for your health –Working with EAP
- February: Heart Health Challenge/Education
- March: National Nutrition Month- Nutrition Challenge
- April: Central 5k- Annual Walk/Run
  - Move More Challenge –Incorporating daily activity into your routine
- May: Mental Health Awareness Month
- June: Stress Management
- July: Farmers Market Nutrition Challenge- Fitting more fruits and vegetables into your daily routine
- August: Hydration Challenge
- September Challenge-***Step-tember*** Challenge
- October- Time Management-(Making Wellness a Priority)-Working with EAP
  - Financial Wellness Challenge
- November- Diabetes Education and Awareness
- November/December- Maintain Don't Gain Challenge-through the Holidays