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IMPACT OF WORK-LIFE BALANCE ON
HEALTH-RELATED QUALITY OF LIFE AMONG
COLLEGE STUDENTS

by

EMILY VERNET

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Health Sciences
in the College of Health Professions and Sciences
and in the Burnett Honors College
at the University of Central Florida
Orlando, Florida

Fall Term
2019

Thesis Chair: Dr. Suha Saleh

Abstract

Work-life balance involves the management of work and social responsibilities. Specifically, it describes the ability to meet the demands of multiple roles involving academics, social, personal, and professional life. Literature has shown that there is an increasing number of students who are working while taking classes at a university. Previous research has described how young adults balance working and going to school and how work hours influence student's mental, physical, and health behaviors. The purpose of this study is to examine the association between a student's ability to balance work demands, student and life responsibilities, and health outcomes. Using a cross-sectional design, differences between quality of life and work-life management among college students was measured with the 12-Item Short-Form Health Survey (SF-12) and the Work-Life Balance survey. The survey questions were built in the online survey system, Qualtrics, and distributed to students through a campus-wide email. Collected data was downloaded into SPSS, and statistical significance between quality of life, work-life balance, and student demographics was analyzed using one-way ANOVA. Results of this study showed a significant difference in work-life balance and quality of life scores between working and non-working students as well as among students' age, gender, class status, major, work hours, work location, and sleep.

Keywords: work-life balance, quality of life, health, college students, SF-12

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Abbreviations

- QOL: Quality of life
- WFB: Work-family balance
- WLB: Work-life balance
- WSB: Work-school balance
- WSC: Work-school conflict
- WSE: Work-school enrichment
- PCS: Physical component summary
- MCS: Mental component summary
- WIPL: Work interference with personal life
- PLIW: Personal life interference with work
- WPLE: Work-personal life enhancement

Introduction

Background

Work-life balance (WLB) involves integrating work and leisure-time in harmony with physical, emotional, and spiritual health (Simmons, 2012). It discusses how an individual manages to work and participate in other activities related to school, family, extracurricular activities, and other obligations. Thus, an individual who successfully commits to multiple roles (e.g., employee, volunteer, parent, student, or spouse) engages in WLB. WLB has been of growing concern, as Americans work longer hours than workers of other developed countries (Williams & Boushey, 2010). Longer work hours has been linked to job outcomes and health outcomes (Lederer et. al, 2015; Oviatt et. al, 2017; Barone, 2017; Fein & Skinner, 2015; Butler, Dodge, & Faurote, 2010; McNall & Michel, 2017; Pradhan, Pattnaik, & Jena, 2016; Ratna & Kaur, 2016; NG, Chen, NG, Lin, & Kuar, 2017; Rankin & Gulley, 2018; Abdirahman, Najeemdeen, Abidemi, & Ahmad, 2018). Factors such as burnout, poor physical and psychological health, stress, lower sleep quality, and decreased employee performance and satisfaction describe the adverse outcomes from working long hours (Fein & Skinner, 2015; Zhang, Punnett, & Nannini, 2017).

College serves as an essential component of young adulthood. During this time, young adults are responsible for managing their time, obligations, and health on their own, a lifestyle they are not prepared for beforehand. Such responsibilities include healthy eating practices, completing assignments without reminders from professors, paying rent, and paying their tuition. The cost of attendance for college students has been increasing rapidly over the past few years. The average cost per year for all 4-year and 2-year institutions increased by nearly \$5,000 over ten years

(National Center for Education Statistics, 2018). To cover expenses such as tuition, fees, and room and board, many college students choose to work. It is estimated that over 18 million students are currently enrolled in a post-secondary institution in the United States (United States Census Bureau, 2017). Among those enrolled, approximately fifty-five percent of students are working either full-time or part-time (United States Census Bureau, 2017). Students that can manage dual membership roles in school and work exhibit work-school balance (WSB), a type of WLB.

WSB discusses the balance between working and going to school. When work demands interfere with school demands, students experience work-school conflict (WSC) (McNall & Michel, 2011; Markel & Frone, 1998; Park & Sprung, 2013; Oviatt et al., 2017; Park & Sprung, 2015). When work demands better improve school performance, students exhibit work-school enrichment (WSE) (Nicklin, Meachon, & McNall, 2018; McNall & Michel, 2017; McNall & Michel, 2011). Therefore, we can assume that students who display higher levels of WSE and lower levels of WSC experience WSB (McNall & Michel, 2017). There is extensive literature on the relationship between WSB, WSC, and WSE. In a study of graduate students, students who displayed higher levels of positive psychological resources showed higher levels of WSE and lower levels of WSC (Nicklin, Meachon, & McNall, 2018). Students who presented positive self-evaluations were able to better manage their role in both school and at work, thus showing more WSE and less WSC (McNall & Michel, 2017).

Quality of life (QOL) is defined as an individual's idea of where they stand regarding their culture and values and its relationship to their goals, expectations, standards, and concerns (World Health Organization, 2019). It is affected by a person's physical and mental health, beliefs, relationships, and environment. In this study, we focus on the health aspect of QOL: health

outcomes. The management of WLB and WSB impact several health outcomes that have been discussed throughout literature. In one study, students who sought out personal fulfillment from their jobs had better results in terms of psychological and physical health (Park & Sprung, 2013).

Literature Review

Work-Life Balance

Work is considered the fundamental basis of life's interests (Chandra, 2012). Though a concept used globally, there is no universally agreed-upon definition for WLB (Mushfiqur et al., 2018; NG et al., 2017). Bulger & Fisher (2012) define it as the ability to accomplish the goals or meet the demands of one's work and personal life and achieve satisfaction in all life domains. NG et al. (2017) refer to WLB as the ability to meet work and non-work demands while properly prioritizing work and lifestyle responsibilities. Gröpel and Kuhl (2009) describe it as the degree to which a person subjectively perceives sufficiency of the time available for work and family/social roles. Despite this lack of consensus, WLB is mainly known as an individual's ability to manage work and other responsibilities. These responsibilities include family, school, extracurricular, and social duties.

WLB is divided into four theoretical approaches that describe how managing roles from multiple domains leads to overall life satisfaction. When (1) management of role engagement, (2) management of role conflict, (3) management of role demands, and (4) management of life domain satisfaction are all successfully achieved, an individual participates in WLB (Lee & Sirgy, 2018). Role engagement involves the equal distribution of time, attention, and energy in each domain (Lee & Sirgy, 2018). In one study, when working and going to school improved the quality of life

in one another, students experienced more engagement and well-being (Creed, French, & Hood, 2015).

Managing role conflict describes the minimization of interference of one domain with another (NG et al., 2017). There are two types of role conflicts that are widely discussed in literature: work-family conflict (WFC) and work-school conflict (WSC). WFC defines the interference of work in family life (Minotte & Yucel, 2018; Taşdelen-Karçkay & Bakalim, 2017; Zhang, Punnett, & Nannini, 2017). Family life includes responsibilities such as childcare, elderly care, and being in a committed relationship (Pelletier & Laska, 2012; Martines, Ordu, Sala, & McFarlane, 2013; Zhang, Punnett, Nannini, 2017). WFC is positively associated with job insecurity and negatively related to physical and mental health (Minotte & Yucel, 2018; Zhang, Punnett, Nannini, 2017). WSC generally occurs when the demands of work interfere with the needs of school. School responsibilities can include homework, class attendance, study time, and grade point average (Markel & Frone, 1998). WSC has led to poor psychological and physical health, greater fatigue at the end of the week, and greater substance use (Park & Sprung, 2015; Ovaitt, Baumann, Bennett, & Garza, 2017; Park & Sprung, 2013).

Management of role demands involves the distribution and use of resources to meet the needs of multiple roles (Lee & Sirgy, 2017). People seek to attain, save, and conserve resources and use them during times of distress; this is known as Conservation of Resources (COR) Theory (Nicklin, Meachon, McNall, 2018). COR Theory explains how people approach experiences throughout life as they struggle, thrive, and respond to these experiences (Fein & Skinner, 2015). When resources are lost or cannot compensate the demand of an individual's role, stressors and thus, conflict may arise within domains.

WLB often substitutes many terms of the same caliber. Work-family balance (WFB) and work-school balance (WSB) are commonly used to describe the purpose of WLB. When an individual shares and accomplishes their expectations in the work and family domain, they display WFB (Fan, 2018). High WFB comes from having higher work-family enrichment and less WFC, which improves QOL (Greenhaus & Powell, 2006). Similar to WFB, WSB is the absence of inter-role conflict and the improvement of one role due to the other. Rather than work negatively affecting performance in school, work experiences improve the quality of school experiences (McNall & Michel, 2011).

College Life and Work-School Interface

Young adulthood serves as a transitional period between childhood and adulthood. In this critical stage, many individuals gain autonomy in their lives and the choices they make. Young adults are also granted freedom and take on responsibilities in terms of education, prospective careers, and finances. With this freedom, many young adults choose to enroll in college or enter the workforce.

Psychologist Jeffrey Jensen Arnett (2006) identifies emerging adulthood as five ages: age of identity exploration, age of instability, age of self-focus, age of feeling in between, and age of possibilities. During this time, young adults learn more about themselves and discover their purpose. One way in which this is done is by pursuing higher education.

Commonly referred to as secondary education following high school, college serves as a platform for students to explore and experience life before entering the professional workforce. College students can focus on personal and social characteristics such as self-reflection,

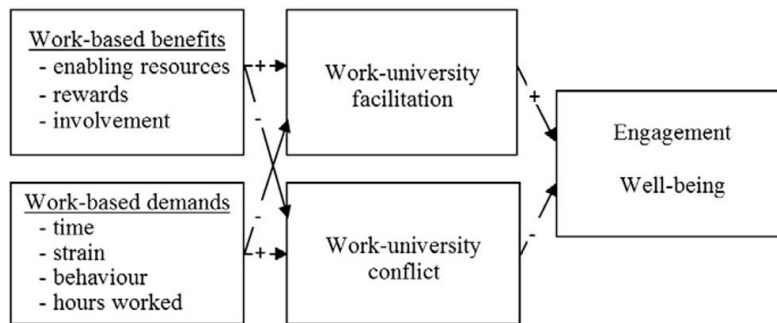
relationship building, cultural tolerance, planning life after college, and decision-making practices (Arnett, 2004). Building romantic or friendly relationships with others, whether through social media platforms such as Facebook, Twitter, or Instagram or dating applications such as Tinder or Bumble, play a vital role in college life satisfaction. Non-verbal social interactions such as texting or using social media applications led to lower college life satisfaction as opposed to verbal interactions such as talking on the phone (Coccia & Darling, 2016). Some relationships, such as having friends, a romantic partner, or roommates, affect the mental state of college students. Students with roommates perceived lower levels of loneliness than students without roommates (Henninger IV, 2016).

There has been an increasing number of young adults graduating from high school and attending college. Although the number of students enrolling in college and obtaining secondary education degrees has been increasing over the years, the amount of financial debt has also been on the rise (National Institutes of Health, 2014). Stress from financial debt has been linked to poor health outcomes (Tran et al., 2018) and economic dissatisfaction (Solis & Ferguson, 2017). To financially support their education, more than half of the college population are working either full-time or part-time (United States Census Bureau, 2017). Consequently, working college students strive to manage work and school demands and thus strive to exhibit WSB.

Studies on work-school interface have focused on WSC; however, more recent studies have begun to examine work-school enrichment (WSE), work-school facilitation (WSF), and WSB. Benefits and demands from working influence conflict in school demands, which is associated with student well-being and engagement (Creed, French, & Hood, 2015; Lederer et al., 2015) (Figure 1). In one study, students with high work demands had high WSC, which led to poor

psychological health and personal fulfillment (Park & Sprung, 2013). In another study on graduate students, students with high enrichment and low conflict had better psychological health and low stress (Nicklin, Meachon, & McNall, 2018).

Figure 1: Relationship between work benefit and demand and student engagement and well-being (Creed, French, & Hood, 2015)



The primary life domain in college students is school (Butler, 2010; Barone, 2017). Therefore, the addition of a secondary life domain, such as work, may lead to increased stress, as discussed above. Work stressors serve as risk factors for increased alcohol consumption and substance abuse (Oviatt et al., 2017; Butler, Dodge, & Faurote, 2010). This concept is understood by two theories: The Tension Reduction Theory and the Affect Regulation Theory. The Tension Reduction Theory notes that people consume alcohol to reduce tension and stress (Butler, Dodge, & Faurote, 2010). The Affect Regulation Theory theorizes that individuals use substances to cope with negative aspects that arise from stressors (Butler, Dodge, & Faurote, 2010). Studies have shown a relationship between work-school interface and substance use. Oviatt et al. (2017) concluded that there was a positive association between WSC and substance use in terms of alcohol use, marijuana use, and cigarette use. Butler, Dodge, and Faurote (2010) determined that students drank more alcohol on the days they worked longer hours. Overall, discussions in the literature have discussed

the negative outcome of distress. Therefore, the increase of substance use and decrease in college student well-being caused by the lack of WSB among college students impact WLB and QOL.

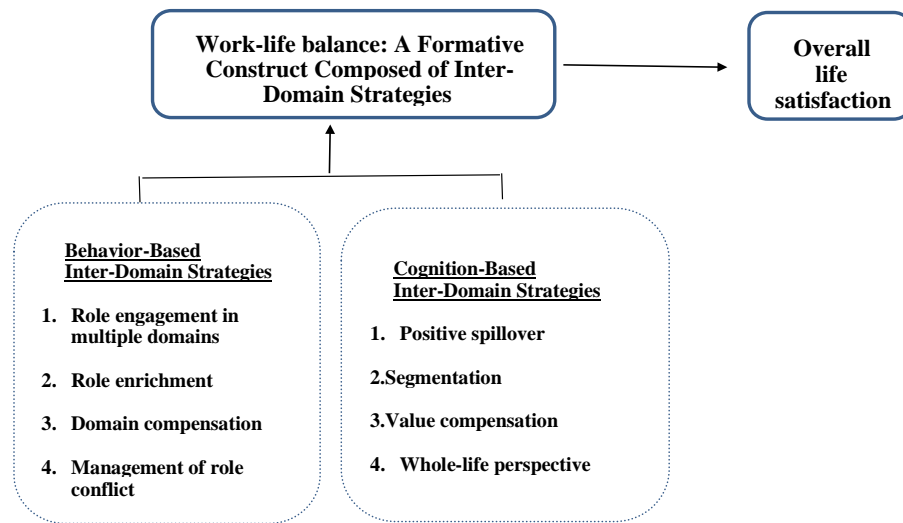
Work-Life Balance and Quality of Life

The rewarding experience of pursuing secondary education is also followed by stress as college students struggle to find a balance between academics, personal life, and work demands (Bonifas & Napoli, 2014). The burden of multiple roles affects the well-being and QOL of college students. QOL is a multidimensional concept that is defined differently across disciplines (Centers for Disease Control and Prevention, 2018). These dimensions are confined into four areas: health and functioning, social and economic, psychological and spiritual, and family (Ferrans & Powers, 1992).

The linkage between work-school-life balance and QOL has been studied among graduate students. For Example, graduate students who displayed higher levels of psychological resources such as mindfulness, self-compassion, resilience, and recovery had higher levels of enrichment and lower levels of conflict (Nicklin, Meachon, & McNall, 2018). Managing multiple roles also showed to have an affect on graduate students' time management and well-being (Martinez et al. 2013). While literature on graduate students' WLB showed effects on QOL, studies have also discussed the steps to improve these dimensions. QOL improvement involved the behavior-based and cognitive-based life domains of WLB, as summarized in Figure 2 below (Lee & Sirgy, 2018). Students required support, a daily routine, and better mental and physical health to improve WLB. This included flexibility in their schedules, support services, and financial assistance (Martinez et al. 2013).

As the demands of work, school, and life increase, students deprive themselves of resources that are necessary to manage QOL and well-being. Though sleep provided students with the physical and mental capacity to get through the day, students reported receiving fewer sleeping hours (Barone, 2017). Not having enough time served as a barrier to healthy eating habits and physical activity among working young adults (Pelletier & Laska, 2012).

Figure 2: Work-Life Balance construct and inter-domain strategies to achieve life satisfaction (Lee & Sirgy, 2018)



Juggling responsibilities such as work, academics, social life, and family can interfere with successful time management and prioritization in multiple roles. WLB aims to provide job flexibility to allow employees to focus on other life responsibilities (NG et al. 2017). The deprivation of work-support from supervisors plays a distinctive role in such flexibility. Supervisor work-school support decreased the negative effect of WSC on psychological health (Park & Sprung, 2013). In addition, job demands and job control impacted the WLB of working professionals. In a study on Taiwanese nurses, increased job demands led to a decrease in WLB, while job control improved WLB (NG et al. 2017).

Purpose of Study

Previous studies have addressed the relationship between WLB, WSB, and health outcomes among the college population. However, these studies have provided limited research addressing factors that influence how college students balance their job demands with their school responsibilities and the impact of these factors on their health. This study seeks to examine the relationship between WLB and QOL among college students. This study focuses on examining the association between work status, work hours, and work demands on the physical and mental health outcomes among college students. In addition, associations between WLB and QOL and student enrollment factors such as enrollment status, class standing, and choice of major will be evaluated. Accomplishing these objectives will educate university administrators, government personnel, and employers on how college students navigate work, school, and life responsibilities and the impact these demands have on their health. By understanding how college students manage work-life balance, these officials can address the needs of working college students and implement services and policies to accommodate these needs.

Methodology

Study Design

This study utilized a cross-sectional design to understand how students manage demands from multiple roles and the effect this management has on their health. Participants were recruited from the University of Central Florida through a campus-wide email. Data was collected through an online surveying system called Qualtrics that participants accessed through a link. The first page of the survey included the consent form. Participants who consented and agreed to participate in the study were able to access the survey. The survey included demographic questions and two validated surveys to assess WLB and QOL.

Sampling

The population of interest consisted of students enrolled at the University of Central Florida during the time of the study in Summer 2019. As of Fall 2018, the University of Central Florida had 68,571 students enrolled (University of Central Florida, 2019). This pool of students included undergraduates, graduate students, and professional students (Table 1). Participants consisted of current students at the University of Central Florida that were 18 years or older and agreed to participate in the study.

Table 1: Fall 2019 Student enrollment at the University of Central Florida (UCF, 2019)

Enrollment	Total Population
Undergraduate	58,913
Graduate	9,168
Medical Professional	490
Total Enrollment	68,571

Research Instrumentation

Two research instruments were used to collect data in this study, the 12-Item Short-Form Health Survey (SF-12) version 2 to assess the QOL and the Work-Life Balance Scale. These questionnaires were used to evaluate the relationship between student demographics and their impact on WLB and QOL.

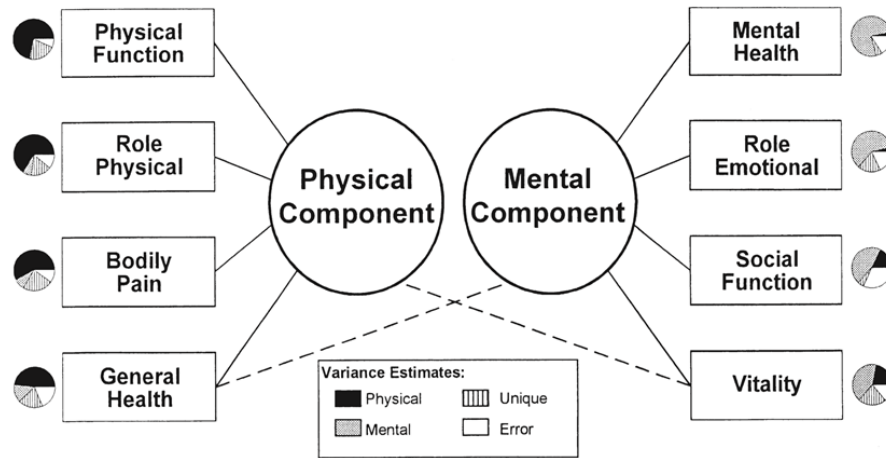
Demographics

Six items were used to measure demographics. Participants were asked to report their age, gender, race/ethnicity, enrollment status, class standing, and choice of major. Additional questions included work status, work hours, work location, and sleep.

Quality of Life

To measure the quality of life among college students, the SF-12 Version 2 was used. The SF-12 is an adaptation of the SF-36, a widely used survey to measure general health. The instrument measures an individual's general health through two components: physical health (PCS) and mental health (MCS). These measures are assessed through several subdomains (Figure 3). PCS is the total measurement of physical functioning, role physical, bodily pain, and general health. MCS is the total measurement of vitality, social functioning, role emotional, and mental health. The overall QOL is an average of the scores for both PCS and MCS.

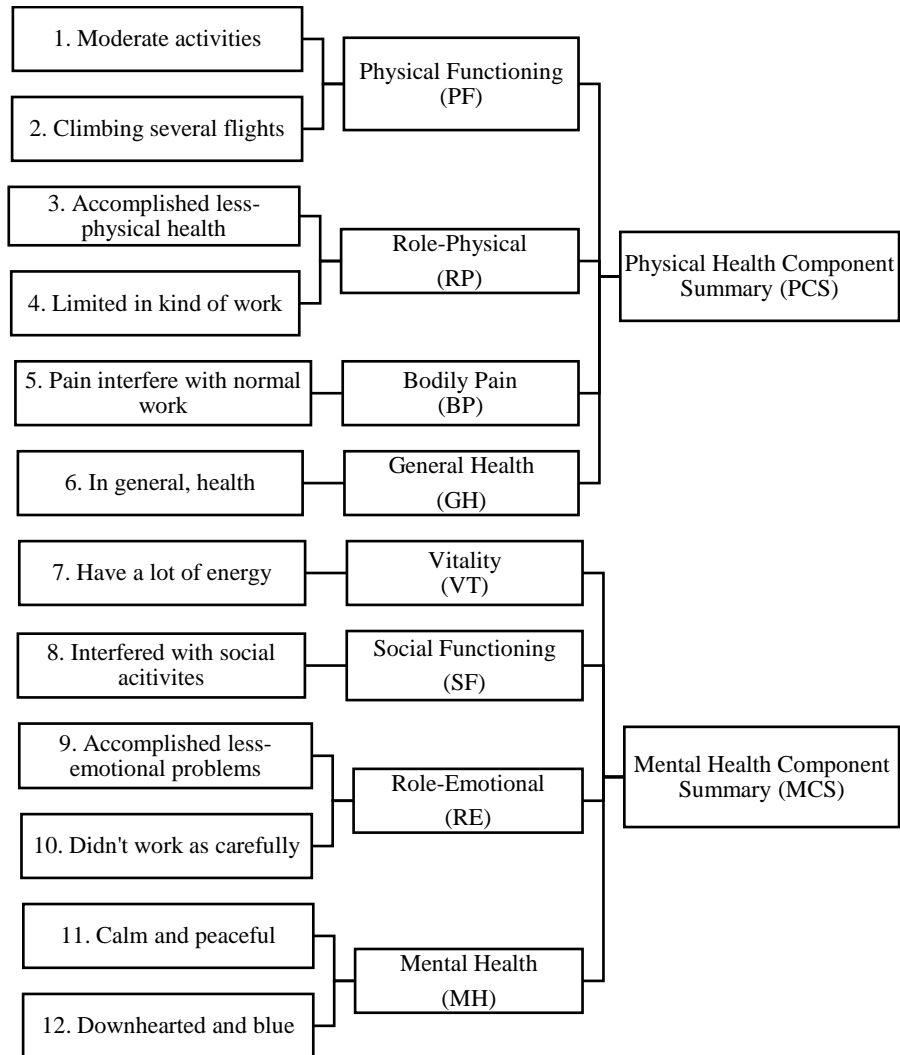
Figure 3: Scale and construct of SF-12 (Ware Jr. & Gandek, 1998)



Physical functioning assesses the limitations of daily living due to health. Role physical measures role limitations due to physical health. Bodily pain assesses pain occurrence and interference in an individual’s daily roles. General health measures self-reported general health status. Vitality measures an individual’s liveliness and energy levels. Social functioning assesses how health affects sociability. Role emotional measures role limitations due to emotional problems. Mental health assesses an individual’s psychological state (Busija et al., 2011).

The SF-12 contains 12 items (e.g., “In general, would you say your health is:”) answered on a Likert-type response scale (Figure 4). Each question in the survey is used to measure a specific subscale and summary component. Two questions measure physical functioning, two questions measure role physical, one question measures bodily pain, and one question measures general health. These questions are used to obtain PCS. One question measures vitality, one question measures social functioning, two questions measure role emotional, and two questions measure mental health. These questions are used to obtain MCS.

Figure 4: SF-12 survey questions and domains (Ware Jr. et al., 2017)



For each question on the SF-12, the highest score possible is 100 and the lowest score possible is 0. PCS and MCS scores that are closer to 100 indicate better QOL. PCS and MCS scores that are lower than 100 indicate lower QOL (Busija et al., 2011). In the general US population, the national norm standardized score for PCS and MCS includes a mean of 50 and a

standard deviation of 10. The SF-12 has shown adequate reliability ($\alpha=0.760-0.890$) and validity ($\alpha=0.63-1.45$) in previous studies (Ware Jr., J.E., Kosinski, M., & Keller, S., 2017).

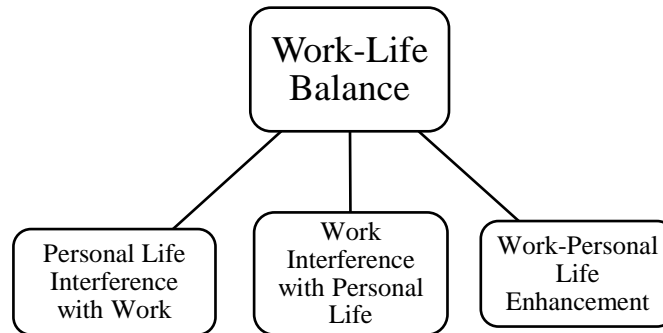
To calculate QOL scores, each question of the Quality of Life survey (SF-12) was converted to a raw score between 0 and 100. Items on a 2-point Likert scale were converted to 0 and 100. Questions on a 3-point Likert scale were converted to 0, 50, and 100. Questions on a 5-point Likert scale were converted to 0, 25, 50, 75, and 100. Questions on a 6-point Likert scale were converted to 0, 20, 40, 60, 80, and 100.

Each question in the SF-12 was labeled according to their respective subdomains (Figure 4). These labeled items were used to calculate the scores for each of the subscales. Subscales that had two items were averaged to compute the score for that subscale. PCS and MCS scores were calculated by averaging the scores of their respective subscales. PCS and MCS scores were then averaged to calculate total QOL.

Work-Life Balance

Fifteen items were used to measure WLB (Yusuf, 2018). The questions on this survey are divided into three categories (Figure 5): work interference with personal life, personal life interference with work and work/personal life enhancement.

Figure 5: Work-Life Balance scale and constructs

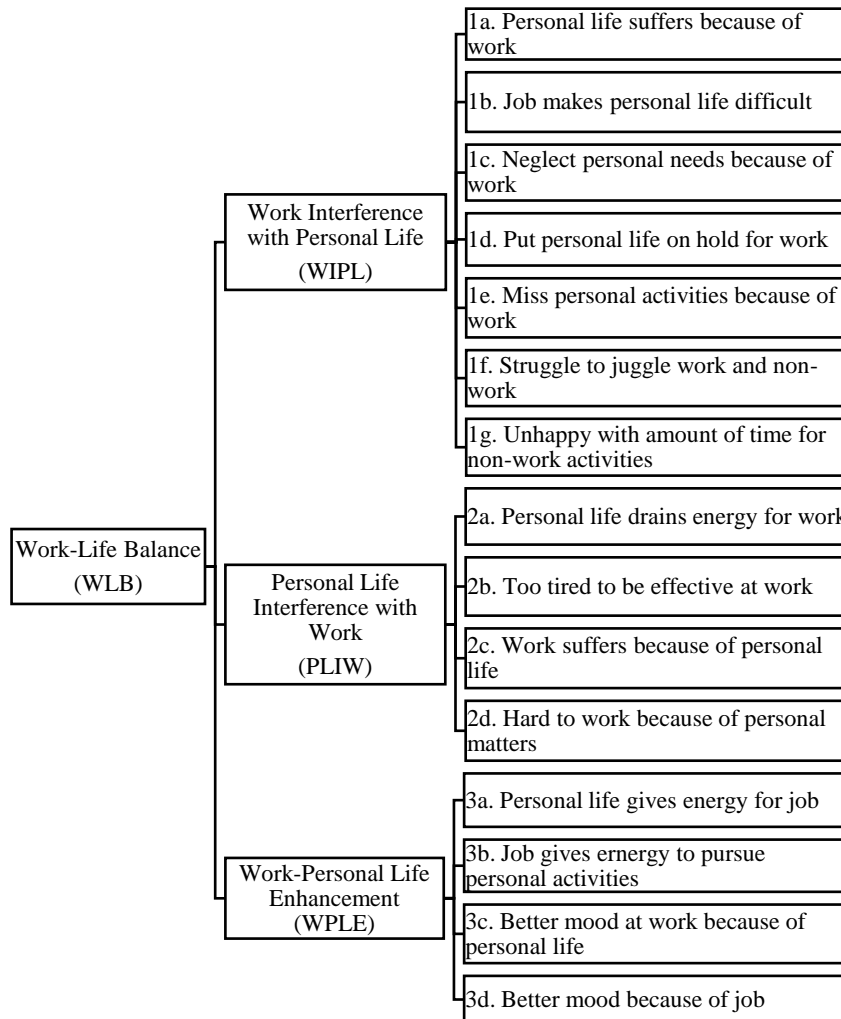


The WLB scale consists of 15 questions (e.g., I struggle to juggle work and non-work) answered on a five-point Likert Scale. This study focuses on how students balance work and life demands. The target population of this study was college students, where school is a critical component of their life. Hence, WLB should emphasize the importance of school demands. The questions were therefore adjusted to relate to work-school-life balance (e.g., My personal life/school suffers because of work). The highest possible WLB score is 60, and the lowest possible score is 0. Scores closer to 60 indicated high interference and therefore, reported low WLB. Scores closer to 0 indicated low interference and thus indicated high WLB. The WLB scale showed high reliability, presenting a coefficient alpha of 0.87 (Yusuf, 2018).

To calculate the WLB scores, questions used to measure WLB were transformed into a raw score between 1 and 5. Each item was on a 5-point Likert scale and therefore answer choice a,b,c,d, and e were converted to 1,2,3,4, and 5 respectively. Each question was assigned one of three categories: work interference with personal life (WIPL), personal life interference with work (PLIW), or work-personal life enhancement (WPLE) (Figure 6). Questions measuring WPLE were reverse coded.

The overall WLB score was calculated by adding the total scores for the three subcategories (Figure 6). The scores for WLB ranged from 15 to 75. The scale was adjusted so that the lowest score was 0 by subtracting 15 from the lowest and highest score. Therefore, the scale used for the analysis of WLB ranged from 0 to 60, where 0 indicated that students suffered little interference and thus exhibited high WLB, while 60 showed that students suffered high interference and therefore exhibited low WLB.

Figure 6: WLB survey questions and domains (Yusuf, 2018)



Statistical Analyses

Prior to data collection, the study protocol and survey instrument were submitted and approved by the UCF's Institutional Review Board. Qualtrics is a web-based survey software and was used to build and help distribute the questionnaire through a campus-wide email to all actively enrolled students at the University of Central Florida in Summer 2019. All data were collected through Qualtrics and downloaded into the Statistical Package for the Social Science (SPSS version 25). To analyze the data and assess the relationship between the QOL, WLB, student demographics, and work status, a one-way ANOVA statistical testing method was used. This statistical approach measured the association between WLB, QOL and other factors such as student demographics and work status. In addition, descriptive statistical analyses were performed to analyze demographical variables.

Hypotheses

- Null Hypothesis (H_0): QOL and WLB scores will not differ between students who work and students who do not work.
- Experimental Hypothesis (H_1): QOL and WLB scores will be lower among students who work compared to students who do not work.
- Alternative Hypotheses:
 - H_2 : QOL and WLB scores will decrease as students get older in age and advance in class status.
 - H_3 : QOL and WLB scores will be lower among females compared to males.

- H₄: QOL and WLB scores will be higher among white students compared to other racial counterparts.
- H₅: Students who are enrolled in classes full-time and major in a Science, Technology, Engineering, or Mathematics (STEM) major will have lower QOL and WLB scores compared to students enrolled in classes part-time and majoring in a non-STEM major.
- H₆: QOL and WLB scores will be higher among students who work fewer hours each week and work on-campus compared to students who work more hours each week and off-campus.
- H₇: Students who sleep more hours, on average, each night will have higher QOL and WLB scores.

Results

Study Participants

To be eligible to participate in the study, students had to: be 18 years or older, be enrolled at the University of Central Florida at the time of the study and provide consent before beginning the survey. A total of 2,609 students completed the survey. Fifty-six responses were excluded because they did not meet the eligibility requirements, and 19 responses were discarded because they did not consent to participate in the study; thus, 2,534 responses were used for the analysis in this study. Tables 2a and 2b describe the sample characteristics. A high percentage of respondents were white (54.3%), female (74.1%), and between the ages of 18 and 22 (57%). Students in their junior year (24.9%) and enrolled full-time (78.2%) comprised most of the sample. The top ten majors at the University of Central Florida (Table 2a) were used in this study (University of Central Florida, 2019). More than half of the students (52.8%) that participated in the survey majored in something outside of the University of Central Florida's top ten majors. Among the top ten, most students majored in Health Sciences (10.9%).

Table 2a: Demographic characteristics among study participants

Student Demographics	Number (N)	Percent (%)
Age		
18-22	1476	57
23-27	533	20.6
28-32	231	8.9
33-39	150	5.8
40+	144	5.6
Gender		
Female	1877	74.1
Male	630	24.9
Other	26	1
Ethnicity		
White	1371	54.3
Black or African American	232	9.2

Hispanic or Latino	392	15.5
Asian or Pacific Islander	155	6.1
American Indian, Alaskan Native, or Native Hawaiian	4	0.2
Biracial or Multiracial	342	13.5
Other	31	1.2
Classification		
Freshman	225	8.9
Sophomore	300	11.9
Junior	629	24.9
Senior	572	22.6
Senior+	284	11.2
Graduate or Professional	511	20.2
Non-degree Seeking	5	0.2
Enrollment Status		
Full-time	1975	78.2
Part-time	551	21.8
Major		
Health Sciences	273	10.9
Psychology	176	7
Biomedical Sciences	137	5.4
Nursing	160	6.4
Mechanical Engineering	91	3.6
Integrated Business	49	1.9
Computer Science	83	3.3
Biology	86	3.4
Finance	39	1.6
Hospitality Management	92	3.7
Other	1328	52.8

Of the 2,534 participants, 31.7% of students were working full-time and 43.1% were working part-time. Students mostly worked between 20 and 29 hours a week (29.6%), followed by 10-19 hours a week (17.5%) and 30-39 hours a week (17.4%), meaning a high number of respondents worked less than 40 hours a week (Table 2b). Finally, more students worked off-campus (84.8%) than on-campus (15.2%) and slept between 6 and 8 hours per night (62.9%).

Table 2b: Demographic characteristics among study participants: work status and sleep

Student Demographics	Number (N)	Percent (%)
Work Status		
Full-time	796	31.7
Part-time	1081	43.1
Unemployed	632	25.2
Work Hours		
0	1	0.1
1-9	78	4.2
10-19	328	17.5
20-29	554	29.6
30-39	325	17.4
40	273	14.6
40+	313	16.7
Work Location		
On-campus	285	15.2
Off-campus	1587	84.8
Sleep		
8+ hours	140	5.6
6-8 hours	1569	62.9
4-6 hours	724	29
2-4 hours	61	2.4

Sample Characteristics and Quality of Life

To examine the participants' quality of life across demographic groups, the mean was calculated for each demographic group (Tables 3a and 3b). In terms of overall QOL, students' average score was 61.9, which was better than the national average score of 50 (Ware et al., 2017). Students scored the highest in physical health with an average of 72.8 and scored an average of 51 in mental health, scoring only slightly higher than the national average of the US population (Table 3b). In terms of age, students between the ages of 18 and 22 had an average physical health score of 74.5, which was greater than the physical health of their other age counterparts. Students who were more than forty years old had a higher mean mental health score of 58.8 and a mean overall QOL score of 65.7, that was greater than the scores of other age groups. In terms of gender, males

had a greater overall QOL with an average score of 67.3. When this finding was examined more closely, we found that males had higher physical and mental scores than females with an average of 76.9 in physical health, compared to 71.5 in females, and 57.6 in mental health, compared to 49 in females. Students who identified as American Indian, Alaskan Native, and Native Hawaiian heritage had a higher mean physical health score of 76.6 compared to other racial/ethnic groups. Participants who identified as *Other* scored the lowest in physical health (63.9), mental health (38.4), and overall QOL (51.6).

On average, freshmen students scored higher in PCS (76.7), MCS (60.3), and QOL (68.5). Students enrolled in classes full-time also scored higher in PCS (73), MCS (51.1), and QOL (62.2). Students who majored in Mechanical Engineering scored higher in PCS with an average score of 78.9 and QOL with an average score of 66.9, while students who majored in Finance scored higher in MCS with an average score of 57.8.

Table 3a: QOL mean scores among sample demographics

Variable	Number (N)	Physical Health Mean PCS	Mental Health Mean MCS	Quality of Life Total QOL Score
All Participants	2,534	72.8	51	61.9
Age				
18-22	1381	74.5	51.6	63.2
23-27	507	71	47.9	59.5
28-32	218	70.6	50.5	60.5
33-39	142	65.4	49.4	57.4
40+	140	72.7	58.8	65.7
Gender				
Female	1782	71.5	49	60.3
Male	580	76.9	57.6	67.3
Other	26	63.9	38.4	51.6
Ethnicity				
White	1309	73.4	50.8	62.1
Black or African American	214	71.1	51.3	61.2
Hispanic or Latino	368	71.6	50.3	61
Asian or Pacific Islander	138	72.5	53.9	63.5

American Indian, Alaskan Native, or Native Hawaiian	4	76.6	43.8	60.2
Biracial or Multiracial	327	72.9	51.1	62.1
Other	27	71.8	56.2	63.8
Classification				
Freshman	212	76.7	60.3	68.5
Sophomore	279	76.1	52.7	64.4
Junior	590	70.9	48.5	59.7
Senior	541	72.8	49.8	61.4
Senior+	269	68.1	46.7	57.4
Graduate or Professional	492	74	52.8	63.4
Non-degree Seeking	5	73.8	43.5	58.6
Enrollment Status				
Full-time	1866	73	51.1	62.2
Part-time	522	71.8	50.5	61.1
Major				
Health Sciences	263	72.1	52.6	62.6
Psychology	171	68.2	46.4	57.3
Biomedical Sciences	129	75	49	62.1
Nursing	157	77.2	56.3	66.8
Mechanical Engineering	84	78.9	55.1	66.9
Integrated Business	45	76.3	51.6	63.9
Computer Science	77	73.6	47	60.3
Biology	82	72.5	46.2	59.5
Finance	37	75.7	57.8	66.5
Hospitality Management	88	72.5	49.6	61
Other	1255	72.1	51	61.6

Students who did not work had higher mean scores for physical health (75.9), mental health (54), and overall QOL (65.1) than students who worked either full-time or part-time (Table 3b). Among students who worked, those who worked between 1 and 9 hours a week scored higher in PCS, MCS, and QOL with average scores of 74, 52.2, and 63.3, respectively. Respondents working on-campus had higher physical health (75.3) and overall QOL (62.6) scores, while those who worked off-campus had higher mean scores for mental health (50). Finally, students who slept between 6 and 8 hours scored higher in physical health (76.1), while those who slept more than 8

hours a night scored higher on measures of mental health and overall QOL, with scores of 57.8 and 66.4, respectively.

Table 3b: QOL mean scores among sample demographics: work status and sleep

Variable	Number (N)	Physical Health Mean PCS	Mental Health Mean MCS	Quality of Life Total QOL Score
Work Status				
Full-time	766	70.7	50	60.4
Part-time	1023	72.5	50	61.3
Unemployed	585	75.9	54	65.1
Work Hours				
1-9	74	74	52.2	63.3
10-19	316	73.1	50.9	62.1
20-29	522	72.5	49.4	60.9
30-39	313	70.3	48.5	59.4
40	260	70.3	50.2	60.2
40+	303	71.1	50.9	61
Work Location				
On-campus	272	75.3	49.9	62.6
Off-campus	1517	71.1	50	60.6
Sleep				
8+ hours	133	75	57.8	66.4
6-8 hours	1505	76.1	54	65.1
4-6 hours	690	66.4	44.5	55.5
2-4 hours	59	56.4	35.2	46.1

Sample Characteristics and Work-Life Balance

The mean scores for WLB were calculated for all student demographic variables (Tables 4a and 4b). Higher scores indicated low WLB, while lower scores indicated high WLB. Overall, students' work-life balance was an average of 30.4 (Tables 4a). Students between the ages of 33 and 39 exhibited lower WLB scores (i.e., greater degree of WLB) than the other age groups with an average score of 32.2. Males had lower WLB scores than females and students who identified

as *Other* scoring an average of 28.7. In terms of race/ethnicity, respondents who identified as *Other*, had a lower WLB scores than students of other racial/ethnic backgrounds, scoring an average of 29.4. On average, freshman students exhibited lower WLB scores with an average score of 25.8, while senior students with 120 credit hours or more exhibited higher WLB scores (i.e., lower degree of WLB) than students of other class categories, scoring an average of 32.5. Students enrolled in classes part-time had an average score of 30.9, a slightly higher WLB score than students enrolled in classes full-time who had an average score of 30.2. Students who majored in Integrated Business showed greater WLB with an average score of 27.3, while students who majored in Psychology showed lower WLB than students of other majors, scoring an average of 32.5.

Table 4a: WLB mean scores among sample demographics

Variable	Number (N)	Work-Life Balance Mean score*
All Participants	2,534	30.4
Age		
18-22	1381	29.6
23-27	507	31.8
28-32	218	31.7
33-39	142	32.2
40+	140	29
Gender		
Female	1782	30.9
Male	580	28.7
Other	26	29.3
Ethnicity		
White	1309	30.4
Black or African American	214	29.6
Hispanic or Latino	368	31.8
Asian or Pacific Islander	138	29.6
American Indian, Alaskan Native, or Native Hawaiian	4	32
Biracial or Multiracial	327	29.6
Other	27	29.4
Classification		

Freshman	212	25.8
Sophomore	279	29
Junior	590	31.1
Senior	541	31.3
Senior+	269	32.5
Graduate or Professional	492	30.1
Non-degree Seeking	5	28
Enrollment Status		
Full-time	1866	30.2
Part-time	522	30.9
Major		
Health Sciences	263	30
Psychology	171	32.5
Biomedical Sciences	129	29.9
Nursing	157	29.5
Mechanical Engineering	84	30.1
Integrated Business	45	27.3
Computer Science	77	30.7
Biology	82	31.5
Finance	37	31.6
Hospitality Management	88	30.2
Other	1255	30.4

* Lower scores indicate a greater degree of WLB.

Students who did not work had an average WLB score of 27.7, indicating a greater degree of WLB than students who worked either full-time or part-time (Table 4b). Students who worked full-time had a higher than average WLB score (32.7), which indicated a lower degree of WLB. Respondents working between 1 and 9 hours a week had a greater degree of WLB with an average score of 27.1, while students who worked between 30 and 39 hours a week had a lower degree of WLB with an average score of 32.7. Those who worked on-campus had an average score of 28.2, indicating a greater degree of WLB. Finally, students who slept more than 8 hours a night had greater WLB overall with an average score of 26.5.

Table 4b: WLB mean scores among sample demographics: work status and sleep

Variable	Number (N)	Work-Life Balance Mean Score
Work Status		
Full-time	766	32.7
Part-time	1023	30.1
Unemployed	585	27.7
Work Hours		
1-9	74	27.1
10-19	316	28.4
20-29	522	31.3
30-39	313	32.7
40	260	32.5
40+	303	32.4
Work Location		
On-campus	272	28.2
Off-campus	1517	31.7
Sleep		
8+ hours	133	26.5
6-8 hours	1505	29
4-6 hours	690	33.6
2-4 hours	59	36.6

Test for Statistical Significance

Statistical methods were used to measure the relationship between WLB, QOL, and student demographics. One-way Analysis of Variance (ANOVA) tests were used to determine the significant differences between the dependent variables (PCS, MCS, QOL, and WLB) and the independent variables (age, gender, race/ethnicity, class status, enrollment status, major, work status, work hours, work location, and sleep). Each test used a 95% confidence interval.

Associations Between Age, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores of study participants in each of the six age groups (Table 5). A significant difference was detected among the age groups ($F=7.34, p<.05$). To further assess which factor contributed to this finding, one-way ANOVA was

computed to compare the mean PCS and MCS scores for respondents. A significant difference was detected among age groups in both PCS ($F=9.31$, $p<.05$) and MCS ($F=6.54$, $p<.05$). This analysis revealed that students aged 33-39 ($m=57.4$) reported lower QOL than students that were 40 years of age or older ($m=65.7$).

A one-way ANOVA was computed to compare the mean WLB scores of study participants in each of the six age groups (Table 5). A significant difference was found among age groups ($F=5.85$, $p<.05$). This analysis revealed that students struggled with WLB as they got older.

Table 5: One-way ANOVA results: QOL, WLB, and age

Variables	Significance Between Groups
PCS	.000***
MCS	.000***
QOL	.000***
WLB	.000***

*** $p<.05$

Associations Between Gender, WLB, and QOL

A one-way ANOVA was computed to compare the mean QOL score between different gender groups (Table 6). A significant difference was detected between males, females, and those who identified as *Other gender* ($F=33.96$, $p<.05$). To further assess which factor contributed to this finding, a one-way ANOVA was computed to compare the mean PCS and MCS scores for respondents. A significant difference was found between gender groups in both PCS ($F=18.66$,

$p < .05$) and MCS ($F=32.96, p < .05$). This analysis revealed that individuals who identified as *Other* reported lower PCS ($m=63.9$), MCS ($m=38.4$), and QOL ($m=51.6$) scores than males.

A one-way ANOVA was computed to compare the mean WLB scores between gender groups. A significant difference was detected between males, females, and students who identified as *Other* ($F=8.74, p < .05$). This analysis revealed that females ($m=30.9$) reported lower WLB scores than males ($m=28.7$).

Table 6: One-way ANOVA results: QOL, WLB, and gender

Variables	Significance Between Groups
PCS	.000***
MCS	.000***
QOL	.000***
WLB	.000***

*** $p < .05$

Associations Between Race/Ethnicity, WLB, and QOL

A one-way ANOVA was computed to compare the mean QOL scores of study participants in each of the seven race/ethnicity categories (Table 7). No significant difference was detected ($F=0.42, p > .05$). Students of different race/ethnic backgrounds did not differ significantly in QOL. When a one-way ANOVA was computed to assess the mean PCS and MCS scores in each of the race/ethnicity groups, no significant difference was detected for PCS ($F=0.71, p > .05$) or MCS ($F=0.71, p > .05$). Students of different race/ethnic backgrounds did not differ significantly in their physical health or mental health.

A one-way ANOVA was computed to compare the mean WLB scores of respondents in each of the seven race/ethnicity groups. No significant difference was detected between the groups ($F=1.58, p>.05$). Students of different race/ethnic backgrounds did not differ significantly in WLB.

Table 7: One-way ANOVA results: QOL, WLB, and ethnicity

Variables	Significance Between Groups
PCS	.644
MCS	.644
QOL	.866
WLB	.149

Associations Between Class Status, WLB, and QOL

A one-way ANOVA was computed to compare the mean QOL scores of study participants in seven different class categories (Table 8). A significant difference was detected among the different class categories ($F=9.55, p <.05$). This analysis revealed that freshmen ($m=68.5$) had greater overall health scores compared to seniors ($m=61.4$). To further assess which factor contributed to this finding, a one-way ANOVA was computed to compare the mean PCS and MCS scores for respondents. A significant difference was found among the seven different class categories for both PCS ($F=6.47, p <.05$) and MCS ($F=9.29, p <.05$). This analysis revealed that freshmen had greater physical health ($m=76.7$) and mental health ($m=60.3$) scores compared to juniors (physical health: $m=70.9$; mental health: $m=48.5$).

A one-way ANOVA was computed to compare the mean WLB scores of respondents in the seven different class categories. A significant difference was detected among the different class categories ($F=9.51$, $p<.05$). This analysis revealed that freshmen had better WLB ($m=25.8$) scores (i.e., lower) compared to seniors ($m=31.3$).

Table 8: One-way ANOVA results: – QOL, WLB, and class category

Variables	Significance Between Groups
PCS	.000***
MCS	.000***
QOL	.000***
WLB	.000***

*** $p<.05$

Associations Between Enrollment Status, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores of study participants enrolled full-time or part-time (Table 9). No significant difference in QOL was detected between students who went to school full-time or part-time ($F=1.16$, $p>.05$). When one-way ANOVA was computed to assess the mean PCS and MCS scores between participants enrolled full-time or part-time, no significant difference was detected for either PCS ($F=1.67$, $p>.05$) or MCS ($F=0.28$, $p>.05$). Students did not differ significantly in physical or mental health scores, whether they went to school full-time or part-time.

One-way ANOVA was computed to compare the mean WLB scores of respondents enrolled either full-time or part-time. No significant difference was detected between enrollment status and

WLB ($F=1.36$, $p>.05$). Students did not differ significantly in WLB, whether they went to school full-time or part-time.

Table 9: One-way ANOVA results: QOL, WLB, and enrollment status

Variables	Significance Between Groups
PCS	.196
MCS	.596
QOL	.283
WLB	.244

Associations Between College Majors, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores among study participants in each of the top 10 college majors at UCF (Table 10). A significant difference was detected among the different college majors ($F=3.2$, $p<.05$). This analysis revealed that students who majored in Psychology ($m=57.3$) had lower QOL scores compared to other majors. To further assess which factor contributed to this finding, a one-way ANOVA was computed to compare the mean PCS and MCS scores for respondents. A significant difference was found among the different majors in both PCS ($F=3.08$, $p<.05$) and MCS ($F=2.82$, $p<.05$). This analysis revealed that students who majored in Psychology had lower physical health ($m=68.2$) and mental health ($m=46.4$) scores than students in other majors.

One-way ANOVA was computed to compare the mean WLB scores among respondents in each of the top 10 college majors at UCF. No significant difference was detected among students

with different college majors ($F=1.23, p>.05$). Students of different college majors did not differ significantly in WLB.

Table 10: One-way ANOVA results: QOL, WLB, and college majors

Variables	Significance Between Groups
PCS	.001***
MCS	.002***
QOL	.000***
WLB	.265

*** $p<.05$

Associations Between Work Status, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores among students who worked full-time, students who worked part-time, and students who did not work (Table 11). A significant difference among students who worked full-time, part-time, or did not work was detected ($F=11.26, p<.05$). This analysis revealed that unemployed students ($m=65.1$) had greater QOL than students who worked full-time ($m=60.4$). To further assess which factor contributed to this finding, one-way ANOVA was computed to compare the mean PCS and MCS scores for respondents. A significant difference was detected among students who worked full-time, part-time, or did not work in both PCS ($F=11.92, p<.05$) and MCS ($F=6.43, p<.05$). This analysis revealed that students who did not work scored higher in PCS ($m=75.9$) and MCS ($m=54$) than students who worked.

One-way ANOVA was computed to compare the mean WLB scores among students who worked full-time, part-time, or were unemployed. There was a significant difference between work status and WLB ($F=34.74, p<.05$). This analysis revealed that students who did not work ($m=27.7$) had greater WLB than students who worked.

Table 11: One-way ANOVA results: QOL, WLB, and work status

Variables	Significance Between Groups
PCS	.000***
MCS	.002***
QOL	.000***
WLB	.000***

*** $p<.05$

Associations Between Work Hours, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores of study participants in each of the seven work-hour categories (Table 12). No significant difference was detected ($F=0.94, p>.05$). When a one-way ANOVA was computed to assess the mean PCS and MCS score in each of the work hour categories, no significant difference was found for PCS ($F=1.11, p>.05$) or MCS ($F=0.77, p>.05$).

One-way ANOVA was computed to compare the mean WLB scores based on different categories of hours worked per week. A significant difference in the number of hours worked each week and WLB was detected ($F=7.83, p<.05$). This analysis revealed that WLB was lower among students who worked more hours per week.

Table 12: One-way ANOVA results: QOL, WLB, and work hours

Variables	Significance Between Groups
PCS	.354
MCS	.594
QOL	.464
WLB	.000***

***p<.05

Associations Between Work Location, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores among students who worked on-campus and students who worked off-campus (Table 13). No significant difference was detected between work location and QOL ($F=2.57$, $p>.05$). However, there was a significant difference between PCS among students who worked on campus compared to those who worked off-campus ($F=10.27$, $p<.05$). This analysis revealed that students who worked on-campus ($m=75.3$) had greater physical health scores compared to students who worked off-campus ($m=71.1$). No significant difference was detected in MCS scores between students who worked on campus and those who worked off-campus ($F=0.01$, $p>.05$).

One-way ANOVA was computed to compare the mean WLB scores of respondents who worked on-campus or off-campus. A significant difference was detected in WLB between students who worked on campus and who worked off-campus ($F=22.33$, $p<.05$). This analysis revealed that WLB was greater (i.e., lower score) for students who worked on-campus ($m=28.2$) compared to students who worked off-campus ($m=31.7$).

Table 13: One-way ANOVA results: QOL, WLB, and work location

Variables	Significance Between Groups
PCS	.001***
MCS	.922
QOL	.109
WLB	.000***

***p<.05

Associations Between Sleep, WLB, and QOL

One-way ANOVA was computed to compare the mean QOL scores of study participants in each of the five sleep categories (Table 14). A significant difference was detected between QOL and sleep ($F=46.46$, $p<.05$). This analysis revealed that students' QOL decreased with less sleep each night. To further assess which factor contributed to this finding, one-way ANOVA was computed to compare the mean PCS and MCS score for respondents. A significant difference was detected for both PCS ($F=43.32$, $p<.05$) and MCS ($F=30.37$, $p<.05$). This analysis revealed that students' physical and mental health scores were associated with less sleep.

One-way ANOVA was computed to compare the mean WLB scores of study participants in each of the five sleep categories. A significant difference was detected between WLB and the number of hours students slept each night ($F=31.44$, $p<.05$). This analysis revealed that lower WLB was lower (i.e., higher scores) was associated with less sleep.

Table 14: One-way ANOVA results: QOL, WLB, and sleep

Variables	Significance Between Groups
PCS	.000***
MCS	.000***
QOL	.000***
WLB	.000***

***p<.05

Discussion

The purpose of this study was to assess whether there was an association between the quality of life (QOL) and work-life balance (WLB) among students who worked and students who did not work. In addition, an analysis of QOL and WLB among different demographics was done to compare results. When comparing QOL and WLB among students, there was a significant difference between working and non-working students (Table 11). This finding suggests that students who did not work had an overall greater QOL and were able to manage their work and non-work responsibilities better than students who worked full-time or part-time. Published research in the literature indicated no differences between working and non-working students regarding their college experience (Lang, 2012). In addition, other studies also showed that there was no difference in the pros and cons of work among college students (Mounsey et al., 2013). Although previous literature presented similar results in terms of characteristics of working and non-working students, the significant difference observed in the findings presented in this thesis between working and non-working college students can be explained by understanding the demands and resources available for these students. Full-time student workers exhibited the lowest QOL, more specifically the lowest physical and mental health. Full-time student workers also had lower work-life balance. As noted by Koeske (1989), when demands exceed resources, students were more likely to experience stress-related illnesses and psychological distress.

In the one-way ANOVA statistical analysis, there was significant differences in PCS, MCS, and QOL among different age groups and class enrollment status. Emerging adulthood is identified as five stages: age of identity exploration, age of instability, age of self-focus, age of feeling in between, and age of possibilities (Arnett, 2006). Previous studies have linked identity exploration

to well-being (Steger, 2018). People high in meaning of life showed higher QOL. This can explain why students who were 40 years or older had higher QOL scores than any other age group, as individuals in this age group have experienced life enough to identify their purpose. Demirbas-Çelik (2018) has stated that mental well-being in young adults is achieved through academic achievement and intimacy. However, there has been an increasing interest in the “hook-up culture” on college campuses. Hook-ups are defined as one-time sexual encounters between individuals with no plan to pursue any further engagements (Helm et al., 2015). Therefore, the lack of intimacy among young adults can contribute to low mental well-being. This notion is supported by the findings of this study as students between the ages of 23 and 27 reported the lowest mental health.

Time serves as a critical component to work-life balance for students; however, many students acknowledge that they struggle with time management. Previous studies suggest that as students get older and advance through their college major, they begin to juggle multiple demands and express difficulty in grasping time management (Martinez et al., 2013; McAlpine et al., 2009). The findings of this study are consistent with the literature in that WLB was lower (i.e., higher score) as students progressed from freshman to senior status. Logan et al. (2016) do not recommend that students work during their freshman and sophomore year of college until their time management skills improve, which typically starts their junior year.

When comparing health outcomes and WLB scores of college students, our findings showed that women had lower QOL and exhibited lower WLB than males and students who identified as *Other*. Today, more women are pursuing higher education and entering the labor workforce; however, gender inequalities are still present. Women typically take on more responsibilities than men in addition to their roles as students, including family responsibilities,

housework, and parenting. This typically causes high stress in women, which is consistent throughout the literature (Nicklin et al., 2018; Fein & Skinner, 2015). Women also give up more to try to achieve balance in these roles, but they struggle more than men to succeed (Beddoes & Pawley, 2014). Higher stress could potentially lead to effects on physical and psychological well-being, which can negatively impact work-school-life balance (Nicklin et al., 2018).

When comparing health outcomes and WLB scores for different majors, there was evidence of significant differences in PCS, MCS, and QOL. The findings of this study differed from that of previous studies. Mousnsey et al. (2013) found no significant differences between majors of working and non-working students and their anxiety, depression, and grade point averages among a sample size of 107 participants. The findings of this thesis compared a diverse group of majors with a larger sample size of over 2,000 participants. The results of this study showed that the lowest levels of physical health and mental health among psychology majors. These results were similar to the work of Jarrad et al. (2019), which showed high levels of psychological distress among psychology majors and significant alcohol abuse, which affected their physical health.

Students who worked fewer hours each week had higher WLB. This finding is consistent with the literature on work-school conflict. Markel and Frone (1998) found a positive correlation between workload, job hours, and work-school conflict. This indicated that the more hours students work at their jobs, the less time they had for other responsibilities related to WLB, such as sleep and socializing (Dundres & Marx, 2006; Park & Sprung, 2015; Lang, 2012; Martinez et al., 2013). This notion was supported by this study as students who worked between 1 and 9 hours a week had high WLB and students who worked over 40 hours a week had low WLB.

Students who worked on-campus presented with better physical health and WLB scores compared to students who worked off-campus. Students working on-campus typically feel more connected to faculty and peers, which in turn leads to higher academic achievement (Kulm & Cramer, 2006). Students who work off-campus, however, spend most of their time disconnected from campus members and activities, which limits the amount of time that can be dedicated to their schoolwork and campus involvement (Astin, 1984). On-campus jobs offered benefits that assist in WLB, such as positions related to students' prospective career field, higher grade point averages, and increased interest in graduate education. These students were also less likely to drop-out and more likely to graduate on-time (Ehrenberg & Sherman, 1987). The work-life interface literature does not provide theoretical support to our findings of a significant difference in physical health between college students who work on-campus and students who work off-campus. However, most on-campus jobs are sedentary, where students often work behind the desk as a receptionist. Young adults who work off-campus typically work in the retail or food industry, which involves active movement or standing for long periods. Jobs that require constant active movement along with the commute to work from school or vice versa can play a negative role in a student's physical well-being.

Sleep was positively correlated with health outcomes and WLB. This finding suggests that sleeping more each night increased students' QOL and WLB, which is consistent with previous literature. Sleep serves as a prominent component of an individual's daily routine. However, many college students have reported poor sleeping habits as a result of their school and life demands. Poor sleep quality affects neurological function in the brain and leads to poor school performance and poor eating habits (Barone, 2017; Lentz & Brown, 2019). It is recommended that adults get

between 7 to 9 hours of sleep each night (National Institute of Neurological Disorders and Stroke, 2019). Though sleep provides physical and mental benefits to students, almost one-third of our study reported sleeping less than six hours a night. In return, students sleeping fewer hours per night had lower physical health and mental health scores compared to students sleeping more hours a night. Students struggle to maintain balance as they work to financially support themselves and attend school to better their lives. Sleep is something students have control over; therefore, when they are faced with increasing demands, or when they experience low WLB, students are more likely to sacrifice sleep to maintain balance. The findings of this study support this notion as less WLB was apparent among students sleeping fewer hours each night.

Conclusion

Implications and Further Research

Taking into consideration the findings of this study, the significance of work-life balance and quality of life provide potential for these results to have practical applications. It is evident that a large percentage of college students are working. Approximately three-fourths of the sample were working either full-time or part-time. However, working students struggled to manage their work, school, and life responsibilities, as evident by survey scores indicative of low WLB compared to students who did not work. Institutional and social support may be needed to help working students achieve balance between their work, school, and life responsibilities (Martinez et al., 2013).

This study explored the WLB and QOL among college students, but these statistics raise further questions to understand the student perspective on QOL and WLB. According to the average means scores for students, physical health, mental health, QOL, and WLB scores were not particularly impressive for participants in this study. Future research should focus on understanding the possible factors that can contribute to these findings.

The data from this study showed a negative correlation between QOL, WLB, age, and class status. Navigating ways to manage time and priorities as demands increase overtime on university campuses could help students find a balance between work, school, and life responsibilities. Highlighting the importance of health management, such as physical activity and quality sleep, may influence the efforts of students to improve their QOL.

Considering these findings, institutions and employers can attempt to support students in achieving work-life balance. It is apparent that most university students work. The traditional college framework incorporates 12-15 hours of class-time and 36-45 hours of study time each week. Many college students are involved on campus through student organizations, research, internships, leadership positions, and Greek life. These multiple roles consume time during a school week. With the understanding that students work, go to class, study, do homework, volunteer, do research, hold leadership positions, and are involved in organizations, Greek life, and internships, universities and employers can collaboratively provide flexibility in work and school schedules. This may include informing students of available options to improve balance such as online classes, negotiating time and pay with employers, and scholarships and grants.

As the definition of a typical college student evolves, institutions and employers must understand the importance of WLB and QOL to ensure job satisfaction and academic achievement among college student workers.

Limitations

There are a few limitations in this study that should be mentioned. Study participants were recruited through a campus-wide email. Responses were self-reported, which may have resulted in selection bias and an overestimation or underestimation of their work-life balance and quality of life. The focus of this study was on the work-life balance and quality of life among college students. Students who possibly resonated with the harmful effects of working on their balance and quality of life may have been more inclined to take the survey of this study. This may explain why the scores for WLB and QOL were close to average. Future studies can use different approaches such as random sampling methods or conducting interviews on the university campus

to see if the findings of this study are supported. Also, this study was conducted only at the University of Central Florida. Although the University of Central Florida presents a diverse student body with 68,571 students enrolled, the results of this study cannot be used to generalize WLB and QOL of working and non-working college students of other college campuses. Future research can replicate the methods of this study to compare these findings at other universities. This information can begin the discussion on what benefits the WLB and QOL among college students at different campuses. This study also took place during the Summer 2019 semester. Typically, not all college students take classes during this semester and students usually enroll in fewer credit hours than they would in the Fall or Spring semester. Replicating these studies during the Fall or Spring semester could provide further strength to the results.

Appendix A: Demographics Survey Questions

Demographics

1. How old are you?
 - a. < 18
 - b. 18-22
 - c. 23-27
 - d. 28-32
 - e. 33-39
 - f. ≥ 40
2. What is your gender?
 - a. Female
 - b. Male
 - c. Other (please specify):
3. How would you describe yourself? (Mark all that apply)
 - a. White
 - b. Black or African American
 - c. Hispanic or Latino/a
 - d. Asian or Pacific Islander
 - e. American Indian, Alaskan Native, or Native Hawaiian
 - f. Biracial or Multiracial
 - g. Other (please specify):
4. What is your status at UCF?
 - a. Freshman (0-30 credit hours)
 - b. Sophomore (31-60 credit hours)
 - c. Junior (61-90 credit hours)
 - d. Senior (91-120 credit hours)
 - e. Senior (120+ credit hours)
 - f. Graduate or Professional Student
 - g. Non-degree Seeking Student
5. What is your enrollment status at UCF?
 - a. I am enrolled in classes full-time
 - b. I am enrolled in classes part-time
6. What is your major at UCF?
 - a. Health Sciences
 - b. Psychology
 - c. Biomedical Sciences
 - d. Nursing
 - e. Mechanical Engineering
 - f. Integrated Business

- g. Computer Science
 - h. Biology
 - i. Finance
 - j. Hospitality Management
 - k. Other (please specify):
7. Are you currently working?
- a. Yes, full-time
 - b. Yes, part-time
 - c. I am not currently working
8. On average, how many hours do you work per week?
- a. 0
 - b. 1-9
 - c. 10-19
 - d. 20-29
 - e. 30-39
 - f. 40
 - g. 40+
9. Where do you work?
- a. On-campus
 - b. Off-campus
10. On average, how many hours of sleep do you get per night?
- a. More than 8 hours
 - b. 6-8 hours
 - c. 4-6 hours
 - d. 2-4 hours
 - e. Less than 2 hours

Appendix B: 12-Item Short Form Survey Instrument (SF-12)

12-Item Short Form Survey Instrument (SF-12)

1. In general, would you say your health is:
 - a. Excellent
 - b. Very Good
 - c. Good
 - d. Fair
 - e. Poor

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf
 - a. Yes, limited a lot
 - b. Yes, limited a little
 - c. No, not limited at all
3. Climbing several flights of stairs
 - a. Yes, limited a lot
 - b. Yes, limited a little
 - c. No, not limited a lot

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

4. Accomplished less than you would like
 - a. Yes
 - b. No
5. Were limited in the kind of work or other activities
 - a. Yes
 - b. No

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

6. Accomplished less than you would like
 - a. Yes
 - b. No
7. Didn't do work or other activities as carefully as usual
 - a. Yes
 - b. No

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
- Not at all
 - A little bit
 - Moderately
 - Quite a bit
 - Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks

9. Have you felt calm and peaceful?
- All of the time
 - Most of the time
 - A good bit of the time
 - Some of the time
 - A little of the time
 - None of the time
10. Did you have a lot of energy?
- All of the time
 - Most of the time
 - A good bit of the time
 - Some of the time
 - A little of the time
 - None of the time
11. Have you felt downhearted and blue?
- All of the time
 - Most of the time
 - A good bit of the time
 - Some of the time
 - A little of the time
 - None of the time
12. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?
- All of the time
 - Most of the time
 - A good bit of the time
 - Some of the time
 - A little of the time
 - None of the time

Appendix C: Work-Life Balance Questionnaire

Work-Life Balance Questionnaire

Section 1: Work Interference with Personal Life (WIPL)

1. My personal life/school suffers because of work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
2. My job makes personal life/school life difficult
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
3. I neglect personal/school needs because of work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
4. I put personal life/school life on hold for work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
5. I miss personal activities/school activities because of work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
6. I struggle to juggle work and non-work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
7. I am unhappy with the amount of time for non-work activities

- a. Strongly disagree
- b. Disagree
- c. Neither agree nor disagree
- d. Agree
- e. Strongly agree

Section 2: Personal Life Interference with Work (PLIW)

- 8. My personal life/school life drains me of energy for work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
- 9. I am too tired to be effective at work
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
- 10. My work suffers because of my personal life/school life
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
- 11. It is hard to work because of personal/school matters
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree

Section 3: Work/Personal Life Enhancement (WPLE)

- 12. My personal life/school life gives me energy for my job
 - a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
- 13. My job gives me energy to pursue personal activities/school activities
 - a. Strongly disagree

- b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
14. I have a better mood at work because of personal life/school life
- a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree
15. I have a better mood because of my job
- a. Strongly disagree
 - b. Disagree
 - c. Neither agree nor disagree
 - d. Agree
 - e. Strongly agree

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