Working College Students: How Work Demands, Psychosocial Factors, and Health Impact Academic Performance

Ryan Paul Hulla

Presented to the Faculty of the Graduate School of

The University of Texas at Arlington in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Arlington

August 2021

Acknowledgments

I would like to acknowledge and thank several individuals, without them, my dissertation would not have been possible. First and foremost, I want to thank my faculty mentor and committee chair, Dr. Angela Liegey-Dougall. Her guidance throughout my graduate career has pushed me to become a better writer, researcher, and professional, and I am very grateful for the opportunity to have been able to work with her. I also want to thank my committee members Dr. Lauri Jensen-Campbell, Dr. Ann Cavallo, Dr. Andrew Clark, and Dr. George Siemens for the feedback they provided for my dissertation. Their suggestions were important in making this project more thorough and better in quality. I would also like to give special thanks to my former lab colleague and friend, Dr. Kelley Bevers, who I cannot thank enough for her input on my project. In addition, I owe a great deal of gratitude to my undergraduate research assistant Jennifer Nguyen, who spent countless hours assisting in the coding and cleaning of the data for this project. I also owe a huge thank you to all my lab colleagues Eric Salas, Amber Morgan, and Cory Newell, for their support throughout this program.

I want to acknowledge some family members and friends for their support. I would like to thank my parents Ray and Cindy Hulla, my siblings Jonathan, Connor, and Chelsea Hulla, for their support during my several years spent in my Ph.D. program. Also, a very special thank you to my girlfriend BreAnna Briggs, who has waited ever so patiently for me to complete my Ph.D. I also would like to thank my friend and colleague Logan Ruhde for his support throughout this program. Finally, I want to thank and dedicate this dissertation to my grandparents, John and Annabelle Hulla. They both passed away during my time in this program, but I do not know if I ever would have stepped foot into a college classroom without their support.

August 10th, 2021

Abstract

Supervising Professor: Angela Liegey-Dougall

As costs of higher education increase and the demand for postsecondary skills in the labor market rise, more students will seek employment. Previous research suggests the risks of work demands affecting academic performance and health can often outweigh the potential benefits of working while in school. The purpose of this study was to examine if work demands predict academic performance measures and health outcomes in employed college students. Also, this study investigated if psychosocial factors affected the relationships between work demands and academic performance and health outcomes. In addition, this study examined if themes could be derived in working students' responses to statements about how employment factors interfere with their academics and how dual roles of an employee and student impact their health. The research examined if themes of employment factors interfering with academics could determine differences in academic performance in working students. Finally, it was observed if themes were present describing how dual roles impact students' health related to academic performance. This study did not find support for work demands predicting academic performance but did find support for work demands predicting health outcomes. Perceived injustice had a significant mediating role in the relationship between job satisfaction and sleep quality. In addition, significant differences in academic performance among participants mentioning and not mentioning of work environment, impaired self-regulation, and vitality factors themes existed, and significant relationships of specific health impact themes and academic performance measures were found.

Keywords: working students, work demands, work-school conflict, academic performance, health outcomes

Table of Contents

Working College Students: How Work Demands, Psychosocial Factors, and Health Impact Academic Performance

In the United States, nearly 14 million people are currently active in the labor force and enrolled in higher education or training. This constitutes about 8% of the United States labor force and 70-80% of all post-secondary education students (Carnevale et al., 2015). In the present economic climate, skills acquired through higher education are valuable currency in today's job markets. Now more than ever, it is necessary for workers to have the proper post-secondary education to gain a foothold and flourish in the labor market. Employers are seeking workers with postsecondary education to remain competitive in the business sector (Carnevale et al., 2015).

In today's society, higher education is generally underfunded, tuition and living costs are rising much faster than income, and federal financial support for students is dwindling (Carnevale, 2019 Ma et al., 2015; Milller, Danner, & Staten, 2008). After adjusting for inflation, the annual cost of tuition plus room and board at a four-year public university in the United States was estimated to be $20,000 in 2015, 40% higher than ten years prior, and up from about $7,000 in 1980 (Ma et al., 2015). Further, in 2019, it was reported that college tuition had risen 19 times faster than the average family income since 1980 (Carnevale, 2019). To make financial strains even more difficult, the total cost of enrollment and estimated living expenses, such as housing, books, and food, exceeded federal grant aid by an average of $12,000 in 2015 (Ma et al., 2015).

Consequently, the number of students employed with part and full-time jobs and taking out loans has increased as the cost and demand for post-secondary education has risen (Carnevale, 2019 Miller, Danner & Staten, 2008; U.S. Department of Education, 2015), forcing

students to balance efforts between work and school demands to alleviate financial burdens. It is estimated that 80% of all college students engaged in some form of employment, with 10% having worked at least 35 hours a week, and 58% worked to just meet basic living needs (Carnevale, 2019; Holmes, 2008; Perna, 2010). Depending on a student's ability to manage stress, students that balance work and school may face additional stress from work-school conflict, which could impact their engagement in their academics, hours of studying, and academic performance. The importance of this study was to explore more fully the impact of work demands, psychosocial factors, and health on academic measures in working college students.

Work Demands and Academic Measures

It has been common over the past 30 years for a college student to more likely to be employed than unemployed due to rising costs of higher education and increased demands of postsecondary skills in the labor market (Carnevale et al., 2015). Unfortunately, the risks of work demands (work hours, work-school conflict, and job satisfaction) affecting academic measures (GPA, completed credit hours, study hours, and student engagement) often outweigh the potential benefits of working while in school (such as engaging in the labor force and alleviating financial burdens).

Work hours have been shown to influence academic measures. The more hours students worked in a week was associated with more missed lectures, fewer hours spent in class, less time invested in studying, and an increased likelihood of a student's perception that work negatively impacted academic performance (Carnevale, 2019; Carney, McNeish, & McColl, 2005; Curtis & Shani, 2002; Mounsey, VanDehey, & Diekhoff, 2013; Nagai-Manelli et al., 2011; Tessema, Ready, & Astani, 2014). Consequently, research has found students' work hours had an inverse

relationship with GPA, completed credit hours, and student engagement (defined as the time, energy, and resources students commit to enhance learning at an institution purposely; Krause, 2005), specifically when students surpass ten working hours a week (Darolia, 2014; Kalenkoski & Pabilonia, 2008; Tessema, Ready, & Astani, 2014). Further, students who worked 20 or more hours a week were more likely to drop out of college and never received a degree; every hour spent working over 5 hours a week had a negative association with grades and credit completion (Astin, 1993; Darolia, 2014). Moreover, research has shown students' GPA was specifically impacted when working 15 or more hours a week. For example, 59% of college students who worked 15 or more hours a week had a C or lower grade point average (Carnevale, 2019); those who worked 20 or more hours a week were less than half as likely to perform well academically compared to their peers who worked 10 hours or less (Miller, Danner, & Staten, 2008), and 81% of students who worked 30 hours or more per week reported that work negatively impacted academic progress (Elling & Elling, 2000). However, the number of hours worked does not tell the whole story; the degree of conflict between work and school has also been found to be critical.

Work-school conflict has represented the extent to which work disrupts the student's ability to meet school-related demands and responsibilities (Markel & Frone, 1998). Work-school conflict among high school and college students does have a negative association with GPA, study effort, and student engagement and a positive association with working hours (Butler, 2007; Cinamon, 2018; Creed, French, & Hood, 2015; Markel & Frone, 1998; McNall & Michel, 2011; Sy, 2006), but is an understudied area when looking at its association with academic credit completion; which is a gap in the literature this study examined. Another variable that may have accounted for working students' academic measures was job satisfaction,

but currently, this variable has been understudied in working college students. The only study examining job satisfaction in working students in a traditional class setting did not find support for job satisfaction relating to GPA, but the study only had a sample size of 38 students (Do, 2016). Another study that examined job satisfaction in a cooperative distance learning class found that students who had jobs less related to their field of study were less satisfied with their job and had lower scores in their class (Welman & Basson, 1995). The research involving job satisfaction's association with academic course completion, study hours, and student engagement is even more sparse, with no studies found looking at examining these relationships. Concerning student engagement, some studies done in vocational research do indicate lower job satisfaction is related to lower work engagement in the educational field (Shoshani & Eldor, 2016). Further, employed students with higher job satisfaction also report higher work engagement (Alarcon & Edwards, 2010). The current study investigated if the findings of increased job satisfaction and work engagement can extrapolate to student engagement and study hours. With the research being so limited involving job satisfaction and academic measures in working students, research contributed to the existing gap in the literature by exploring how job satisfaction and work-school conflict impact college students' academic measures.

The existing literature supports the notion that working while a student can negatively impact academic measures and cause further problems after college. The types of jobs students hold while in college often do not prepare them for the careers they desire after graduation (Carnevale, 2019), and the decrease in grades impacted by working demands may decrease the student's desirability in the labor market after graduation (Wise, 1975). Moreover, the extended time taken to complete a degree due to work (which potentially reduces the number of courses a student takes, completes, or passes in a semester) can lead to forgone potential earnings in a

higher paying job and lower academic persistence (Darolia, 2014). These potential problems that arise from working while in college make it critical to examine how work demands influence academic measures in students. Academic measures are not the only factors that are impacted by work demands in employed college students. It is important to investigate other factors such as health and its association with work demands and how health could directly affect academic measures.

Work Demands and Health Outcomes

While stress is an unavoidable part of life, stress has been increasing among college students, partially due to the overabundance of stressors from copious causes (such as adjustment being away from home, adjustment to a new social environment, maintaining high levels of academic performance, maintaining relationships, looking for romantic partners, work-study conflict, and handling financial strains; Pedersen, 2012; Roisman et al., 2004; Ross, Niebling, & Heckert, 1999; Towbes & Cohen, 1996). Working college students, unfortunately, experience greater stress than their non-working peers, and more specifically, research has shown students who reported working more hours in a week had increased feelings of being overwhelmed, greater stress levels, and more psychological symptoms (Hey, Calderon, & Seabert, 2003; Koeske & Koeske, 1989; Lederer et al., 2015; Roberts et al., 1999). Further, other studies have also shown that college students with greater work-school conflict reported increased stress levels and worse psychological health (Brunel & Grima, 2010; Carney, McNall & Michel, 2017; McNeish, & McColl, 2005; Park & Sprung, 2013; Sy, 2006). Part of the reason for the greater strain on mental health in working students is the additional pressures from employers and the division of time between work and school. These pressures can include being asked to work on non-scheduled days; working more hours than requested; little flexibility with work schedules;

not being satisfied with the work environment or compensation; having little time for social activities; and having a negative relationship with an employer. These pressures have led working students to overextend themselves, which were associated with increased stress, anxiety, depression, emotional problems, and the likelihood of dropping out or reducing course load, and decreases in attendance at social gatherings, social functioning, vitality, and overall well-being (Carney, McNeish, & McColl, 2005; Gaultney, 2010; Joo, Durband, & Grable, 2009; Mikolajczyk, et al., 2008; Oviatt et al., 2017; Park & Sprung, 2013; Watts & Pickering, 2000). The literature on job satisfaction and psychological health among college students has been limited, but one study found that job satisfaction in working college students had a negative relationship with stress (Do, 2016). Pulling from the literature on how job satisfaction impacts health in working individuals who are not students, lower job satisfaction is related to decreased mental health, such as experiencing burnout, lower self-esteem, increased anxiety, depression, stress, and strain (Decker & Borgen, 1993; Faragher, Cass, & Cooper, 2005). Therefore, this studied addressed this under-researched area of working students' job satisfaction and mental health, in addition to examining the impact of work-school conflict, work hours, and other job characteristics.

Unfortunately, the toll of work and school demands is not just psychological but also affects physical health. Working students reported suffering greater levels of physical health symptoms, limitations due to physical problems, pain, and worse general physical health (Carney, McNeish, & McColl, 2005; Koeske & Koeske, 1989; Oviatt et al., 2017;). In addition, sleep was impacted by work demands in college students. An increase in work hours in college students has increased reports of not having enough sleep and decrease the feeling of being rested (Lederer, et al., 2015). Another study found students who worked 20 hours or more a

week were 1.45 times more likely to experience shortened sleep compared to their non-working peers (Miller, Danner, & Staten, 2008). Further, greater work-school conflict is associated with decreased sleep quality and increased fatigue levels in working college students (Park & Sprung, 2014). Although the influence of job satisfaction on physical health has not been examined in college students, it has been examined in the non-student working population. For example, individuals with lower job satisfaction were related to having decreased physical health, such as musculoskeletal disorders, subjective physical illness, cardiovascular disease, and sleep problems (Barnes, Ghumman, & Scott, 2013; Chang & Chang, 2019; Faragher, Cass, & Cooper, 2005; Karagozoglu & Bingöl, 2008; Landel & Dasgupta, 2018). In addition to how work demands influence health outcomes, it is important to consider how students' health impacts academic measures.

Work Demands, Health Outcomes, and Academic Measures

It is important to understand how work demands impact working college students' mental and physical health because student health is associated with academic measures. For example, worse psychological health, such as greater levels of psychological symptoms, depression, anxiety, suicidal ideation, substance use, emotional problems, and hopelessness; and decreased levels of social functioning and mental health were associated with worse GPA, decreased student engagement, decreased college persistence, and program completion (Billingsley & Hurd, 2019; De Luca et al., 2016; Carney, McNeish, & McColl, 2005; Horton, 2015; McMahon et al., 2011; Raskind, Haardörfer, & Berg, 2019; Oswalt & Wyatt, 2011; Smith, Jaurique, & Ryan, 2016; Vaez & Laflamme, 2008; Wyatt & Oswalt, 2013). Further, greater stress is associated frequently with decreased GPA, student engagement, college persistence, and completion of an academic program (Akgun & Ciarrochi, 2003; Bachrach & Read, 2012; Elias,

Ping, & Abdullah, 2011; Johnson et al., 2013; Oswalt & Wyatt, 2011; Raufelder et al., 2013; Schraml et al., 2012; Sohail, 2012; Stewart et al., 1999; Vaez & Laflamme, 2008). In addition, greater self-reported physical health, general health and pain, headaches, abdominal pain, and physical problems were associated with worse GPA, student engagement, academic persistence, and program completion (Carney, McNeish, & McColl, 2005; Grimby-Ekman et al., 2018; Horton, 2015; Smith, Jaurique, & Ryan, 2016; Vaez & Laflamme, 2008). Moreover, poor sleep was associated with declines in academic measures, with numerous studies having found aspects of sleep, including later sleep onset, shorter sleep length/duration, greater sleep irregularity, increased daytime sleepiness, poorer overall sleep quality, and more sleep problems all had been associated with decreased GPA, student engagement, and study concentration (Dunbar, Mirpuri, & Yip, 2017; Howell, et al., 2004; Medeiros et al., 2001; Miller, Danner, & Staten, 2008; Pagel, Forister, & Kwiatkowki, 2007; Singelton & Wolfson, 2009; Talib & Zia-ur-Rehman, 2012; Van der Heijden et al., 2017; Yang et al., 2003). This study aimed to contribute to the existing literature on how work demands influence health and how health affects the relationship between work demands and academic measures. In addition, the research examines how health factors influenced study hours and credits completed, which is sparse in the literature. Beyond just student work demands, psychosocial factors such as a sense of belonging and perceived injustice contribute to academic measures and health, and health may indirectly affect the relationship between psychosocial factors and academic measures in working college students.

Work Demands, Sense of Belonging, and Academic Measures

A sense of belonging or the feeling that one is accepted, included, respected, and valued in the respective social environment has been identified as a critical dimension of success in college (Strayhorn, 2018; Willms, 2003). Prior research has shown a lack of a sense of

belonging undermined students GPA, student engagement, retention, and the likelihood of a student completing their degree (Bean, 1985; Berger, 1997; Devlin, James, & Grigg, 2008; Faircloth & Hamm, 2005; Hausmann, Schofield, & Woods, 2007; Oldfield et al., 2017; Walton & Cohen, 2007; Zumbrunn et al., 2014). Similarly, another study found that if college students reported belonging to an organization, they were found to have a higher GPA (Mayo, Murguía, & Padilla, 1995). Given that a sense of belonging has been demonstrated to be important in impacting students' academic measures, it was imperative to consider how a student's sense of belonging may be affected by occupational responsibilities. One study found that both a student's sense of belonging and hours of work predicted their class attendance (Oldfield et al., 2017). Other research has found that working-class and low socioeconomic students have a lower sense of belonging and academic engagement than their middle and upper-class peers (Jury et al., 2019; Soria & Stebleton, 2013b). Though no research has examined if working hours directly predicted a student's sense of belonging, it is intuitive to believe it would. Knowing that lower socioeconomic status students were more likely to be working students out of necessity (Walpole, 2003) and more likely to work longer hours (Carnevale et al., 2015), it was instinctive to hypothesize that working students may experience less social belonging than their non-working peers, which may also be a contributing factor to their mental and physical health.

Work Demands, Sense of Belonging, and Health Outcomes

Growing evidence suggests that a sense of belonging in college students is an important factor in college students' mental health. Regarding student's health, the absence of a sense of belonging can be described as loneliness, social isolation, or a sense of alienation, and has been linked to negative psychological health outcomes such as greater levels of dissatisfaction,

substance use, depression, suicide, loneliness; and decreased levels of confidence, self-esteem, self-worth, social acceptance, well-being, and happiness (Anderman, 2002; Creed, French, & Hood, 2015; Freeman, Anderman, & Jenson, 2007; Galliher, Rostosky, & Hughes, 2004; Gummadam, Pittman, & Ioffe, 2015; Hagerty, Williams, & Oe, 2002; Shochet & Smith, 2014; Pittman & Richmond, 2007; Pittman & Richmond, 2008; Roeser, Midgley, & Urdan, 1996; Walton & Cohen, 2011). Other studies in college students found a higher sense of belonging was related to less physical health symptoms, fewer doctor visits, and higher reported physical health (Hale, Hannum, & Espelage, 2010; Walton & Cohen, 2011). This study contributes to the literature by examining if a sense of belonging impacts academic measures, specifically in working college students, and how that relationship may be affected by a student's health.

Because working students tend to have the responsibilities from two domains (being an employee and a student), and students who work longer hours are more likely to experience sociodemographic disadvantages (such as lower socioeconomic status; Oviatt et al., 2017; Walpole, 2003), working students may perceive a greater injustice when compared to their non-working peers. How perceived injustice is impacted by student employment and how perceived injustice impacts student's academic measures and health will be further reviewed.

Work Demands, Perceived Injustice, and Academic Measures

Due to financial obstacles and an ever more competitive environment, several colleges and universities have implemented a business model that positions students as consumers who must be content (Hoffman & Kretovics, 2004; Howell & Buck, 2011). Researchers have suggested that because of this, current generations of college students put more importance on the aspect of fairness in the college classroom (Althoff Fridley, 2009; Twenge, 2009). Conflict and perceived injustice come into play when students have a strong belief that they are entitled to

high grades for just trying, working hard, and attending class, and not for excellent performance (Ko, 2014). Prior research supported a strong component of perceived classroom justice was the student's grades (Horan et al., 2010), and increased feelings of injustice in class did predict lower student engagement (Berti, Molinaria, & Speltini, 2010). Further, students who feel they experienced injustice or discrimination are less likely to persist in college (Hernandez & Lopez, 2004). Because students with increased work demands were found to have a decrease in GPA, study hours, engagement, and credit competition, it would seem likely that they would also experience greater perceived injustice in their academics, but no research has examined how work demands may affect perceived injustice in working students. The literature on perceived injustice in college students, in general, is thin, and none appears to exist specifically looking at perceived injustice in working college students. However, perceived injustice in workers has been studied. For example, the perception of greater earning injustice is linked to decrease job satisfaction among employees (Pritchard, Dunnette, & Gorgenson, 1972; Sauer & Valet, 2013). Knowing that employees who perceived income injustice are more dissatisfied with their job, it was hypothesized that students with greater work demands (longer hours, greater work-school conflict, and higher dissatisfaction) would experience greater perceived injustice in an academic setting, which would in turn impact students' academics. In addition, it is important to understand how perceived injustice may affect the relationship between work demands and health. This is a gap in the literature the current study aimed to contribute. Just as important as it is to examine how perceived injustice impacts academics, it is important to consider how perceived injustice impacts health.

Work Demands, Perceived Injustice, and Health outcomes

This greater perceived injustice that working students may experience could make them more susceptible to poorer health. Research on perceived injustice and health has been limited in college students. However, one study did find that stress-mediated the effect of perceived injustice on most constructive student behaviors, such as their approach and engagement in class (Chory, Horan, & Houser, 2017); but the research on how perceived injustice and income injustice impacts health in individuals has been more abundant. For example, in the healthcare work environment, higher perceived injustice is related to increased stress (Ezenwa et al., 2015). Further, other research has found that perceived income injustice was associated with increased risk of acquiring stress-related diseases, such as depression, hypertension, and stroke (Boscher et al., 2017; Shaw & Gupta, 2001); and was associated with worse physical health, increased heart rate variability, and somatic symptoms (Falk et al., 2011; Falk et al., 2014; Shaw & Gupta, 2001; Schunck, Sauer, & Valet, 2015). Evidence suggested that perceived income injustice may have contributed to pain as well, as research has supported that decreased economic security was associated with a decrease in pain tolerance and an increase in physical pain and the number of painkillers purchased (Chou, Parmar, & Galinsky, 2016). This study contributed to the literature by addressing how perceived injustice relates to not only academics but health in working students and how perceived injustice may affect the relationship between work demands and health. Further, the study examined how health outcomes affect the relationship between perceived injustice and academic measures. In addition to examining how a sense of belonging and perceived injustice impact academic measures in working college students, it is important to consider how sociodemographic factors influence academics and health.

Sociodemographic Variables

Some factors that may influence academic measures are sociodemographic. For example, age, gender, first-generation college student, part-time versus full-time student, international or domestic student, student classification (freshman, sophomore, junior, senior), on or off-campus employment, and socioeconomic background all have evidence for associating with academic measures, work demands, or sense of belonging. Research has found individuals who start post-secondary school at the age of 21 or later typically finish with a higher GPA, have higher engagement, and are more likely to complete an academic program than their younger counterparts (Choi, 2019; Sheard, 2010; Vaez & Laflamme, 2008). Moreover, student classification is associated with GPA and health behaviors, with higher classifications such as juniors and seniors typically having higher GPAs than freshmen but worse health behaviors (Pritchard & Wilson, 2003; Racette et al., 2008). In addition, being a part-time or full-time student has been associated with GPAs. Part-time students generally have higher GPAs than their full-time counterparts (Darolia, 2014). Gender also is associated with student GPAs, course completion, and health. Female students tended to outperform their male counterparts obtaining higher GPAs in the first year of study (Strahan, 2003), across three years of undergraduate study (Baker, 2003), and final GPA when completing college (Sheard, 2010). Further, female students also complete college courses and are awarded degrees at a higher rate than males (Aragon & Jonhson, 2008; Vaez & Laflamme, 2008). Females also report more physical and mental health symptoms than their male counterparts (Hall et al., 2006). In addition, students' cumulative GPA was controlled for, as prior GPA has demonstrated to be associated with future GPA, academic persistence, student engagement, and health (Aimé et al., 2016; Horton, 2015; Hsieh, 2014; Shaughnessy & Evans, 1986; Raskind, Haardörfer, & Berg, 2019). Regarding other factors that

influence academics and health, a student's race and ethnicity have been found to associate with socioeconomic status, the likelihood that they were a first-generation student, student engagement, and academic persistence (Ackert et al., 2018; Fischer, 2007; Henry et al., 2018; Horton, 2015; Smith, Chesin, & Jeglic, 2014). Research has found that being a first-generation college student also has been associated with lower GPAs, decreased academic persistence, more work hours, and more distress (Horton, 2015; House, Neal, & Kolb, 2019; Strayhorn, 2007), and lower socioeconomic status students have had lower GPAs, study less, a reduced sense of belonging, lower student engagement, decreased academic persistence, higher levels of stress, and work more in school than their higher socioeconomic status counterparts (Carnevale et al., 2015; Jury et al., 2019; Horton, 2015; Karimshah et al., 2013; Oviatt et al., 2017; Soria & Stebleton, 2013b; Walpole, 2003). Further, on or off-campus employment has been related to academic performance. Research has shown that working 10-15 hours on campus may not impact GPA, but when working off-campus, academic performance was more likely to suffer (Perna, 2010). In addition, it was important to control for the classification of international or domestic students regarding not just academic measures and health but also with a sense of belonging among college students. International students tended to have slightly higher GPAs, better mental and physical health, study for more hours and experienced a lower sense of belonging (Eliasson, Eliasson, & Lettieri, 2016; Lee & Hagedorn, 2005; Rosenthal, Russell, & Thomson, 2006; Van Horne et al., 2018). With evidence of these demographic factors influencing academic measures, work demands, and a sense of belonging, the current study accounted for these factors as covariates in the analyses.

Other Factors as Covariates

During the time span in which this study was conducted (Fall of 2020 through Spring of 2021), the university was undergoing a lockdown due to the COVID-19 pandemic. Due to the lockdown, most classes were moved to an online format. When looking at recent research on students transitioning from a face-to-face to online class format, even during the COVID-19 pandemic, it was found students' academic performance and satisfaction do not decrease (El Said, 2021; Soesmanto & Bonner, 2019). But when looking at factors of employment, recent research found the COVID-19 pandemic increased work stress in individuals going back to work after lockdowns were lifted (Yang et al., 2020). Moreover, the threat of job loss during the COVID-19 pandemic in non-medical front-line workers (such as from sudden lockdowns and business closures) was found to predict increased emotional exhaustion in workers (Chen & Eyoun, 2021). Furthermore, it was found in previous research that that higher financial literacy improved well-being in individuals impacted the COVID-19 pandemic (Yuesti, Rustiarini, & Suryandari, 2020). Due to the timing of this study, measures of COVID-19 impact and financial responsibility were controlled for as covariates in the analyses of the study.

In addition to the COVID-19 pandemic, the data collection of this study occurred during nationwide social justice protests for the black lives matter (BLM) movement. Though no research has looked directly at how the BLM movement has impacted academic performance or employment, students participating in protests or becoming involved in new organizations could influence mood or induce time restraints for academic or work responsibilities. Given that the BLM movement could potentially affect health, academics, or employment factors, the variable was attempted to be controlled for and used as a covariate in the analyses of this study.

Study Overview

Study Purpose

In light of the literature consulted, there are clearly demonstrated gaps that the research for this dissertation sought to address. First, if work demands (working hours, work-school conflict, and job satisfaction) predicted academic measures (semester GPA, study hours, student engagement, and semester credits completed) and health outcomes (general psychological and physical health, sleep quality, and perceived stress) while controlling for sociodemographic variables (age, gender, first-generation college student, student classification [freshman, sophomore, junior, senior], cumulative credits completed, socioeconomic background, Pell grant recipient, international or domestic student, part-time or full-time student, on or off-campus work employment, cumulative GPA financial responsibility, COVID-19, and the BLM movement impact) as displayed in Figures 1 and 2.

Second, this study investigated if psychosocial factors (a sense of belonging and perceived injustice) affect the relationships between work demands and academic performance and health outcomes while controlling for covariates, as shown in Figures 3 and 4.

Third, the study examined if the relationship between work demands and academic measures was affected by psychosocial factors and health outcomes while controlling for covariates, as presented in Figure 5.

Fourth qualitative thematic analysis was used to determine what areas of employment working students consider the most important cause of interference in their academics and health. Thematic groups were used to examine possible moderation effects of work demands on academic measures, as demonstrated in Figure 6.

Finally, a thematic analysis was conducted to determine how being an employee and student impacts participant health. The analysis aimed to identify themes in answers and then examined if themes that were identified related to academic measures, as demonstrated in Figure 7.

This study addressed gaps in the literature by examining the relationships in working students at the University of Texas at Arlington who were enrolled in psychology courses in which they received credit for participating in the current study through the Sona Systems participant pool. This study was administered online to increase the participation of working students who may not be available during traditional hours. Additionally, semester and cumulative GPA, as well as sociodemographic information, was obtained from the University of Texas at Arlington with the permission of the participant.

Based on the demonstrated gap in the literature addressed above, the following Hypotheses and Research Questions were developed:

Hypothesis One: Determine if work demands predicted academic performance measures while controlling for sociodemographic variables.

Hypothesis Two: Determine if work demands predicted health outcomes while controlling for sociodemographic variables.

Hypothesis Three: Determine if work demands indirectly affected academic measures through psychosocial factors while controlling for sociodemographic variables.

Hypothesis Four: Determine if work demands indirectly affected health outcomes through psychosocial factors while controlling for sociodemographic variables.

Hypothesis Five: Determine if work demands indirectly affected academic measures through psychosocial factors and health outcomes while controlling for sociodemographic variables.

Research Question One: Explore qualitative answers and examine if themes could be derived from participants describing the most important employment factor that interfered with their academics. Then examine if participants could be grouped by themes, and if so, would groups differ in academic performance measures. In addition, it was examined if themes would moderate the relationship of work demands predicting academic measures.

Research Question Two: Explore qualitative answers and examine if themes developed from participants describing how being an employee and student has impacted their health. Then examine if these derived themes were associated with academic measures.

Methods

Participants

After the research received approval from the Institutional Review Board of the University of Texas at Arlington, participants consisted of the University of Texas at Arlington students enrolled in the department of psychology participant pool for research that signed a consent form to participate in this research study. Students were enrolled in psychology courses and were either required or encouraged to participate in research studies for extra credit. Surveys were administered through QuestionPro software. The QuestionPro software recorded the data from the surveys, then the data was de-identified, coded, and analyzed in IBM's Statistical Package for Social Science (SPSS) and the PROCESS tool (Hayes, 2017) for SPSS.

Power Analysis

Using *a priori* linear multiple regression G*Power analysis (Faul et al., 2009), the use of 23 (10 variables and 13 covariates) predictor variables with enough power to detect a large effect size set at $f^2 = .59$ (based off the effect size in a study of working students and health; Adebayo,

Sunmola, & Udegbe, 2008), an $\alpha = .05$, a $\beta = .80$ and a regression critical coefficient of $F = 2.38$; a sample size of $N = 43$ is necessary to be appropriately powered to run the statistical analyses for this study. To detect a suggested medium ($f^2 = .34$) or small effect ($f^2 = .14$) with the same alpha and beta levels the sample size needed to be sufficiently larger at $N = 61$ (critical coefficient of $F = 2.10$) and $N = 127$ (critical coefficient of $F = 1.92$; as suggested by Faul et al., 2009). This study aimed to obtain a sample size greater than or equal to $N = 127$ to detect possible small effects.

Instruments

Sociodemographic Information: A survey instrument asking questions for the individual's demographic information included gender; age; if they considered themselves Hispanic or Latino; their race; work status (not employed, employed part-time, or employed full-time); if they were employed on-campus or off-campus; the percentage of income delegated to housing and bills; their parents household income or personal income; their difficulty level to pay bills; if they were a first-generation college student; class level (freshman, sophomore, junior, senior); part-time or full-time student status; if they were an international student; and cumulative GPA. In addition to the sociodemographic survey instrument, several of the same and additional sociodemographic variables were collected through the University Analytics department with the approval from the University of Texas at Arlington's Institutional Review Board and the consent of the student participants for accuracy. These variables included gender, parent's education level, part and full-time student status, international student status, family income (for students who applied for FASFA), Pell grant recipients, cumulative GPA, race, if they identify as Hispanic/Latino, age, student classification, and the number of credit hours completed.

Financial Literacy: Financial literacy was controlled for in this study. Student's financial literacy was measured with six Likert scale questions from the *South Seattle College Student Financial Literacy Survey*, which ask questions such as "I keep track of my expenses on a regular basis." and "I prepare a budget every month.". Items are rated from one (never) to five (always). Scores were summed and then used as a covariate for the analyses of this study.

Academic Measures: Semester GPA and the number of semester credits completed were obtained through the University of Texas at Arlington for each participant with permission from the University Analytics department. Researchers received documented permission from the University Analytics department and the IRB to collect and receive students' data (who consented) of semester GPAs and semester credits completed, which were used as two of the four variables for academic measures in this study.

Study Hours: Study hours per work were obtained from a self-report question. The question asked, "On average, how many hours do you study in a week during the current academic semester?".

Student Engagement: Student engagement was measured with the student version of the *Engagement Scale* developed by Schaufeli and colleagues (2002). The scale measures three dimensions of student engagement (vigor, dedication, and absorption) on a 7-point Likert scale ranging from 0 (never) to 6 (always). Low scores on the three dimensions indicate a lack of engagement. Cronbach's alpha coefficients for the total scale is .90, with each dimension range from .68 - .82 (vigor), .79-.91 (dedication), and .73 - .76 (absorption) respectively (Loscalzo & Giannini, 2018; Schaufeli et al., 2002). For this study, the total score of student engagement was used as an outcome variable.

Work Hours: Work hours were measured with the self-report question that asked students who were employed how many hours on average they work in a week. Work hours was then used as a work demands variable in the present study.

Work-School Conflict: Work-School Conflict Items is a five-item scale developed to measure the extent to which work disrupts a student's ability to meet school-related responsibilities. These items include questions such as "Because of my job, I go to school tired" and "When I'm at school, I spend a lot of time thinking about my job" scored on a 5-point Likert scale from 1 (*never*) to 5 (*very often*). The scale has a coefficient alpha of .86 (Markel & Frone, 1998). The score of the work-school conflict items was then used as a work demand variable in the present study.

Job Satisfaction: The Job Satisfaction Survey (JSS)is a 36-item survey measured on a 5-point Likert scale with 1 (*strongly disagree*) to 5 (*strongly agree*) designed to measure the general job satisfaction of an employee. The JSS examines aspects of jobs that include pay, promotion, supervision, benefits, contingent rewards, operating conditions, co-workers, nature of work, and communication (Spector, 1985). The survey has demonstrated reliability in multiple studies and job types in fields related to many jobs for college students, such as healthcare, library support staff, and the foodservice industry (Gurbuz, 2009; Kamal et al., 2012; Kim, Murrmann, & Lee, 2009; Parmer & East, 1993; Takalkar & Coovert, 1994; Voelck, 1995; Vyskocil-czajkowski & Gilmore, 1992) with internal reliability alpha coefficients of .60 to .91 (Spector, 1985). The score of the JSS was then used as a work demand variable in the present study.

Mental and Physical Health: Mental and physical health were measured by the Medical Outcome Study 36-Item Short-Form Health Survey (MOS SF-36). The SF-36 was developed by

the RAND Corporation as part of the multi-year multi-site Medical Outcome Study and is designed to be a set of generic, coherent, and easily administered health measures with items measured on Likert scales (Ware & Shebourne, 1992). Questions are answered in either a yes/no format or on a Likert scale ranging from 3 to 6 points. The MOS SF-36 contains eight scales (physical functioning, role functioning physical, role functioning emotional, energy/fatigue, emotional well-being, social functioning, pain, and general health) with Cronbach's alphas ranging from .57 to .93 in several studies, having demonstrated strong reliability in several populations and languages (Coons et al., 1998; Ngo-Metzger et al., 2008; Orwelius et al., 2018; Ruta, 1998; Severo et al., 2006; Thumboo et al., 2000). The eight scales create two scores, a physical component and a mental component score with a licensed algorithm (Saris-Baglama et al., 2010). These two components have demonstrated high reliability ranging from .90-.92 (physical health component) and .91-.94 (mental health component; Revicki, Sorensen, & Wu, 1998). The physical and mental component scores of the MOS SF-36 were used as the physical and mental health outcomes variables for this study.

Sleep: *The Pittsburgh Sleep Quality Index* (PSQI) by Buysse and colleagues (1989) is a valid and reliable instrument to measure the quality and patterns of sleep. The PSQI measures variations of seven dimensions of sleep, differentiating them from "poor" to "good". These seven dimensions include subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction over the last month. The dimensions were then scored into a "Global PSQI Score" for a composite measure of sleep quality. The Cronbach alpha of the PSQI is .83, indicating a high degree of internal consistency (Buysse et al., 1989).

Perceived Stress: The *Perceived Stress Scale* (PSS) by Cohen, Kamarck, and Mermelstein (1983) is a widely used psychological instrument for measuring the perception of stress. It measures the extent to which situations are evaluated as stressful in the respondent's life. Items measure how unpredictable, uncontrollable, and overloaded one appraises their life. The scale comprises a number of direct questions about present levels of experienced stress. The questions in the PSS ask about feelings and thoughts during the last month. For each question, respondents are asked how often they felt a certain way. The Cronbach alpha of the PSS has measured between .84 to .86 in three different samples indicating a high degree of internal consistency (Cohen, Kamarck, & Mermelstein, 1983). The overall score of the PSS was used as the perceived stress measure.

Perceived Belonging: The *Psychological Sense of School Membership Scale* (PSSM) measures a student's perceived belonging or psychological membership in the school environment (belonging among school, peers, and instructors; Ye & Wallace, 2013) with 18 items that are measured 1 (strongly disagree) to 5 (strongly agree). The PSSM has demonstrated good internal reliability in urban and suburban students in multiple languages (Goodenow, 1993; Alkan, 2015) and in students from middle school to university (Alkan, 2015; Goodenow, 1993; Ye & Wallace, 2013) with Cronbach's alpha values ranging from .78 to .95 (You et al., 2011). The PSSM was used to measure a student's sense of belonging to the university for this study.

Perceived Injustice: In order to measure a working college student's perceived injustice in their academics due to employment demands, this study adapted the *Perceived Injustice Items,* which were items originally designed to measure ethnic perceived injustice in academics with two dimensions; four items that measure one's beliefs about systematic injustice ($\alpha = .69$) and two items that measure the perception of injustice against one's ethnicity ($\alpha = .68$) measured on a

1 (not at all) through 7 (very much) Likert Scale (Schmader, Major, & Gramzow, 2001). Examples of adaptation of these items include questions such as “Differences between work demands (i.e. working vs. not having to work; the number of working hours) between students are a result of injustice” and “Students who are part or full-time employees experience unfairness in academics because of their employment responsibilities” for this study, the answers to all six questions were summed for a general score of perceived injustice in academics due to employment demands.

Work and Academics Qualitative Data: Participants were asked to describe the most important factor of their work that interferes with school with the following statement: “Please describe the most important factor of your employment that interferes with your academic performance and provide an example of how this occurs.”.

Work, School, and Health Qualitative Data: Participants were asked to describe how being an employee and student impact their health with the following statement: “Please describe how having dual roles of being an employee and student impacts your physical and psychological health and to the best of your ability provide examples of how this occurs.”.

COVID-19 Impact: The impact of COVID-19 on participants was measured with the recently developed *Coronavirus Impact Scale* (Stoddard & Kaufman, 2020). The scale asks 12 questions that rate how COVID-19 has changed a person's life in various areas that include an individual’s routine, income, food access, health care access, mental health treatment access, access to social support, stress related to the COVID-19 pandemic, stress on one’s family, personal diagnosis, and family diagnosis. The scale has not been validated given the swiftness it was developed in order to respond to the clinical and research needs of the COVID-19 pandemic. The *Coronavirus Impact Scale* is being used in numerous large studies and is registered as a

common instrument for the National Institute of Health's Office of Behavioral and Social Science research. The sum of the *Coronavirus Impact Scale* was then used as a covariate in this study.

Racial Injustice Protest Impact: In order to consider the impact of the black lives matter movement on students during the time of this study, a qualitative question was asked on how the movement affected their academics or employment. The following question, "Has the black lives matter movement impacted your academics or employment in any way? If so, please describe how." was asked at the end of the survey to examine if this movement impacted students' academics or employment.

Procedures

Participants consisted of the University of Texas at Arlington students enrolled in psychology courses that were encouraged to participate in research conducted by the psychology department at the University of Texas at Arlington. Psychology students that accessed the study details through the Sona Systems ® software were asked to sign an electronic consent form to participate in this research study. Surveys were administered through the QuestionPro software. All surveys were answered electronically by the students. The surveys were administered in the following order: demographic information; self-reported job hours, self-reported study hours, psychological and physical health; job satisfaction; a sense of belonging; work-school conflict; perceived injustice; perceived stress; a statement asking for the most important factor of employment interfering with academics; a statement asking how being an employee and student impacts health. Inventories were completed online with attention checks to ensure data quality, and once the participant completed the inventories, data was recorded. The data was then de-identified and exported in SPSS. Once

the survey was completed, researchers collected data on the student's semester GPA, semester credits completed, and demographics variables from the University of Texas at Arlington with permission from the participant; once collected, data was de-identified and inserted into SPSS. All data were analyzed in SPSS.

Statistical Analyses

Hypothesis One (displayed in Figure 1): It was hypothesized that work demands (measured by self-reported work hours, Work-School Conflict Items, and the Job Satisfaction Survey) would predict academic measures (semester GPA, study hours, student engagement, and semester credits completed). Specifically, higher work demands (more work hours, greater work-school conflict, and lower job satisfaction) would predict worse academic measures (lower GPA, fewer study hours, and lower student engagement) while controlling for sociodemographic variables (age, gender, first-generation college student, student classification, cumulative credits completed, student part-time or full-time status, socioeconomic background, if they were a Pell grant recipient, international or domestic student, on or off-campus work employment, cumulative GPA, financial behaviors, and COVID-19 impact) as covariates.

Statistical Analysis: Four hierarchical multiple regression models were conducted. The dependent variable for the first hierarchical multiple regression was academic performance (semester GPA); the dependent variable for the second hierarchical multiple regression was study hours; the dependent variable for the third hierarchical multiple regression was student engagement; the dependent variable for the fourth hierarchal regression was semester credits completed. The first step of each regression featured sociodemographic variables as covariates. The second step of each regression included work demand variables (work hours, work-school

conflict, and job satisfaction). It was hypothesized that higher work demands would predict lower academic performance, fewer study hours, and lower student engagement while controlling for sociodemographic variables.

Hypothesis Two (displayed in Figure 2): It was hypothesized that work demands would predict health outcomes (physical and mental health, sleep quality, and perceived stress). Specifically, higher work demands would predict worse health outcomes (worse physical and mental health, worse sleep quality, and higher perceived stress) while controlling for sociodemographic variables as covariates.

Statistical Analysis: Four hierarchical multiple regression models were conducted. The dependent variable for the first hierarchical multiple regression was physical health; the dependent variable for the second hierarchical multiple regression was mental health; the dependent variable for the third hierarchical multiple regression was sleep quality; the dependent variable for the fourth hierarchical multiple regression was perceived stress. The first step of each regression featured sociodemographic variables as covariates. The second step of each regression included work demand variables. It was hypothesized that higher work demands would predict worse physical and mental health, worse sleep quality, and higher perceived stress while controlling for sociodemographic variables.

Hypothesis Three (displayed in Figure 3): It was hypothesized that work demands would indirectly affect academic measures through psychosocial factors (a sense of belonging and perceived injustice). Specifically, higher work demands would predict worse psychosocial factors (less sense of belonging and greater perceived injustice; *a* pathway), and psychosocial factors would predict worse academic measures (*b* pathway) over and beyond work demands (*c*

pathway) and would mediate the relationship between work demands and academic measures (*c*' pathway) while controlling for sociodemographic variables as covariates.

Statistical Analysis: Four hierarchical multiple regression models wwere be conducted. The dependent variable for the first hierarchical multiple regression was academic performance; the dependent variable for the second hierarchical multiple regression was study hours; the dependent variable for the third hierarchical multiple regression was student engagement; the dependent variable for the fourth hierarchal regression was semester credits completed. The first step of each regression featured sociodemographic variables as covariates. The second step of each regression included the work demand variables. The third step included psychosocial factors. Hayes PROCESS Model 4 for SPSS (Hayes, 2017) was used to test for indirect effects of work demands on academic measures through psychosocial factors, as shown in Figure 3.

Hypothesis Four (displayed in Figure 4): It was hypothesized that work demands would indirectly affect health outcomes through psychosocial factors. Specifically, higher work demands would predict worse psychosocial factors (*a* pathway), and psychosocial factors would predict worse health outcomes (*b* pathway) over and beyond work demands (*c* pathway) and would mediate the relationship between work demands and health outcomes (*c*' pathway) while controlling for sociodemographic variables as covariates.

Statistical Analysis: Four hierarchical multiple regression models were conducted. The dependent variable for the first hierarchical multiple regression was physical health; the dependent variable for the second hierarchical multiple regression was mental health; the dependent variable for the third hierarchical multiple regression was sleep quality; the dependent variable for the fourth hierarchical multiple regression was perceived stress. The

first step of each regression featured sociodemographic variables as covariates. The second step of each regression included the work demand variables. The third step included psychosocial factors. Hayes PROCESS Model 4 for SPSS (Hayes, 2017) was used to test for indirect effects of work demands on academic measures through psychosocial factors as shown in Figure 4.

Hypothesis Five (displayed in figure 5): It was hypothesized that work demands would indirectly affect academic measures through psychosocial factors and health outcomes. Specifically, work demands would directly affect psychosocial factors (a_1 pathway); work demands would indirectly affect health outcomes (a_2 pathway) and academic measures (c pathway) through psychosocial factors (d pathway; b_1 pathway); psychosocial factors would directly affect health outcomes (d pathway) and indirectly affect academic measures (b_1 pathway) through health outcomes (b_2 pathway). It was expected a serial mediation relationship would exist. Work demands would have indirect effects on academic measures through psychosocial factors and health outcomes; psychosocial factors would have direct effects on health outcomes and indirect effects on academic measures through health outcomes while controlling for sociodemographic variables as covariates.

Statistical Analysis: Four hierarchical multiple regression models would be conducted. The dependent variable for the first hierarchical multiple regression was academic performance; the dependent variable for the second hierarchical multiple regression was study hours; the dependent variable for the third hierarchical multiple regression was student engagement; the dependent variable for the fourth hierarchal regression was semester credits completed. The first step of each regression featured sociodemographic variables as covariates. The second step of each regression included the work demand variables. The third step

included psychosocial factors. The fourth step included health outcomes. After conducting the hierarchical multiple regressions, if the direct effect work demands on any of the academic measures are significantly mediated by psychosocial factors (psychosocial factors predict health outcomes over and beyond work demands) and or health outcomes (health outcomes predict academics measures over and beyond work demands), or the direct effect of psychosocial factors on academic measures is mediated by health outcomes (health outcomes predict academics measures over and beyond psychosocial factors). Hayes PROCESS Model 6 (Hayes, 2017) in SPSS was used to test for indirect effects of work demands on academic measures through psychosocial factors and health outcomes, and the indirect effects of psychosocial factors on academic measures through health outcomes as shown in Figure 5. It was expected that a serial mediation relationship would exist. It was expected work demands would have indirect effects on academic measures through psychosocial factors and health outcomes; psychosocial factors would have an indirect effect on academic measures through health outcomes; while controlling for sociodemographic variables as covariates.

Research Question One: Research Question One explored the answers from the qualitative statement, "Please describe the most important factor of your employment that interferes with your academics.". The frequency of themes were examined to determine relative importance. Additionally, participants were grouped into themes that were used as potential moderators for work demands in the previous analyses predicting academic performance.

Statistical analysis: With themes identified, group differences in academic outcomes based on the most important themes identified were examined using a multivariate analysis of covariance model. In addition, moderation effects were added to the previous models predicting academic performance to capture the potential influence of these thematic groups.

Research Question Two: Research Question Two explored the answers from the qualitative statement, “Please describe how dual roles of being an employee and student impact your physical and psychological.”. Frequent themes were identified from participants’ answers and then examined to determine if they related to academic measures.

Statistical analysis: Themes were identified, a point-biserial correlation was conducted to examine if themes related to each academic measure. A correlation was conducted for each academic measure to examine if a relationship exists between the number of themes present and academic measures.

Coding Themes for Qualitative Data

Two independent raters generated identifiable themes for both qualitative statements “Please describe the most important factor of your employment that interferes with your academic performance and provide an example of how this occurs.” and “Please describe how having dual roles of being an employee and student impacts your physical and psychological health and to the best of your ability provide examples of how this occurs.” using the In Vivo Coding Method for themes in qualitative data.

For this study, qualitative responses were coded by two independent researchers using a three-level coding method suggested by Williams and Moser (2019). The first level of the coding process was open coding. At this level, both researchers independently identified broad but distinct thematic domains for data assemblage. After discussion of independently identified broad thematic domains, the researchers' implemented the second level of coding, axial coding. The axial coding process focused on emergent themes that both researchers identified from the related broad thematic domains, further refining, aligning, and categorizing themes (William & Moser, 2019). For this study, researchers independently axial coded the qualitative data. Once

completing the axial coding process independently, the researchers then began the third level of coding, selective coding. The selective coding process entails the researchers select and integrate categories from axial coding in a more cohesive thematic expression. This process again further refines the data, specifically focusing on collapsing categories further into fewer main themes. The selective coding process allows the researcher to find potential degrees of causality or predictability in the themes, which facilitates the construction of meaning from the qualitative data (William & Moser, 2019). The two researchers coding the qualitative data for this study agreed on a set of main identifiable themes in the selective coding process and then independently coded the data in accordance with the converged themes. Coding qualitative data into themes with the method suggested by William and Moser (2019) is appropriate for studies that want to prioritize the participant's voice and draw data concepts from the words of the participants themselves (Saldana, 2016), which this study aimed to convey. After coding the participant's answers, the two researchers discussed the identified specific themes that they found for each statement. Through negotiation over the occurrence of various categories, it was determined that for the statement “Please describe the most important factor of your employment that interferes with your academic performance and provide an example of how this occurs.” eight reoccurring themes emerged from the participant's answers. These themes were: work environment factors, vitality factors, impaired self-regulation factors, mental health factors, physical health factors, financial factors, improved self-regulation factors, and no impact on academics. For the second statement, “Please describe how having dual roles of being an employee and student impacts your physical and psychological health and to the best of your ability provide examples of how this occurs.” seven reoccurring themes emerged from participants' answers. These themes were: vitality impact, mental health impact, academic

engagement impact, physical health impact, social life impact, positive health impact, and no impact on health. A high degree of reliability was achieved between raters in identifying themes for participant responses to both statements, producing intraclass correlation values greater than 0.79 (Cicchetti, 1994). Tables 1 and 2 show the two-way mixed absolute agreement intraclass correlations values of the two raters for the emerged themes for both statements to which participants responded. Tables 3 and 4 demonstrate the frequency of themes present and examples of what participants reported for each theme for both statements.

To control for the impact of the black lives matter movement on participant's academics and employment, two researchers independently rated qualitative answers to the question "Has the black lives matter movement impacted your academics or employment in any way? If so, please describe how." on a 0-2 scale to be used as a covariate. Zero represented the black lives matter movement had no impact on academics or employment, while one would indicate a minor impact, and two would indicate a substantial impact. Table 5 shows the two-way mixed absolute agreement intraclass correlations values of the two raters for the rating of the qualitative answers participants provided for the question "Has the black lives matter movement impacted your academics or employment in any way? If so, please describe how." The intraclass correlation was 0.97, which demonstrated very high reliability between raters (Cicchetti, 1994). Frequencies of ratings and examples of answers and corresponding ratings can be found in Table 6.

Data Transformations

Some data collected were not normally distributed with skewness and kurtosis values outside the acceptable ranges of negative one to positive one and negative two to positive two respectively (Hair et al., 2017; George & Mallery, 2010; Lomax & Hahs-Vaughn, 2012). Data transformation techniques were applied to correct these variables' issues with normality, as

suggested by Field (2009). The variable age was very positively skewed (skewness = 3.97, *SE* = 0.17) and very leptokurtic (kurtosis = 24.51, *SE* = 0.34). After attempting several transformations and not being able to get the skewness values within the acceptable range of negative one to positive one, and kurtosis values within the acceptable range of negative two to positive two, the variable was recoded into a dichotomous variable of those that fell within the normal range of the data distribution (17-25 years of age; *n* =195) and those outside the normal data distribution (26 years of age or older; *n* = 12; see Figure 8) to be used as a covariate. The variable of study hours was also positively skewed (skewness = 1.15, *SE* = 0.17) and leptokurtic (kurtosis = 1.06, *SE* = 0.34). A square root transformation was performed on the variable study hours, which successfully distributed the data in the acceptable ranges of negative one to positive one for skewness (skewness = 0.33, *SE*= 0.17) and negative two to positive two for kurtosis (kurtosis = -0.24, *SE* = 0.34).

In addition to positively skewed data, the variable of semester GPA (skewness = -1.74, *SE* = 0.18; kurtosis = 3.37, *SE* = 0.36) was negatively skewed and leptokurtic. The variables semester credit hours completed (skewness = -1.09, *SE* = 0.18) and cumulative GPA (skewness = -1.11, *SE* = 0.17) were also slightly negatively skewed with kurtosis falling in the acceptable range of negative two to positive two. A cube transformation was successfully applied to each of these variables, resulting in acceptable skew and kurtosis values. Semester GPA had data distributed in the acceptable ranges for skewness (skewness = -0.37, *SE* = 0.18) and kurtosis (kurtosis = - 1.00, *SE* = 0.36) after the cubed transformation. Similarly, the variables semester credit hours completed, and cumulative GPA data distributions had skewness values that fell in acceptable ranges (skewness = 0.19, *SE* = 0.18; skewness = -0.10, *SE* = 0.17) after the cubed transformations were applied.

Results

Sample Descriptive Statistics

A total of 276 working students participated in the study. After removing cases where working students did not pass attention checks, took the survey multiple times, or did not complete a substantial amount of the survey, a total sample size of $N = 207$ was used for the analyses in this study. Table 7 displays the mean and standard deviation for some of the parametric data of the sample (age, semester GPA, cumulative GPA, semester course credit hours, completed course credit hours, financial responsibility, work hours, and study hours). Table 8 displays the count and frequencies for some of the non-parametric data of the sample (gender, race, student classification, first-generation student, international or domestic student, family annual income, and Pell-grant recipients). Table 9 displays the correlation matrix for work demands, psychosocial factors, health outcomes, and academic performance variables used in this study. The sample was predominately female, young adults, full-time domestic students, who worked off-campus and reported working an average of 24.08 hours a week. The sample was diverse in terms of racial makeup, student classification, and family income levels. The sample had pluralities of white working students and working students coming from families with an annual income of $20,000 – $39,999. Nearly half the working college students in the sample were Pell-grant recipients and first-generation college students, and over a third identified as Hispanic.

In this study, hypotheses one through six used the following variables as covariates: income, financial responsibility, BLM movement impact, COVID-19 impact, student class (freshman, sophomore, junior, and senior), race, international or domestic student, gender, age, first-generation student status, full or part-time student status, on-or-off campus employment,

Hispanic/Latinx, Pell grant recipient, and cumulative GPA. In all hierarchical multiple regression models for this study, Step 1 (Model 1) just included covariates. Other variables were added to the models in the following steps to examine if they predicted dependent variables over and beyond the covariates in Model 1.

Hypothesis One: Work Demands Predicting Academic Performance

Work Demands Predicting Semester GPA

A hierarchical multiple regression was conducted to test if work demands predicted semester GPA while controlling for the covariates. Results of the first step (Model 1; containing just the covariates) of the hierarchical multiple regression predicting semester GPA were significant (see Tables 10 and 11), accounting for 73% of the variance of predicting Semester GPA. The independent variables of work demands (work hours, work-school conflict, and job satisfaction) were added to the hierarchical multiple regression in the second step (Model 2) and did not predict semester GPA over and beyond Model 1, but Model 2 still predicted semester GPA (see Table 10). The covariate of cumulative GPA was found to be a significant individual predictor for semester GPA, accounting for 51.84% of the variance of the overall model (see Table 12). It was found higher cumulative GPA predicted a greater semester GPA. The influence of the individual covariates and independent variables on Model 2 are displayed in Table 11**.**

Work Demands Predicting Semester Credit Hours Completed

A hierarchical multiple regression was conducted to test if work demands predicted semester credit hours completed while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting semester credit hours completed were significant, accounting for 38% of the variance for predicting semester credit hours completed (see Tables 10 and 12). The independent variables of work demands were

added in Model 2 of the hierarchical multiple regression and did not predict semester credit hours completed over and beyond Model 1, but Model 2 still predicted semester credit hours completed (see Table 10). The covariates being a full-time student and cumulative GPA were found to be significant individual predictors for semester credit hours completed, accounting for 9.00% and 10.24% of the variance of the overall model, respectively (see Table 12). It was found that being a full-time student and having a higher cumulative GPA predicted more semester credit hours completed. No other variables were significant individual predictors of semester credit hours completed.

Work Demands Predicting Study Hours

A hierarchical multiple regression was conducted to test if work demands predicted study hours while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting study hours were not significant (see Tables 10 and 13). The independent variables of work demands were added in Model 2 of the hierarchical multiple regression and did not predict study hours over and beyond Model 1, and Model 2 was not able to predict study hours (see Table 10). No individual covariates or independent variables were significant in predicting study hours (see Table 13).

Work Demands Predicting Student Engagement

A hierarchical multiple regression was conducted to test if work demands predicted student engagement while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting student engagement were significant, accounting for 28% of the variance for predicting student engagement (see Tables 10 and 14). The independent variables of work demands were added in Model 2 of the hierarchical multiple regression and did not predict student engagement over and beyond Model 1, but Model

2 still predicted student engagement (see Table 10). The covariates of financial responsibility, BLM movement impact, and cumulative GPA were found to be significant individual predictors for student engagement, accounting for 3.61%, 3.24%, and 6.25% of the variance of the overall model respectively (see Table 14). Higher financial responsibility scores, a higher degree of BLM movement impact, and a higher cumulative GPA predicted greater student engagement. No other variables were significant individual predictors of student engagement.

Hypothesis Two: Work Demands Predicting Health Outcomes

Work Demands Predicting Physical Health

A hierarchical multiple regression was conducted to test if work demands predicted physical health while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting physical health were significant, accounting for 23% of the variance for predicting physical health (see Tables 15 and 16). The independent variables of work demands were added in Model 2 of the hierarchical multiple regression and did not predict physical health over and beyond Model 1, but Model 2 still predicted physical health (see Table 15). Identifying as black/African American and "other race" were found to be significant individual predictors for physical health, accounting for 2.89% and 3.24% of the variance of the overall model (see Table 16). It was found identifying as black/African American or an "other race" predicted worse physical health. No other variables were significant individual predictors of physical health.

Work Demands Predicting Mental Health

A hierarchical multiple regression was conducted to test if work demands predicted mental health while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting mental health were not significant (see Tables

15 and 17). The independent variables of work demands were added in Model 2 of the hierarchical multiple regression and did not predict mental health over and beyond Model 1, and Model 2 did not predict mental health (see Table 10). The covariate gender was found to be a significant individual predictor of mental health, where being female predicted worse mental health. No other covariates or independent variables individually predicted mental health (see Table 17).

Work Demands Predicting Sleep Quality

A hierarchical multiple regression was conducted to test if work demands predicted sleep quality while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting sleep quality was not significant (see Tables 15 and 18). The independent variables of work demands were added in Model 2 of the hierarchical multiple regression and did predict sleep quality over and beyond Model 1, accounting for an increase of 7% of the variance of predicting sleep quality from Model 1 to Model 2 (see Table 15). The independent variable of job satisfaction was found to be significant individual predictors for sleep quality, accounting for 4.84% of the variance of the overall model predicting sleep quality (see Table 18). Participants who reported lower job satisfaction reported worse sleep quality. No other variables were significant individual predictors of sleep quality.

Work Demands Predicting Perceived Stress

A hierarchical multiple regression was conducted to test if work demands predicted perceived stress while controlling for covariates. Results of Model 1 (containing just the covariates) of the hierarchical multiple regression predicting perceived stress was significant, accounting for 23% of the variance for predicting perceived stress (see Tables 15 and 19). The independent variables of work demands were added in Model 2 of the hierarchical multiple

regression and did predict perceived stress over and beyond Model 1, accounting for an increase of 7% of the variance of predicting perceived stress from Model 1 to Model 2 (see Table 15). The work demand variable of work-school conflict was found to be a significant individual predictor for perceived stress, accounting for 4.84% of the variance of the overall model (see Table 19). In addition, the covariates of gender and identifying as a pacific islander were found to be significant individual predictors for perceived stress, accounting for 7.29% and 2.25% of the variance of the overall model, respectively (see Table 19). Reporting greater work-school conflict, identifying as female, and identifying as a Pacific islander predicted greater perceived stress. No other variables were significant individual predictors of perceived stress.

Hypothesis Three: Work Demands Indirectly Affecting Academic Performance Through Psychosocial Factors

Due to no work demand variables predicting academic performance measures in hypothesis One (*c* pathway), the testing of psychosocial factors as mediators between the relationship of work demands and academic performance was not conducted. Though a mediation analysis was not conducted for Hypothesis Three, this study still examined if work demands predicted psychosocial factors (*a* pathway) and if psychosocial factors predicted academic performance measures (*b* pathway). In order to test if work demands were able to predict psychosocial factors while controlling for covariates, two hierarchical multiple regressions were conducted. The first hierarchical regression consisted of covariates in Step 1 (Model 1) and then work demands in Step 2 (Model 2) and examined if work demands could predict a sense of belonging over and beyond covariates. The second hierarchical regression consisted of covariates in Model 1 and then work demands in Model 2 and examined if work demands could predict perceived injustice over and beyond covariates. In order to test if psychosocial factors predicted academic performance while controlling for covariates, eight

hierarchical multiple regressions were conducted. The first four hierarchical regression consisted of covariates in Model 1 and then a sense of belonging in Model 2 and examined if a sense of belonging could predict each of the four academic performance measures (semester GPA, semester credit hours completed, study hours, and student engagement) over and beyond covariates. The final four hierarchical regression consisted of covariates in Model 1 and then perceived injustice in Model 2 and examined if perceived injustice could predict each of the four academic performance measures over and beyond covariates.

Work Demands Predicting Psychosocial Factors

Sense of Belonging: A hierarchical multiple regression was conducted to test if work demands predicted a sense of belonging while controlling for covariates (test of *a* pathway). Results of the model of work demands and covariates predicting sense of belonging was significant (see Table 20). It was found that the independent variable of work-school conflict was significant in predicting a sense of belonging (see Table 21). Participants who had greater levels of work-school conflict predicted lower sense of belonging scores. No other variables were found to individually predict a sense of belonging.

Perceived Injustice: A hierarchical multiple regression was conducted to test if work demands predicted perceived injustice while controlling for covariates (test of *a* pathway). Results of the work demands and covariates predicting perceived injustice was significant (see Table 20). In addition, it was found that the independent variable of job satisfaction was significant in predicting the perceived injustice (see Table 21). Participants who reported higher levels of job satisfaction reported lower levels of perceived injustice of working students. No other variables were significant in individually predicting the perceived injustice.

Sense of Belonging Predicting Academic Performance Measures

Semester GPA: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted semester GPA while controlling for covariates. Sense of belonging was not able to predict semester GPA over and beyond the covariates (see Table 22) and was not able to individually predict semester GPA (see Table 24).

Semester Credit Hours Completed: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted semester credit hours completed while controlling for covariates. Sense of belonging was not able to predict semester credit hours completed over and beyond the covariates (see Table 22) and was not able to individually predict semester credit hours completed (see Table 24).

Study Hours: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted study hours per week while controlling for covariates. Sense of belonging was not able to predict study hours over and beyond the covariates (see Table 22) and was not able to individually predict study hours (see Table 24).

Student Engagement: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted student engagement while controlling for covariates. Sense of belonging was able to predict student engagement over and beyond the covariates (see Table 22) and was able to individually predict student engagement (see Table 24). It was found that participants who reported a greater sense of belonging to the university were predicted to have a higher engagement in their academics.

Perceived Injustice Predicting Academic Performance Measure

Semester GPA: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted semester GPA while controlling for covariates. Perceived injustice

was not able to predict semester GPA over and beyond the covariates (see Table 23) and was not able to individually predict semester GPA (see Table 24).

Semester Credit Hours Completed: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted semester credit hours completed while controlling for covariates. Perceived injustice was not able to predict semester credit hours completed over and beyond the covariates (see Table 23) and was not able to individually predict semester GPA (see Table 24).

Study Hours: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted study hours per week while controlling for covariates. Perceived injustice was not able to study hours over and beyond the covariates (see Table 23) and was not able to individually predict semester GPA (see Table 24).

Student Engagement: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted student engagement while controlling for covariates. Perceived injustice was able to predict student engagement over and beyond the covariates (see Table 23) and was able to individually predict student engagement (see Table 24). It was found participants who reported a greater perceived injustice of working students were predicted to have a lower engagement in their academics.

Hypothesis Four: Work Demands Indirectly Affecting Health Outcomes Through Psychosocial Factors

Hypothesis Four examined if psychosocial factors mediated the relationship between work demands and health outcomes. To ensure that conditions were met for a mediation analysis, previous pathways had to be established (*c*, *a*, and *b* pathways). First, previous analyses in Hypothesis Two found that the work demand variable of job satisfaction was able to predict the health outcome of sleep quality (see Table 18), and the work demand variable of work-school

conflict was able to predict the health outcome of perceived stress (see Table 19). This established that significant *c* pathways existed in the model. Second, previous analyses from Hypothesis Three found that job satisfaction predicted the psychosocial factor of perceived injustice, and work-school conflict predicted the psychosocial factor a sense of belonging (see Table 21). This established that significant *a* pathways existed in the model. Third, a significant *b* pathway had to be established between psychosocial factors and health outcomes. To test for the *b* pathway hierarchical regressions were conducted to assess if perceived injustice predicted sleep quality and if a sense of belonging was able to predict perceived stress. If perceived injustice was significant in predicting sleep quality (a significant *b* pathway), a mediation analysis was conducted to examine if perceived injustice had a mediating role on the relationship of job satisfaction and sleep quality using Hayes Process Model 4. Indirect effects of job satisfaction on sleep quality through perceived injustice were determined using bootstrapped confidence intervals. Also, if a sense of belonging was significant in predicting perceived stress (a significant *b* pathway), a mediation analysis was also conducted to examine if a sense of belonging had a mediating role on the relationship of work-school conflict and perceived stress using Hayes Process Model 4. Indirect effects of work-school conflict on perceived stress through a sense of belonging were determined using bootstrapped confidence intervals. In addition to the mediation analyses, both psychosocial factors were also tested to see if they predicted all other health outcomes (physical health, mental health, sleep quality, and perceived stress) over and beyond covariates.

Sense of Belonging Predicting Health Outcomes

Physical Health: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted physical health while controlling for covariates. Sense of

belonging was not able to predict physical health over and beyond the covariates (see Table 25) and was not able to individually predict physical health (see Table 27).

Mental Health: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted mental health while controlling for covariates. Sense of belonging was able to predict mental health over and beyond the covariates (see Table 25) and was able to individually predict mental health (see Table 27). It was found participants who had a greater sense of belonging to the university were predicted to have better mental health.

Sleep Quality: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted sleep quality while controlling for covariates. Sense of belonging was not able to predict sleep quality over and beyond the covariates (see Table 25) and was not able to individually predict sleep quality (see Table 27).

Perceived Stress: A hierarchical regression was conducted to test if the psychosocial factor sense of belonging predicted perceived stress while controlling for covariates (test of *b* pathway). Sense of belonging was able to predict perceived over and beyond the covariates (see Table 25) and was able to individually predict perceived (see Table 27). It was found participants who had a greater sense of belonging to the university were predicted to have lower perceived stress levels. The result of a sense of belonging predicting perceived stress indicated a significant *b* pathway in the mediation model of work-school conflict indirectly affecting perceived stress through a sense of belonging.

Perceived Injustice Predicting Health Outcomes

Physical Health: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted physical health while controlling for covariates. Perceived

injustice was not able to predict physical health over and beyond the covariates (see Table 26) and was not able to individually predict physical health (see Table 27).

Mental Health: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted mental health while controlling for covariates. Perceived injustice was able to predict mental health over and beyond the covariates (see Table 26) and was able to individually predict mental health (see Table 27). It was found participants who had greater levels of perceived injustice of working students were predicted to have worse mental health.

Sleep Quality: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted sleep quality while controlling for covariates (test of *b* pathway). Perceived injustice was able to predict sleep quality over and beyond the covariates (see Table 26) and was able to individually predict sleep quality (see Table 27). It was found participants who had greater levels of perceived injustice of working students were predicted to have worse sleep quality. The result of a perceived injustice predicting sleep quality indicated a significant *b* pathway in the mediation model of job satisfaction indirectly affecting sleep quality through perceived injustice.

Perceived Stress: A hierarchical regression was conducted to test if the psychosocial factor perceived injustice predicted perceived stress while controlling for covariates. Perceived injustice was able to predict perceived stress over and beyond the covariates (see Table 26) and was able to individually predict perceived stress (see Table 27). It was found participants who had greater levels of perceived injustice of working students were predicted to have greater perceived stress.

Job Satisfaction Indirectly Affecting Sleep Quality Through Perceived Injustice

Results of the prior hierarchal regression models found the *c* pathway of job satisfaction predicting sleep quality was significant, the *a* pathway of job satisfaction predicting perceived injustice was significant, and the *b* pathway of perceived injustice predicting sleep quality was significant. With significant c, *a*, and *b* pathways, the mediating role of perceived injustice on the relationship between job satisfaction and sleep quality was tested for while controlling for covariates and the other work demand variables (work hours and work-school conflict). The total effect model of job satisfaction and covariates predicting sleep quality was significant (see Table 28). Job satisfaction was a significant individual predictor of sleep quality in the total effect model (see Table 29). It was found participants who had higher job satisfaction were predicted to have better sleep quality. Job satisfaction also directly affected sleep quality (see Table 30), and moreover, job satisfaction did indirectly affect sleep quality through perceived injustice (see Table 31). Since job satisfaction directly affected sleep quality, perceived injustice partially accounted for the relationship between job satisfaction and sleep quality.The results of the mediation analysis indicated that the effect of job satisfaction on sleep quality was partially mediated by perceived injustice.

Work-School Conflict Indirectly Affecting Perceived Stress Through Sense of Belonging

Results of the prior hierarchal regression models found the *c* pathway of work-school conflict predicting perceived stress was significant, the *a* pathway of work-school conflict predicting sense of belonging was significant, and the *b* pathway of sense of belonging predicting perceived stress was significant. With significant *c*, *a*, and *b* pathways, the mediating role of sense of belonging on the relationship between work-school conflict and perceived stress was tested for while controlling for covariates and the other work demand variables (work hours

and job satisfaction). The total effect model of work-school conflict and covariates predicting perceived stress was significant (see Table 32). Work-school conflict and the covariates of identifying as pacific islander and gender were significant individual predictors of perceived stress in the total effect model (see Table 33). It was found having greater work-school conflict, identifying as a pacific islander, and identifying as female predicted greater perceived stress. Also, work-school conflict did directly affect perceived stress (see Table 34). Further, work-school conflict did not indirectly affect perceived stress through a sense of belonging (see Table 35), indicating a sense of belonging did not mediate the relationship between work-school conflict and perceived stress.

Hypothesis Five: Work Demands Indirectly Affecting Academic Performance Through Psychosocial Factors and Health Outcomes

Due to no work demand variables predicting academic performance measures in Hypothesis One (*c* pathway), the testing of psychosocial factors and health outcomes as serial mediators between the relationship of work demands and academic performance was not conducted. Though a serial mediation analysis was not conducted for Hypothesis Five, this study still examined if health outcomes predicted academic performance measures. In order to test if health outcomes were able to predict academic performance measures while controlling for covariates, sixteen hierarchical regressions were conducted. The first four hierarchical regression consisted of covariates in Step 1 (Model 1) and then physical health in Step 2 (Model 2) and examined if physical health could predict any academic performance measures over and beyond covariates. The second four hierarchical regression consisted of covariates in Model 1 and then mental health in Model 2 and examined if mental health could predict any academic performance measure over and beyond covariates. The third four hierarchical regression consisted of covariates in Model 1 and then sleep quality in Model 2 and examined if sleep quality could

predict any academic performance measure over and beyond covariates. The last four hierarchical regression consisted of covariates in Model 1 and then perceived stress in Model 2 and examined if perceived stress could predict any academic performance measure over and beyond covariates.

Physical Health Predicting Academic Performance Measures

Semester GPA: A hierarchical regression was conducted to test if the health outcome of physical health predicted semester GPA while controlling for covariates. Physical health was not able to predict semester GPA over and beyond the covariates (see Table 36) and was not able to individually predict semester GPA (see Table 40).

Semester Credit Hours Completed: A hierarchical regression was conducted to test if the health outcome of physical health predicted semester credit hours completed while controlling for covariates. Physical health was not able to predict semester credit hours completed over and beyond the covariates (see Table 36) and was not able to individually predict semester credit hours completed (see Table 40).

Study Hours: A hierarchical regression was conducted to test if the health outcome of physical health predicted study hours per week while controlling for covariates. physical health was not able to predict study hours over and beyond the covariates (see Table 36) and was not able to individually predict study hours (see Table 40).

Student Engagement: A hierarchical regression was conducted to test if the health outcome of physical health predicted student engagement while controlling for covariates. Physical health was not able to predict student engagement over and beyond the covariates (see Table 36) and was not able to individually predict student engagement (see Table 40).

Mental Health Predicting Academic Performance Measures

Semester GPA: A hierarchical regression was conducted to test if the health outcome of mental health predicted semester GPA while controlling for covariates. Mental health was not able to predict semester GPA over and beyond the covariates (see Table 37) and was not able to individually predict semester GPA (see Table 40).

Semester Credit Hours Completed: A hierarchical regression was conducted to test if the health outcome of mental health predicted semester credit hours completed while controlling for covariates. Mental health was not able to predict semester credit hours completed over and beyond the covariates (see Table 37) and was not able to individually predict semester credit hours completed (see Table 40).

Study Hours: A hierarchical regression was conducted to test if the health outcome of mental health predicted study hours per week while controlling for covariates. Mental health was not able to predict study hours over and beyond the covariates (see Table 37) and was not able to individually predict study hours (see Table 40).

Student Engagement: A hierarchical regression was conducted to test if the health outcome of mental health predicted student engagement while controlling for covariates. Mental health was able to predict student engagement over and beyond the covariates (see Table 37) and was able to individually predict student engagement (see Table 40). It was found participants who had better overall mental health predicted greater engagement in their academics.

Sleep Quality Predicting Academic Performance Measures

Semester GPA: A hierarchical regression was conducted to test if the health outcome of sleep quality predicted semester GPA while controlling for covariates. Sleep quality was not able

to predict semester GPA over and beyond the covariates (see Table 38) and was not able to individually predict semester GPA (see Table 40).

Semester Credit Hours Completed: A hierarchical regression was conducted to test if the health outcome of sleep quality predicted semester credit hours completed while controlling for covariates. Sleep quality was not able to predict semester credit hours completed over and beyond the covariates (see Table 38) and was not able to individually predict semester credit hours completed (see Table 40).

Study Hours: A hierarchical regression was conducted to test if the health outcome of sleep quality predicted study hours per week while controlling for covariates. Sleep quality was not able to predict study hours over and beyond the covariates (see Table 38) and was not able to individually predict study hours (see Table 40).

Student Engagement: A hierarchical regression was conducted to test if the health outcome of sleep quality predicted student engagement per week while controlling for covariates. Sleep quality was not able to predict student engagement over and beyond the covariates (see Table 38) and was not able to individually predict student engagement (see Table 40).

Perceived Stress Predicting Academic Performance Measures

Semester GPA: A hierarchical regression was conducted to test if the health outcome of perceived stress predicted semester GPA while controlling for covariates. Perceived stress was able to predict semester GPA over and beyond the covariates (see Table 39) and was able to individually predict semester GPA (see Table 40). It was found participants who had lower levels of perceived stress predicted higher semester GPAs.

Semester Credit Hours Completed: A hierarchical regression was conducted to test if the health outcome of perceived stress predicted semester credit hours completed while controlling for covariates. Perceived stress was not able to predict semester hours completed over and beyond the covariates (see Table 39) and was not able to individually predict semester credit hours completed (see Table 40).

Study Hours: A hierarchical regression was conducted to test if the health outcome of perceived stress predicted study hours per week while controlling for covariates. Perceived stress was not able to predict study hours over and beyond the covariates (see Table 39) and was not able to individually predict study hours (see Table 40).

Student Engagement: A hierarchical regression was conducted to test if the health outcome of perceived stress predicted student engagement while controlling for covariates. Perceived stress was able to predict student engagement over and beyond the covariates (see Table 39) and was able to individually predict student engagement (see Table 40). It was found participants who had lower levels of perceived stress predicted higher engagement in academics.

Research Question One: Identifying Common Themes Derived from Qualitative Data and Examining if they Moderate the Relationships of Work Demands and Academic Measures.

Employment Factors Impact on Academic Performance Themes: For this analysis, themes were identified for the statement "Please describe what is the most important factor of your employment that interferes with your academics". If the themes identified had a frequency greater than or equal to 10%, it was examined if participants that mentioned the identified specific themes differed in their academic performance from those who did not mention the specific themes (work environment factors, impaired self-regulation factors, vitality factors, and no impact themes all had were identified at a frequency greater than or equal to 10%; see Table 3 for frequency of themes). A multivariate analysis of covariance revealed that differences existed between

participants mentioning the work environment factors, impaired self-regulation factors, and vitality factors, and semester GPA while controlling covariates (see Table 41). Participant who mentioned work environment factors affecting their academics had higher semester GPA scores (M = 2.06, SD = 19.20) than those who did not (M = -5.45, SD = 20.07). Similarly, participants who mentioned impaired self-regulation factors affecting their academics had higher semester GPA scores (M = 3.57, SD = 19.00) than those who did not (M = -3.09, SD = 19.91). In contrast, participants who mentioned vitality factors affecting their academics had lower semester GPA scores (M = 0.76, SD = 18.98) than those who did not (M = -5.44, SD = 22.21). No other academic performance measures differed between participants mentioning or not mentioning specific themes in their answers of employment factors impacting their academics. (see Table 41). In addition, results indicated no theme moderated the relationship between any work demand and academic performance variables.

Research Question Two: Examining if Themes Derived from Qualitative Data Involving How Dual Roles of Being an Employee and Student Impact Physical and Psychological Health Relate to Academic Performance.

Dual Role Impact on Health Themes: For this analysis, themes identified for the statement "Please describe how dual roles of being an employee and student impact your physical and psychological health" were examined if they related to academic performance. A point-biserial correlation revealed that having dual roles of being an employee and a student that were perceived to have a positive impact on health (positive health impact theme; see Table 4 for examples of statements for themes identified) was related to having a higher semester GPA and more semester credit hours completed. In addition, reporting that dual roles impacted their mental health (mental health impact theme; see Table 4) was related to studying more hours per week (see Table 42).

Discussion

Employers are experiencing the highest demands ever for employees with post-secondary education (Carnevale et al., 2015). These current labor market conditions, in addition to the cost of school rising at a rate of 19 times faster than the average family income since 1980, and the dwindling federal funds to higher education (Carnevale, 2019; Ma et al., 2015; Miller, Danner, & Staten, 2008), are expected to increase the number of working students. It is imperative to understand the dynamics of how working students' attempts to balance work demands and academic responsibilities impact their academics and health.

The present study aimed to address how work demands affected working students' academic performance and health; explore if psychosocial factors were mediators of the relationship between work demands and academic performance; explore if psychosocial factors were mediators of the relationship between work demands and health outcomes; examine if psychosocial factors and health outcomes were mediators of the relationship between work demands and academic performance; determine if themes could be derived from working students responses to statements involving what factors of employment impacts their academics and if the participants who mentioned specific themes differed in their academic performance compared to those who did not; determine if themes could be derived from working students responses to the statement asking of how dual roles of being an employee and student impacts their physical and psychological health, and finally, if the themes identified would relate to academic performance.

Hypothesis One Discussion: Work Demands and Academic Performance

Concerning Hypothesis One, the expectation of increased work demands to predict worse academic performance was not supported. The work demand variables of work hours, work-

school conflict, and job satisfaction did not predict any academic performance measure (semester GPA, semester credit hours completed, self-reported study hours, and student engagement). It was found that the covariates of the model did predict three of the four academic performance measures (semester GPA, semester credit hours completed, and student engagement). Specifically, a higher cumulative GPA was found to predict a higher semester GPA, more semester credit hours completed, and student engagement. It was also found that being a full-time student also predicted more semester credit hours completed, and higher financial responsibility and a greater impact from the BLM movement also predicted increased student engagement. We expected work demands to impact academic performance based on results of previous research which found students who worked more hours in a week experienced more missed lectures, fewer hours spent in class, and less time invested in studying (Carney, McNeish, & McColl, 2005: Carnevale, 2019; Curtis & Shani, 2002; Mounsey, VanDehey, & Diekhoff, 2013; Nagai-Manelli et al., 2011; Tessema, Ready, & Astani, 2014), and additional research finding that less job satisfaction and every hour worked beyond 10 hours is associated with a decrease in GPA, credit hours completed, and student engagement (Darolia, 2014; Do, 2016; Kalenkoski & Pabilonia, 2008; Tessema, Ready, & Astani, 2014). As such, it was unexpected that work demands did not predict any measure of academic performance in the present study.

However, the research on this topic has produced mixed results. For example, Nonis and Hudson (2006) examined college students' work hours and academic performance and found no support that work hours predicted semester GPA. Other research has found that the designation of students being employed or not employed had no impact on academic performance or completion of an academic program (Fjortoft, 1995; Mounsey, VanDehey, & Diekhoff, 2013). Furthermore, a study by Kim (2015) found work-school conflict did not predict GPA. These

results support the findings of the present study that work demands did not predict academic performance. It is possible that the studies finding the opposite could be attributed to extraneous variables, study design, or analysis approach, as will be discussed next.

In the present study, a wide variety of covariates were controlled for, and all were found to relate to academic performance in the existing literature. For this study, cumulative GPA was a strong predictor for semester GPA, semester credit hours completed, and student engagement. Cumulative GPA also contributed to more variance of working students' overall academic performance than work demands themselves, indicating cumulative GPA could be a proxy for an individual's stable traits, such as personality and intelligence. Prior research has found that students' general intelligence, emotional intelligence, and the personality factor of conscientiousness can be predictive of college student's academic performance and success (Furnham, 2012; Maraichalvi & Rajan, 2013; Rosander, Bäckström, & Stenberg, 2011). The results of these prior studies may indicate that work demands may impact academic performance more on the margins. For example, students with high general intelligence, emotional intelligence, and conscientiousness may perform well in academic performance measures compared to their peers with lower general intelligence, emotional intelligence, and conscientiousness counterparts, even if they have greater work demands. However, work demands may impact academics on the margins, varying more within an individual's own performance rather than between individuals.

The absence of a predictive relationship between work demands and academic performance could also infer that work demands between students vary widely and are heterodox. Suggesting the type of work a student is doing may be a greater factor in predicting academic performance than the pure time commitment or conflict the job may cause with

academics. This concept has support, as prior research found students who had a greater incentive to work and were employed at a job that contributed to developing skills in their related field of study also had performed better in their academics (Wang et al., 2010). In addition, other researchers have suggested that students who work might also be financially responsible for some or all of their education themselves, which could result in higher motivation to perform better academically due to their greater sacrifice of time and money into their education (Schroeder, n.d.). The results of previous research and the present study that found work demands did not directly affect academic performance suggests that the effects of work demands on academic performance may be more impactful when looking at within-subject variance. A creative study design that looks at participant's own performance in different conditions (such as no work demands, versus low work demands, versus high work demands) may be more effective in finding the impact of work demands on academic performance but may not be feasible. Also, a between-subject model that categorizes work demands into high/low enrichment or satisfaction employment and compares groups on such factors could give more insight into the dynamics of the type of work and its impacts on academic performance.

Hypothesis Two Discussion: Work Demands and Health Outcomes

Compared to academic measures, work demands were much more effective at predicting work student's health outcomes, specifically sleep quality and perceived stress. Regarding Hypothesis Two, work demands predicting health outcomes in working students was partially supported by the results of the present study. Work demands did not predict physical or mental health but did predict sleep quality and perceived stress. Specifically, the work demand factor of job satisfaction predicted sleep quality, while work-school conflict predicted perceived stress. Working students with lower job satisfaction reported worse sleep quality, while those with

greater work-school conflict predicted higher levels of perceived stress. The work demands of job satisfaction and work-school conflict were more involved in contributing to working student's health outcomes than work hours, indicating that work hours may not be as influential in participants' health comparatively.

In the present study, work hours not predicting any health measures was contrary to the limited literature on the impact of work hours on college students' health. Most of the literature examining work demands' impact on health outcomes in working college students predominately focuses on work-school conflict. However, prior research has found increased work hours in college students to be associated with decreases in physical and mental health (Carney, McNeish, & McColl, 2005; Mounsey, VanDehey, & Diekhoff, 2013), sleeping hours (Lederer, et al., 2015, Miller, Danner, & Staten, 2008), and greater levels of stress (Cheung et al., 2016). On the other hand, other research has produced results similar to the present study, where work hours were not associated with physical and mental health (Jessop, Herberts, & Solomon, 2010) or stress (Jessop, Herberts, & Solomon, 2010; Schroeder, n.d.). Like the notion that the type of employment may impact academic performance more so than other work demands, the kind of work students engage in may also be more influential in affecting health outcomes than the actual time commitment. Previous research has found that students with more enriching employment were associated with greater mental health and less burnout (McNall & Michel, 2017). One reason for work being more enriching associating with greater mental health in college students is that factors of enrichment could be both individual and environmental, which ultimately contribute to the acquisition and effective transfer of cognitive resources across domains (Carlson et al., 2006). Future research involving employment demands and health outcomes in students should consider categorizing the perception of work as high/low

enrichment employment or high/low satisfaction employment and compare differences between groups.

In this study, work-school conflict predicting perceived stress was supported by similar findings of greater work-school conflict associated with increased stress (Brunel & Grima, 2010; Sy, 2006). However, the null findings in this sample were contrary to previous studies that supported work-school conflict predicting mental health (Carney, McNeish, & McColl, 2005; McNall & Michel, 2017; Park & Sprung, 2013), physical health (Carney, McNeish, & McColl, 2005; Koeske & Koeske, 1989; Oviatt et al., 2017), and sleep quality (Park & Sprung, 2014). However, in support of our negative findings, Park and Sprung (2013) noted that work-school conflict failed to associate with physical health. Reasons for work-school conflict not predicting other health factors could be due to individual differences in how the working students coped with stress, which could have been a more influential factor contributing to health outcomes. This concept will be further explained later in this section.

The work demand factor of job satisfaction is not fully understood, especially when discussing working college students. Still, the minimal research on the measure did report lower job satisfaction in working students was related to higher stress (Do, 2016) which was not supported in the present study. In addition, other research found lower job satisfaction was related to worse physical and mental health and higher stress in the non-student working population (Barnes, Ghumman, & Scott, 2013; Chang & Chang, 2019; Decker & Borgen, 1993; Faragher, Cass, & Cooper, 2005; Karagozoglu & Bingöl, 2008; Landel & Dasgupta, 2018) which was not supported in the present study. Job satisfaction predicting sleep quality in working college students has not been looked at in the literature to our knowledge, but higher job satisfaction has been associated with increased sleep quality in the non-student worker

population (Barnes, Ghumman, & Scott, 2013; Karagozoglu & Bingöl, 2008; Landel & Dasgupta, 2018). These prior findings in non-student workers complemented the current finding that higher job satisfaction predicted better sleep quality in working students. While there are numerous studies examining work hours and work-school conflicts as predictors of working student's health, very little research has investigated job satisfaction. Given that job satisfaction predicted health outcomes in working students in the present study and work hours did not, job satisfaction should be more of a focus in future research when examining how student's work demands impact health.

The present study found that the covariates of identifying as black/African American and "other race" predicted worse physical health and identifying as female predicted worse mental health and greater perceived stress. These findings indicate that work demands may impact physical and mental health outcomes less than other factors associated with these demographics. For example, in this study, race was the strongest factor contributing to physical health (specifically being black/African American or "other race"), even after controlling for several other demographic characteristics. This result could be due to socioeconomic factors that are associated with race. For example, it has been found identifying as black is associated with lower rates of insurance and income assets in the United States, which are both factors that have been found to associate with worse physical functioning (Kim & Richardson, 2011). In addition, previous research has found identifying as a female is regularly associated with reporting more stress (American Psychological Association, 2012) which was supported in the present study. Females also consistently report using more social coping strategies to manage stress than males (American Psychological Association, 2012), which could play a role in how work demands impact some health outcomes, which will be discussed next.

Coping is the continuously altering cognitive and behavioral efforts to regulate specific external and or internal stressors that are evaluated as strenuous or beyond the resources for an individual to manage (Lazarus & Folkman, 1984). Coping, by nature, is a behavior implemented to maintain an individual's health in times of stress (Holahan & Moos, 1991). Researchers suggest individuals who do not engage in effective coping strategies are at greater risk for the detrimental impact of stress on physical and mental health (Brummett et al., 2006; Cheng et al., 2012; Gadinger et al., 2009; Kent de Grey et al., 2018; Nomura et al., 2009; Soderstrom et al., 2000; Yang et al., 2003). Regarding physical health, a study done by Soderstrom and colleagues (2000) found college students and workers coping with illness symptoms found stress was negatively correlated with problem-focused coping but positively correlated with avoidant coping strategies. Furthermore, problem-focused and socially-supported coping strategies have both been found to be related to improved sleep quality in individuals experiencing academic and job-related stress (Brummett et al., 2006; Cheng et al., 2012; Gadinger et al., 2009; Kent de Grey et al., 2018; Nomura et al., 2009; Yang et al., 2003).

Similarly, coping is associated with mental health. For example, in many circumstances, avoidant coping strategies associate with individuals not searching for a solution to problems, withdrawing from a stressful situation, and resulting in a decreased ability to resolve stressful situations and poorer mental health (Mahmoud et al., 2012). It has also been found that social support coping strategies buffer the effects of stress on mental well-being, with higher perceived social support associated with lower anxiety and depression in college students (Cohen & Wills, 1985; Holt & Espelage, 2005; Zhou et al., 2013). Literature supports the role of coping in physical and mental health, and it is possible that working students coping behaviors could

influence physical and mental health more than work demands. Future research should consider the dynamics of students' coping strategies in relation to their work demands.

Hypothesis Three Discussion: Works Demands, Psychosocial Factors, and Academic Performance

In the present study, results of Hypothesis Three, which expected work demands to indirectly affect academic measure through the psychosocial factors of a sense of belonging and perceived injustice was not supported. A mediation analysis was not conducted because the condition of work demands variables predicting academic performance measures was not supported (*c* pathway) in Hypothesis One, but work demands predicting psychosocial factors and psychosocial factors predicting academic performance were examined. It was found the work demand of work-school conflict predicted a sense of belonging, and job satisfaction predicted the perceived injustice of working students. In addition, it was found that a sense of belonging and perceived injustice both predicted student engagement. Implications of these results will be discussed next.

The results of the present study revealed that work demands did predict psychosocial factors (both sense of belonging and perceived injustice). Specifically, greater work-school conflict predicted lower levels of a sense of belonging, and lower job satisfaction predicted greater perceived injustice. These results of greater work-school conflict predicting a decreased sense of belonging partially support the notion that students with additional work demands may suffer in participating in school activities, social interactions among their peers and may lack the time or energy to seek assistance by interacting with their classmates, campus tutors, or instructors. These social interactions are all factors that contribute to a student's sense of belonging (Hoffman et al., 2002).

Though work-school conflict was a significant predictor of a sense of belonging, work hours and job satisfaction were not. The finding of job satisfaction predicting sense of belonging in the present study does not align with other studies that have found the sense of belonging to have a positive relationship with job satisfaction in various job fields in the non-student worker population (Lim, 2007; Rubin et al., 2019; Winter-Collins & McDaniel, 2000). No research, to our knowledge, has looked at job satisfaction and a sense of belonging to a university in the employed student population specifically. Given this study's survey looked at student's sense of belonging to their university and not their place of employment could be a reason for differing results from prior studies. Regarding the relationship between work hours and a sense of belonging, no research was found in the student and non-student populations. One possible reason for the results of work hours not predicting a sense of belonging could be that working students do not perceive the time spent at work as the primary issue of interfering with academic life, and may put more focus on just their work responsibilities (specifically scheduling conflicts) interfering with their academic engagements (e.g., prevents social engagements at the university, prevents seeking help from peers and faculty for schoolwork) as suggested by Hoffman and colleagues (2002). Work demands predicating a sense of belonging to one's academic institution is a very understudied area in the literature, especially in how it impacts employed students and should be further investigated. To our knowledge, this is the first study to examine these associations in the working student population.

Job satisfaction predicting the perceived injustice in the present study has support in prior research with non-student workers. Similar to the present study, negative relationships between perceived procedural injustice, organizational injustice, interactional injustice, and distributive injustice on job satisfaction has been found in both manual and managerial workers (Fatima et

al., 2012; Iqbal, 2013; Loi & Diefendorff, 2009; Schmitt & Dörfel, 1999). The literature involving work hours and perceived injustice in both student and non-student workers is understudied. Still, some limited prior research has looked at work-school conflict and perceived injustice. Similar to the present study, Kim (2015) found that perceived interactional justice of course instructors did not predict work-school conflict in employed students. Results of the current study and previous research could suggest personality factors such as resilience affect perceived injustice more so than work demands. This concept does have some support, and previous research has found greater perceived discrimination to predict lower resilience in individuals with gender dysphoria (Basar & Oz, 2016).

In addition to works demands predicting psychosocial factors, it was also found that both a sense of belonging and perceived injustice predicted the academic performance measure of student engagement. Regarding a sense of belonging predicting student engagement in the present study, previous research also found a sense of belonging to predict student engagement (Zumbrunn et al., 2014). However, sense of belonging did not predict semester GPA, credit hours completed, or study hours in the current study, which was contrary to much of the previous research (Bean, 1985; Berger, 1997; Devlin, James, & Grigg, 2008; Faircloth & Hamm, 2005; Hausmann, Schofield, & Woods, 2007; Oldfield et al., 2017; Walton & Cohen, 2007). On the other hand, some prior research complemented this study's findings, suggesting a sense of belonging does not predict GPA or academic persistence (Nugent, 2019; Tovar, 2013). The results of this study and prior research suggest the role a sense of belonging has on student's academic persistence and GPA is still unclear.

In the present study, perceived injustice also predicted student engagement. This coincided with prior research that had found feelings of injustice in class predicted lower student

engagement (Berti, Molinaria, & Speltini, 2010). Though perceived injustice did predict student engagement in this study, it was unable to predict any other academic performance measure in the present study. Perceived injustice's impact on academic performance is limited in the literature. Still, the previous research looking at perceived injustice, in general, found it to be negatively associated with not just student engagement but also GPA and academic persistence (Berti, Molinaria, & Speltini, 2010; Hernandez & Lopez, 2004; Horan et al., 2010) which differed from the results in the present study. Similar to the work demands factors in this study, the magnitude of employment enrichment and personality factors may impact academic performance more than the student's sense of belonging or perception of injustice. Future research should investigate the dynamics of work-school enrichment, personality factors, sense of belonging, perceived injustice, and academic performance.

These results from the present study further bolster why the work demand variable of job satisfaction should be investigated much more in-depth regarding working students. The results of the present study infer that it may not be the actual time spent working that impacts a sense of belonging and perception of injustice at a university, but more of how work responsibilities interfere with academic engagements and how satisfied the individual is with their job environment (such as relationship with coworkers, opportunity to be promoted, and feelings of fair pay). This concept has support, as prior research has found that greater perceived employment enrichment was associated with a more proactive personality and higher job satisfaction (McNall & Michel, 2011). Furthermore, our results also suggest that psychosocial factors may play a more impactful role in students' academic performance compared to work demands, as a sense of belonging and job satisfaction were both found to predict student engagement. The relationships between the work demands of job satisfaction and work hours and

perceived injustice in the working student population had not been examined in the literature to our knowledge, and the research on work-school conflict and perceived injustice is limited. Furthermore, the contribution of the findings of greater work-school conflict predicting a lower sense of belonging and higher levels of perceived injustice associated with lower job satisfaction fills some gaps in the existing literature regarding the dynamics of working students' work-school conflict, job satisfaction, sense of belonging, perceived injustice, and academic performance.

Hypothesis Four Discussion: Work Demands, Psychosocial Factors, and Health Outcomes

In the present study, results of Hypothesis Four, which expected work demands to indirectly affect health outcomes through the psychosocial factors of a sense of belonging and perceived injustice was partially supported. The work demand factor of job satisfaction indirectly affected the health outcome of sleep quality through the psychosocial factor of perceived injustice. It was found that the perceived injustice partially mediated the relationship between job satisfaction and perceived stress. No other work demand factors indirectly affected any other health outcome through either psychosocial factor. Further analyses in the current study did reveal the psychosocial factor of perceived injustice did predict sleep quality and perceived stress, while the psychosocial factor of a sense of belonging predicted perceived stress. Like work demands, results of this study found psychosocial factors had a greater influence on health outcomes compared to academic performance, specifically sleep quality and perceived stress. The findings of perceived injustice having a mediating role between the relationship of job satisfaction and sleep quality align with the limited research looking at perceived injustice and sleep. It has been found that in pain patients, perceived injustice was shown to strongly relate to sleep disturbances (Bissell et al., 2017), which supports the present study's findings. This study

was the first to our knowledge that examined perceived injustice's role on sleep quality in working students. With the results of the present study finding perceived injustice's ability to mediate the relationship between job satisfaction and sleep quality, it is warranted that it receives further investigation in the working student population.

Though the research on the relationship of perceived injustice with stress is also limited, what does exist supports the present study's findings that perceived injustice predicted perceived stress. For example, in the non-student worker population, higher perceived injustice in the healthcare work environment is related to increased stress (Ezenwa et al., 2015). Other research has found that perceived income injustice was associated with an increased risk of acquiring stress-related diseases, such as depression, hypertension, and stroke (Boscher et al., 2017; Shaw & Gupta, 2001). It was unexpected that perceived injustice would not mediate the relationship between any work demands and health outcomes, given that greater perceived injustice was associated with worse mental and physical health in the non-student worker population (Falk et al., 2011; Falk et al., 2014; Schunck, Sauer, & Valet, 2015; Shaw & Gupta, 2001). To our knowledge, this study was the first to look at perceived injustice as a possible mediator for physical health, mental health, sleep quality, and perceived stress in the employed student population. The dynamics of perceived injustice on work demands and health outcomes in working students is still unclear and should be further investigated.

In the present study, the results of a sense of belonging predicting greater perceived stress was supported in the existing literature. Prior research has found a greater sense of belonging to be related to decreased perceived stress in baccalaureate nursing students (Grobecker, 2016), doctorate of nursing practice students (Reilly& Fitzpatrick, 2009), older women (Young, Russel, & Powers, 2004), and depressed patients (Choenarom, Williams, & Hagerty, 2005). Even though

a greater sense of belonging predicted lower perceived stress in the present study, it was unexpected that a sense of belonging would not mediate the relationship between any work demands and health outcomes. Several prior studies have found a sense of belonging to be negatively associated with numerous aspects of mental health in college students, including dissatisfaction, substance use, depression, suicide, loneliness; and positively associated with confidence, self-esteem, self-worth, social acceptance, well-being, and happiness (Anderman, 2002; Freeman, Anderman, & Jenson, 2007; Creed, French, & Hood, 2015; Galliher, Rostosky, & Hughes, 2004; Gummadam, Pittman, & Ioffe, 2015; Hagerty, Williams, & Oe, 2002; Pittman & Richmond, 2007; Pittman & Richmond, 2008; Roeser, Midgley, & Urdan, 1996; Shochet & Smith, 2014; Walton & Cohen, 2011). Furthermore, a higher sense of belonging was also found to be associated with fewer physical health symptoms, fewer doctor visits, better overall physical health, and better sleep quality (Hale, Hannum, & Espelage, 2010; John-Henderson, Palmer, & Thomas, 2019; Walton & Cohen, 2011; Young, Russel, & Powers, 2004). The current study's results of not finding psychosocial factors (perceived injustice and sense of belonging) to mediate the relationship between any of the work demands and health outcomes could be for similar reasons as discussed earlier in this section for why work demands did not predict general physical or mental health. Other factors may be more involved in contributing to health outcomes in working students, such as socioeconomic factors (e.g., not having insurance or owning less overall assets; Kim & Richardson, 2011) and coping strategies individuals engage in that could buffer or exacerbate health outcomes of physical and mental health (Cohen & Wills, 1985; Holt & Espelage, 2005; Holahan & Moos, 1991; Soderstrom et al., 2000; Zhou et al., 2013); further warranting investigation into the dynamics of work demands, psychosocial factors, socioeconomic factors, coping strategies, and health in working students.

Hypothesis Five Discussion: Work Demands, Psychosocial Factors, Health Outcomes, and Academic Performance

In the present study, results of Hypothesis Five, which expected work demands to indirectly affect academic measure through the psychosocial factors and health outcomes was not supported. A mediation analysis was not conducted because the condition of work demands variables predicting academic performance measures was not supported (*c* pathway) in Hypothesis One, but health outcomes predicting academic performance were examined. The results of the current study found perceived stress to predict semester GPA and student engagement, while mental health was able to predict student engagement. Implications and results of these findings will be discussed next.

In the present study, greater perceived stress predicted worse semester GPA and student engagement, and worse mental health predicted worse student engagement. Similar to prior research, a negative relationship between stress and GPA in engineering, management, and pharmacy undergraduate university students has been found (Sun & Zoriah, 2015; Talib & Zia-ur-Rehman, 2012). In addition, previous research found worse mental health and greater stress associated with decreased student engagement (Raufelder et al., 2013; Smith, Jaurique, & Ryan, 2016). The present study's results are consistent with prior research involving stress predicting both GPA and student engagement and mental health predicting student engagement. The present study was the first study to our knowledge that specifically looked at the dynamics between perceived stress, mental health, and student engagement in working college students.

Unlike prior research, the current study did not find physical health, mental health, or sleep quality to predict GPA, semester credit hours completed, or study hours, and physical health and sleep quality to predict student engagement. It is unclear why prior research found worse physical health, mental health, and sleep quality to associate with worse GPA, college

persistence, academic program completion, and study concentration (Billingsley & Hurd, 2019; Carney, McNeish, & McColl, 2005; De Luca et al., 2016; Grimby-Ekman et al., 2018; Howell et al., 2004; Horton, 2015; McMahon et al., 2011; Medeiros et al., 2001; Oswalt & Wyatt, 2011; Pagel, Forister, & Kwiatkowki, 2007; Raskind, Haardörfer, & Berg, 2019; Singelton & Wolfson, 2009; Wyatt & Oswalt, 2013; Vaez & Laflamme, 2008; Van der Heijden et al., 2017). Furthermore, both physical health and sleep quality were positively associated with student engagement in previous research (Dunbar, Mirpuri, & Yip, 2017; Smith, Jaurique, & Ryan, 2016). Few studies report findings of health not impacting academic performance. Still, one study did find general health was not related to GPA in doctoral students (Wulf, 2007), and another study also found mental health did not predict cumulative GPA in undergraduate university students (Hartley, 2007). Similar to work demands and psychosocial factors, some studies found evidence that stable personal traits (e.g., intelligence, conscientiousness, and resilience) may be more substantial contributors to academic performance than health outcomes. For example, high school GPA and SAT scores were stronger predictors of GPA than mental health and sleep quality (Hartely, 2007; Singelton & Wolfson, 2009). Both findings support cumulative GPA being the strongest predictor of semester GPA and semester hours completed in the present study. As previously mentioned in this section, prior research supports higher GPAs and SAT scores could be a proxy for intelligence or conscientiousness (Frey & Detterman, 2004; Furnham, 2012; Maraichalvi & Rajan, 2013; Rosander, Bäckström, & Stenberg, 2011). In addition, another study found that sleep quality did not seem to impact student's GPA if they were part-time students (Howell et al., 2004), suggesting course load could have an impact on the dynamics between sleep quality and GPA. The results of this study, along with prior research, suggest individual characteristics (e.g., intelligence and conscientiousness), as

suggested earlier, could be a stronger contributor to GPA than reported health outcomes. Also, unlike this study, none of the prior studies looked at working students specifically, which could have also contributed to differing results between the present study and previous research.

Research Question One Discussion: Qualitative Data of Employment Factors Interfering with Academics

When examining the qualitative data for the statement "Please describe what is the most important factor of your employment that interferes with your academics", it was found that the majority of working students mentioned that work environment factors interfered with their academics (see examples in Table 3), which was contrary to the quantitative data results from Hypothesis One. This could be due to participants being more conscious of the external environment impacting their academics rather than their internal or personal traits (e.g., intelligence, conscientiousness). Though prior research does suggest individuals have a general awareness of their personal traits compared to others and how their personal traits are viewed by others (Oltmanns et al., 2005); it has been found individuals are still more likely to attribute external rather than internal factors to negative events (such as factors interfering with academics; Watson, 1982). In addition, the way the statement was worded may have made it unlikely participants would list personal traits as a factor that interfered with academics, as it specified for an employment factor. When examining if themes could be identified from participants responses to the statement "Please describe what is the most important factor of your employment that interferes with your academics", and then, examining if participants mentioning of the identified themes differed on academic performance measures compared to those who did not mention the identified themes, some differences were found.

Participants' qualitative data were coded and reliably put into themes by two independent researchers. Though most participants did list one or more factors of their employment that

interfered with their academics, a minority of participants reported their employment had no impact or it improved their academic performance. Participant's answers could vary in how much employment impacted their academics. For example, a very descriptive answer of a substantial impact was:

> In the medical field, when we're needed at work, and there's not much coverage, you feel often threatened to have to be there, and the demands of set hours for work are always impossible to make a decent school schedule. Especially since 90% of medical jobs are all daytime as well as class times. On top of that, most classes do not offer an online version. It's taking ages to finish school, and at times I've had to try and change jobs or drop to part-time to try and make sure that school is more of a priority, but many times work wins! How else will the bills get paid? All of it is just stressful.

This participant's response mentioned work environment factors, mental health factors, and financial factors. Work environment factors were especially common in many participant's answers, specifically work hours and scheduling conflicts between employment and school. These participants demonstrate how frequent reports of scheduling conflicts (a work environment factor theme) would affect vitality and impair participant's self-regulation abilities to study or do course assignments when getting off work:

> Sometimes works requires me to stay late and that in turn interferes with the time I have to study, and also I leave work exhausted. For example, I work at a clinic where I have to be on my feet all day. If I work 4 to 5 hours, I'm okay, but when I have to stay longer than 8 hours, that's when I get exhausted and have less energy and time to study.

> I work every day of the week. One of my jobs is at night, and the other is a different schedule. Because of this, I am tired a lot, which makes it hard to find time for schoolwork.

Vitality factors were also a frequent theme. It was common for participants to list vitality factors when also mentioning either how late they had to stay for work or how early they had to get up for work or school, as demonstrated in these participants' responses: "Staying until close effects my sleep. I will not get home until 11, and it's already hard for me to sleep, so I will wake up very tired and not want to go to class" and

> …In order to wake up on time, I have to sleep early on two school nights which takes away time for homework after all my classes are over. Once I get back from work, I am exhausted and unable to get any schoolwork done effectively.

Most participants did report one or more employment factors that interfered with academics. However, there was a minority that reported employment had no impact on their academics. For example, many participant's answers that were coded for the no impact theme put "None", "Nothing", or "No factor".

As for participants mentioning themes differing from those who did not on academic measures, a difference was found regarding those who mentioned work environments factors, impaired self-regulation factors, and vitality factors impacting academics compared to those who did not, specifically in regards to semester GPA. Unexpectedly, those who reported work environment and impaired self-regulation factors had higher GPA scores than those who did not. In contrast, participants who mentioned vitality factors affecting their academics had lower semester GPA scores.

As for the results of participants who reported work environment factors having higher GPAs in the current study could be due to many factors. Many work environments factors mentioned were comparable to work hours, work-school-conflict factors (scheduling), and job satisfaction components, such as conflicts with supervisors and coworkers, too little pay, and too much paperwork. Results of the present study involving those who mentioned work environment factors having higher GPAs could be partially explained by participants who mentioned work environment factors interfering with their academics are more conscientious and metacognitively aware of their academic performance (such as GPA, study habits, etc.) being impacted by their employment. For example, a study conducted by Young and Fry (2008) found students who were more metacognitively aware had higher GPAs and better self-regulation behaviors. Further, another study has found that students who put a premium focus on their GPA score are much more aware of factors involved in "making the grade" (Rabow & Hernandez, 1988), further suggesting that the mentioning of work environment factors interfering with GPA could be a proxy for conscientiousness and metacognitive awareness which are both implicated in academic performance and self-regulation (Richardson & Abraham, 2009; Young & Fry, 2008).

Participants who mentioned work environment factors did not differ in semester hours completed, study hours, and student engagement compared to those who did not mention work environment factors. These results are contrary to the previous literature, which found work demands associated with credit hours completed, study hours, and student engagement (Curtis & Shani, 2002; Darolia, 2014; Lammers, Onweugbuzie, & Slate, 2001). The present study's findings in Hypothesis One, and some previous research discussed earlier in this section found that work demands did not associate with academic persistence or study hours per week (Fjortoft, 1995; Nonis & Hudson, 2006), supporting the findings of work environment factors not

impacting semester credit hours completed, study hours, and student engagement. Possible explanations to why no differences in semester hours completed, study hours, and student engagement existed between participants that mentioned work environment factors and those who did not will be discussed later in this section.

As for the results of participants who reported impaired self-regulation factors having higher GPA scores in the present study could also be due to several factors. Similar to being metacognitively aware of factors that impact one's GPA, evidence suggests that individuals who have higher metacognitive awareness are also more aware of their self-regulation behaviors, which could explain why participants who mentioned impaired self-regulation factors had higher GPAs than those who did not. Previous research has found strong self-regulated learners are students who successfully plan and manage their behavior to achieve their goals (Broadbent & Poon, 2015). Self-regulated learning ability is an important predictor of academic performance in all types of learning environments (Broadbent & Poon 2015; Kim et al., 2018; Littlejohn et al., 2016; Richardson et al., 2012). Past research has found that higher levels of self-regulation are associated with better study habits in college students (Heikkilä & Lonka, 2006). Moreover, in an online learning environment, it is suggested that self-regulation is more important due to the absence of in-person interaction between students, their peers, and instructors, in addition to the more malleable course structure that allows students the ability to move through the course at their own pace (Guo & Reinecke, 2014; Littlejohn et al., 2016; Morris, Finnegan, & Wu, 2005). Because of these factors, a student who participates in online learning must be more engaged in the learning process by determining when to study and when to interact with a course and complete course assignments.

Given that the data collection of the current study occurred during the university lockdown due to the COVID-19 pandemic and most courses were moved to an online format, student's ability to self-regulate may have had even a greater impact on academic performance in the present study. In the case of the present study, working students that were attempting to self-regulate (for example, those who mention it as being a factor that was negatively impacted by employment) could have been more focused on trying to study, interact with courses, and complete assignment compared to their peers who did not acknowledge employment having an impairment on their self-regulation behaviors. This may help explain why individuals who mentioned impaired self-regulation due to employment had higher GPAs than those who did not. It is not clear why the mentioning or not mentioning of impaired self-regulation factors had no impact on other semester credit hours completed, study hours, and student engagement, but possible explanations will be discussed later in this section.

As would be expected, the participants who mentioned vitality factors interfering with their academics had lower GPAs, which aligns with much of the previous research. Previous studies have found an abundance of evidence that poor sleep is associated with lower GPA (Howell, et al., 2004; Medeiros et al., 2001; Miller, Danner, & Staten, 2008; Pagel, Forister, & Kwiatkowki, 2007; Singelton & Wolfson, 2009; Talib & Zia-ur-Rehman, 2012; Yang et al., 2003). On the other hand, it was unexpected that differences among other academic performance measures (semester credit hours completed, study hours, and student engagement) between participants who did or did not mentioned vitality factors were not found. This did not align with previous research, which found poor sleep to be associated with worse study concentration, behavioral persistence, and lower student engagement (Dunbar, Mirpuri, & Yip, 2017; Perkinson-Gloor, Lemola, & Grob, 2013; Van der Heijden et al., 2017).

It was common for participants that mentioned vitality factors to report impairment in self-regulation, such as being too tired, exhausted, or not having the energy to study or complete assignments. Some examples of participants mentioning both vitality and impaired self-regulation factors were: "…I feel like I don't get enough rest because of my work, which interferes with my energy in doing schoolwork activities" and " Not having time to study, because I come home from work tired and have no energy to get my classes done." These responses are similar to the concept of ego or self-control depletion. Prior research has found that neural mechanisms involved in mental control are not only involved in the process of identifying conflict/errors between goals and actual behaviors (Yeung, 2013) but are also weakened or depleted by other cognitive tasks (Inzlicht & Gutsell, 2007). Moreover, other researchers have found that performance failure in vigilance can be due to a work overload, which can cause a depletion in information-processing resources that manifest as a decrease in effortful attention (Gergelyfi et al., 2015; Grier et al., 2002; Helton et al., 2005). The concept of work overload causing a depletion in cognitive resources that leads to decreased effort coincides with many participants' responses that mentioned not having the energy to study or complete assignments after work, as shown in this participants response:

> ...I have zero capability of even thinking about classes while at work, let alone studying. It is very busy all the time and simply not possible to not be 100% focused on work. By the time I get off work, I have little to no energy left for assignments and studying.

Work overload causing cognitive depletion could explain why participants who mentioned vitality factors interfering with their academics had lower GPAs, but it is unclear why the mentioning or not mentioning of vitality factors had no impact on other academic performance

measures (semester credit hours completed, study hours, and student engagement). Factors that could have influenced the findings of the present study will be discussed later in this section.

Participants who mentioned employment factors had no impact on their academics did not differ in any academic performance measures compared to participants who listed factors of employment impacting their academics. As previously discussed, most research supports that work demands, such as more work hours and greater work-school conflict decrease academic performance (Butler, 2007; Carnevale, 2019; Carney, McNeish, & McColl, 2005; Cinamon, 2018; Creed, French, & Hood, 2015; Curtis & Shani, 2002; Markel & Frone, 1998; McNall & Michel, 2011; Mounsey, VanDehey, & Diekhoff, 2013; Nagai-Manelli et al., 2011; Sy, 2006; Tessema, Ready, & Astani, 2014), but other research has found a lack of support for work hours and work-school conflict associating with semester GPA (Kim, 2015; Nonis & Hudson, 2006). Moreover, the designation of students employed or not employed had no impact on academic performance or completion of an academic program in other research (Fjortoft, 1995; Mounsey, VanDehey, & Diekhoff, 2013). The results of the current study's findings of both qualitative and quantitative data support that employment demands (specifically work hours, work-school conflict, and job satisfaction) impact on academic performance is still unclear, and various other factors may be a more influential contributor to academic performance.

It should be noted that regarding the qualitative data of the present study, one possible influence for the results could be that even if participants did not mention a theme in their response, it does not necessarily mean that the theme is not impacting their academics. It could just be the participant was only listing the most current factor on their mind or consciously kept their response constrained to just one factor. Further limitations of this study will be discussed later in this section.

Research Question Two Discussion: Qualitative Data of How Dual Roles Impact Health

When examining the qualitative data for the statement "If you feel having dual roles of being an employee and student impacts your physical and psychological health please describe how being an employee and student has impacted your health." it was found that many participants mentioned mental health and vitality health were impacted by their dual roles of being a student and employee (see examples in Table 4). The mental health and vitality health impact being present in many participants' answers aligned with the quantitative data results from Hypothesis Two, which found greater work demands predicted decreased sleep quality and greater perceived stress. The results support much of the earlier discussed prior research that greater work demands are associated with poor sleep and worse mental health (Carney, McNeish, & McColl, 2005; Fjortoft, 1995; Gaultney, 2010; Joo, Durband, & Grable, 2009; Lederer, et al., 2015; Mikolajczyk, et al., 2008; Miller, Danner, & Staten, 2008; Oviatt et al., 2017; Park & Sprung, 2013; Park & Sprung, 2014; Watts & Pickering, 2000). Further, **w**hen examining if themes could be identified with participants qualitative data regarding their answers to the statement "If you feel having dual roles of being an employee and student impacts your physical and psychological health please describe how being an employee and student has impacted your health", and then, examine if participants mentioning of the identified themes related to academic performance measures, relationships were found.

Participants' qualitative data were reliably put into themes by independent coding from two researchers. Most participants listed factors showing how their dual role of being an employee and student impacted their health. A minority of participants reported that their dual roles had no impact or a positive impact on their health. When looking at qualitative statements

of how dual roles impact health participants' responses varied; for example, one of the more descriptive and impactful answers was:

> Physically, I'm always tired, and psychologically I am always burned out, feelings of despair, wondering if I'll ever be able to have a decent living without the stress of finances from school and bills, and will I ever make the grades good enough to get into grad school. A few good days come where I feel emotionally well, excited about the potential possibilities after school and where my life can be.

This answer specifically had mentions of physical health, mental health, and vitality impact. Other participants noted that dual roles impacted their academic engagement. For example, these participants' responses mention dual roles having a vitality and academic engagement impact: "I feel very tired and too mentally exhausted to do homework since I wake up at 6 am and sleep at 12 am" and

> Working all the time makes me tired and not pay attention in class or to due dates, and it's hard when teaches can fail you for one missing assignment, and school is hard to focus on anyways when you struggle financially.

Few participants reported a social life impact, but of those who did it was common to mention family life suffering from dual roles. For example, in these two participants responses, examples of mental health and social life impact influencing family life are reported:

> Managing school and work schedule among managing my parent's schedule have become a very challenging process. This semester has mainly affected me because of the amount of time I've had to set aside to study and work. They are making me disregard everything else in the home and even my family, husband, and pets. My mental health has spiraled into a more depressed and anxious state because of the pressures I feel to have to

> schedule every minute, even to spend time with family. There is no social life besides my husband and family. Everything is school, and professors seem to assign more work when it's online. It's deadline after deadline.
>
> I often feel overwhelmed. This impacts me because I try to keep up with my friendships while still trying to finish all schoolwork on top of work. I feel like I'm being pulled in all sorts of directions as this doesn't include my family as well as the membership I have with my church.

A minority of participants reported dual roles had no impact or a positive impact on their health. Examples of participant's answers that were coded for the no impact theme simply put "It does not", "It honestly doesn't for me I'm a good multitasker", or "Not available". Some responses from participants with the perspective of dual roles having a positive impact on health were "I think it might have a positive impact because it is a way to achieve better time management" and "I feel like it increases my health since it allows me to move around more" and “Work keeps me more physically active while in school. It also keeps me around people and keeps me social.” Though not shown in these examples, some participants coded with a positive impact on health still also mentioned a negative health impact. Positive health impacts of dual roles were a small minority of the sample, and responses varied in what aspects of their lives were improved by having dual roles of an employee and student. Other factors participants listed as improvements from dual roles were financial independence, career advancement, and enhancement in their mood (see Table 4 for more examples).

As for themes relating to academic performance, we found participants who mentioned dual roles had a positive impact on health had higher semester GPAs and semester credit hours completed. This was expected, as participants who report that being an employee and student

benefits their health may not perceive their job as demanding and more enriching (e.g., help in career advancement) and may be demonstrating resilience. As previously discussed, students that are employed in what is perceived as an enriching job display better mental health, more proactive personalities, greater job satisfaction, and higher academic performance than their counterparts employed in low enrichment work (McNall & Michel, 2011; McNall & Michel, 2017; Wang et al., 2010). Some of the answers coded as a positive impact on health were aligned with their job having high enrichment. This participant's response demonstrates how dual roles were perceived as enriching

> Working and going to school part-time can be very challenging, but as somebody who participates in this, it is very rewarding. I benefit from this because I know that I am advancing my career, and it will help me in the future with my major…

The concept of work enrichment associating with academic performance was further supported by the results of the current study. In addition, the personality factor of resilience was noted in participants' answers that were coded as having a positive impact on health. For example, this participant's answer specifically referred to the term resilience in describing how dual roles impacts their health, "I think it has given me a lot of positive resilience, even though I feel swamped with work from my employer and school at times…". Resilience is a dynamic process that allows for a positive adaptation in the context of adversity (Leys et al., 2020), and some researchers suggest it is a state (Ye et al., 2020) or trait (Skodol, 2010; Ye et al., 2020). Prior research has found students that are employed have higher resilience than their non-working counterparts (Chung, Turnbull, & Chur-Hansen, 2017), and that resilience is positively associated with several personality traits, including self-directedness, persistence, cooperativeness, and negatively associated with harm avoidance (Eley et al., 2013). The results

of this study support this notion and could explain why a minority of participants perceived employment as having a positive impact on their health; and, furthermore, why it was associated with higher semester GPAs and greater credit hours completed.

In addition to having dual roles having a positive impact on participant's health, those who mentioned dual roles had a mental health impact were associated with reporting greater study hours. This result was unexpected, but many participants that were coded for mental health impact reported anxiety in their responses, such as in these participants answers: “It impacts me a little mentally because I keep thinking about the work I could've finished so it induces a bit of anxiety” and “It increase in anxiety.” Past research has found greater anxiety to correlate with higher levels of perfectionism and conscientiousness (Saboonchi & Lundh, 1997). This reported anxiety may be a proxy of their perfectionism and conscientiousness traits, which also have been found to be associated with higher GPA, motivation for school, achievement motivation, and more study hours per week (Accordino, & Slaney, 2001; Heaven, Ciarrochi, & Vialle, 2007; Nounopoulos et al., 2006; Richardson & Abraham, 2009; Stoeber & Rambow, 2007). These results could explain why students who reported mental health impact in their responses were associated with greater study hours per week in the present study.

No other themes (vitality impact, academic engagement impact, physical health impact, social life impact, and no impact) related to any academic performance measures, in addition, the total number of negative health impact themes (all themes except no impact and positive impact on health) did not relate to academic performance measures. These results were unexpected, as discussed earlier in this article worse physical health and aspects of vitality (such as sleep quality and fatigue) were found to be associated with worse academic performance (Carney, McNeish, & McColl, 2005; Dunbar, Mirpuri, & Yip, 2017; Grimby-Ekman et al., 2018; Horton, 2015;

Howell, et al., 2004; Medeiros et al., 2001; Miller, Danner, & Staten, 2008; Pagel, Forister, & Kwiatkowki, 2007; Singelton & Wolfson, 2009; Smith, Jaurique, & Ryan, 2016; Talib & Zia-ur-Rehman, 2012; Vaez & Laflamme, 2008; Van der Heijden et al., 2017; Yang et al., 2003;). It was also unexpected that the mentioning of dual roles impacting participants' social life was not related to worse academic performance measures. Aspects of social life, from better social relations with classmates, faculty, friends, family, have all been related to greater academic persistence and higher GPAs in college students (Cheng, Ickes, & Verhofstadt, 2011; Wayt, 2012). In addition, reporting dual roles had no impact on their health or reporting a lower total number of negative health themes in their responses was not associated with better academic performance, which was unexpected. It was expected that reporting their health was unaffected by dual roles of being an employee and student or reporting fewer health themes impacted by dual roles would be related to higher academic performance measures. Given the numerous studies discussed earlier in this article found worse health associated with worse academic performance (Akgun & Ciarrochi, 2003; Bachrach & Read, 2012; Billingsley & Hurd, 2019; Carney, McNeish, & McColl, 2005; De Luca et al., 2016; Elias, Ping, & Abdullah, 2011; Horton, 2015; Johnson et al., 2013; McMahon et al., 2011; Oswalt & Wyatt, 2011; Raskind, Haardörfer, & Berg, 2019; Raufelder et al., 2013;Schraml, et al., 2012; Smith, Jaurique, & Ryan, 2016; Sohail, 2012; Stewart et al., 1999; Vaez & Laflamme, 2008 Wyatt & Oswalt, 2013), the interpretation of the results of the present study was unclear. As earlier discussed in this section, some of the health impact themes not relating to academic performance could be due to other factors having a more substantial influence, such as personality traits, coping strategies, and socioeconomic factors. In addition, when it comes to qualitative coding data, even if a participant

does not mention a particular theme in their answer, it does not necessarily mean it is not a contributing factor, but just not one of concern at that moment.

Limitations and Future Directions

As with all research, there were limitations in the present study. First and foremost, this study's data were collected during a time of the university lockdown due to the COVID-19 pandemic (Fall 2020 and Spring 2021). The lockdown could have had an impact on student's academic performance and work demands. Due to the lockdown, most classes were moved to an online format. When looking at recent research of students switching to online course formats or even in transitioning to courses in an online format from face-to-face during the COVID-19 pandemic, it has been found students' academic performance and satisfaction do not decrease (El Said, 2021; Soesmanto & Bonner, 2019). Although prior research has shown most students prefer some class activities and discussions in face-to-face formats and report being more engaged in a face-to-face class setting compared to online class formats; it has been found that students prefer class writing activities to be online, and students do not differ in their own academic performance when in a face-to-face or online learning format (Kemp & Grieve, 2014). Other researchers suggest online classes require the student to engage in more self-regulation due to the absence of in-person interaction between students, their peers, and instructors, in addition to the structure allowing students to move through the course at their own pace (Guo & Reinecke, 2014; Littlejohn et al., 2016; Morris, Finnegan, & Wu, 2005). Due to these factors, it can be argued that a student that participates in online learning must be more engaged in the learning process, which could exacerbate their academic performance to some degree.

Other factors of online learning impacting academic performance are the increased risks for academic dishonesty and cheating due to the detached nature of online learning and the

absence of disciplinary procedures (Jalali & Noorbehbahani, 2017; Raud & Vodovozov, 2019; Sarrayrih & Ilyas, 2013). Due to the prevalence of online cheating (Moten et al., 2013), students may have been able to enhance their academic performance more so than previous semesters if their instructors did not implement rigorous methods to prevent academic dishonesty or cheating during assignments and exams.

It should also be mentioned that participants often reported deadlines as stressors in their qualitative answers. Most classes were moved to an online format due to university lockdowns during the COVID-19 pandemic, which could have influenced their perceptions of deadlines affecting their mental health. For example, Doherty (2006) found that one of the primary reasons for students to fail or drop a web-based course was procrastination, and nearly a quarter of the students reported it was easier to procrastinate in an online course. Other research has found that the majority of students do not like web-based courses because they feel it is easier to fall behind (Elevers, Polzella, & Graetz, 2003). Other factors that could have contributed to the perception of deadlines were whether students' instructors required consistent posting on online discussion forums. Instructors requiring students to consistently post in the class discussion forum has been called “the heart of asynchronous online courses” (Herrick, Lin, & Huei-Wen, 2011). The potential ease of students to fall behind and procrastinate in online courses, in conjunction with the potential additional requirements for students to have to consistently post in the online discussion forums, could have caused increased perceptions of deadlines, which could have influenced health and academic performance in this study. Future research should examine student perceptions and objective measures of course deadlines to better understand their unique influence.

However, no matter their employment status or work demands, all students are responsible for meeting deadlines in their academic courses. Instructors can facilitate ways to help working students meet their academic responsibilities, such as posting assignments far in advance of due dates. Also, academic institutions could develop time management courses or courses designed to improve student's self-regulation behaviors in both in-person and online class settings. If the courses are implemented in the student's first couple semesters of their higher education career, it could improve their academic performance in both online and in-person class settings. It should also be mentioned online courses can vary by platform and tools utilized and how much instructors use specific online teaching tools. This study did not assess any factors of online platforms of toolsets used, which could have impacted the results of this study. However, future research should examine the influence of these online tools and students' perceptions of them on academic and health outcomes.

Another psychosocial factor that could have impacted this study and been exacerbated due to the COVID-19 pandemic was loneliness. Recent research has found that due to university lockdowns from the COVID-19 pandemic, students were experiencing high levels of loneliness (Labrague, De los Santos, & Falguera, 2021). Greater loneliness has been found to associate with a worse academic experience, decreased academic persistence, increased stress, higher anxiety, greater depression, and poorer physical health in college students (Nicpon et al., 2006; Richardson, Elliott, & Roberts, 2017; Segrin & Passalacqua, 2010; Stoliker & Lafreniere, 2015). While this study did not capture loneliness, which, especially during the COVID-19 pandemic, could have impacted students' health and academic performance, future research should examine loneliness and other psychosocial factors that may affect academic and health outcomes.

Due to the COVID-19 pandemic, some factors may have been exacerbated in influencing a student's sense of belonging. For example, recent research has found greater loneliness is related to decreased college belongingness (Arslan, 2021). Prior research found that students experience higher levels of loneliness during the COVID-19 pandemic (Labrague, De los Santos, & Falguera, 2021), which could have influenced a decreased perception of one's sense of belonging to their academic institution. Moreover, prior research has found that students engaging in help-seeking behaviors and social interaction with their peers were factors that contributed to a student's sense of belonging (Hoffman et al., 2002). During the COVID-19 pandemic, engaging in study groups, group work, and group projects could have been impacted due to encouragement of reducing in-person social interaction for public safety. If group work and projects were reduced or eliminated from students' coursework, this could have potentially influenced students' sense of belonging and the results of this study.

It should also be mentioned that a sense of belonging is impacted by student classification (freshman, sophomore, junior, senior), where freshmen tend to have the highest sense of belonging to their institutions and sophomores have the lowest (Smith et al., 2012). The highest percentage of participants that participated in this study were sophomore students, consisting of over 35% of the sample. With the plurality of the sample being sophomore students, this could have impacted the results of this study. Future investigations should strive to obtain representative samples of students at each classification level to examine differential relationships between sense of belonging and academic and health outcomes.

During this data collection, the region in which this university was located (south-central United States) was not under strict lockdowns due to the COVID-19 pandemic. The only businesses forced to lockdown in this area during this study were enclosed bars. Even though

most businesses were not locked down, participants' employment and health still could have been impacted by the COVID-19 pandemic. For instance, prior research has found that employed college students predominantly work in retail, service industries, and restaurants (Curtis & Lucas, 2001), which could put working students at higher risk of exposure to COVID-19 than many other workers. This increased risk of exposure could result in higher work stress. This concept is supported by research that found the COVID-19 pandemic increased work stress in individuals going back to work after lockdowns were lifted (Yang et al., 2020). Moreover, the threat of job loss during the COVID-19 pandemic in non-medical front-line workers (such as from sudden lockdowns and business closures) was found to predict increased emotional exhaustion in workers (Chen & Eyoun, 2021). Given that poor mental health is associated with worse academic performance, the potential factors of the COVID-19 pandemic impacting student workers could have contributed to academic performance or health outcomes. This study attempted to control for COVID-19 impact by using the Coronavirus Impact Scale (Stoddard & Kaufman, 2020) as a covariate in the analyses. However, some factors from the COVID-19 pandemic may still have influenced the results of the study.

During the data collection of this study not only the COVID-19 pandemic occurred, but also the BLM movement. This study attempted to control for BLM movement impact on employment and academics by asking the open-ended question, "Has the black lives matter movement impacted your academics or employment in any way? If so, please describe how.", and then rating participants responses on a scale from 0-2 on the degree of impact. Two independent coders were able to rate the degree of impact based on participants' responses reliably. These rating scores were then used as a covariate to control for the BLM movement's impact on employment and academics. Though no research has looked directly at how the BLM

movement has impacted academic performance, it was found in the present study that the greater BLM movement impact had on a participant's employment or academics did predict greater student engagement. This result may be due to participants rated higher on the BLM movement impacting their work or academics could be displaying a proxy for the personality trait of conscientiousness, which prior research has shown to be positively associated with justice sensitivity (Reese, Proch, & Cohrs, 2013). As previously discussed, greater levels of conscientiousness are associated with higher GPA, motivation for school, achievement motivation, and more study hours per week (Accordino, & Slaney, 2001; Heaven, Ciarrochi, & Vialle, 2007; Nounopoulos et al., 2006; Richardson & Abraham, 2009; Stoeber & Rambow, 2007). Other possible influences of the BLM movement could have been if participants participated in BLM protests, which could have impacted time management and strained participants' ability to study or complete assignments or perhaps influence the overall task priority structure in their lives. In addition, it should be noted that some participants reported in their responses that during the BLM movement protests, instructors would lead class discussions on race relations. These discussions could have led to students being more engaged in class if the topic or current event was of interest to them, possibly impacting their academic performance.

Other factors the BLM movement may have influenced were employment demands, though no research exists to our knowledge examining how the BLM movement impacted employment. In responses from participants in this study, most employment impacts were mentioning supervisors or coworkers openly supporting the movement. In a few instances, the effect on employment was more severe. For example, a participant noted that BLM protests caused the participant's place of work to shut down due to riots, and another participant was deployed from the national guard to monitor riots. Other more substantial impacts included a

participant quitting their job due to supervisors not openly supporting the BLM movement or participants getting fired from their job for not openly supporting the BLM movement. Even though the frequency of the degree of impact of the BLM movement being substantial was just five participants (see Table 6), the effect of losing a job, loss of hours, overload of work hours, or even more minor impacts could have affected participants health and academics beyond what this study was able to capture.

Other limitations to this study were the factors of work-school enrichment, personal traits of conscientiousness, resilience, self-regulation abilities, intelligence (general or emotional), coping strategies were not directly measured and not specifically accounted for in their contribution to academic performance and health. As previously mentioned, these variables have all been found to contribute to academic performance and health outcomes (Brummett et al., 2006; Cheng et al., 2012; Furnham, 2012; Eley et al., 2013; Gadinger et al., 2009; Kent de Grey et al., 2018; Maraichalvi & Rajan, 2013; McNall & Michel, 2011; McNall & Michel, 2017Nomura et al., 2009; Rosander, Bäckström, & Stenberg, 2011; Soderstrom et al., 2000; Wang et al., 2010; Yang et al., 2003). The results of the present study, and some prior research not finding work demands to predict academic performance or some health outcomes (Fjortoft, 1995; Jessop, Herberts, & Solomon, 2010; Kim, 2015; Mounsey, VanDehey, & Diekhoff, 2013; Nonis & Hudson, 2006;) or stress (Jessop, Herberts, & Solomon, 2010; Schroeder, n.d) suggests work demands impact on academic performance and health may not be strong enough to detect significant variance between subjects for some study's samples. Effects of work demands on academic performance and health may be more pronounced within subjects. With this notion, personal attributes such as general and emotional intelligence, conscientiousness, self-regulation abilities, and resiliency may be stronger contributors to the variance of academic performance

than the variables measured in this study (work demands, psychosocial factors, and health outcomes). In addition, the results that this study and some studies before not finding work hours to be predictive of academic performance or health (Fjortoft, 1995; Jessop, Herberts, & Solomon, 2010; Kim, 2015; Mounsey, VanDehey, & Diekhoff, 2013; Nonis & Hudson, 2006; Schroeder, n.d) suggest students' type of employment could be quite heterodox and more influential. Not having any measure of work-school enrichment in this study could have prevented the capture of such a phenomenon.

Just as work environments can be heterodox, so can students' courses and instructors. Not all courses are equally demanding, and some may have greater or fewer demands than others. Just as courses have unequal demands, so do instructors, even if they teach the same courses. Instructors do not always teach and evaluate courses at the same difficulty level, with some instructors being more academically demanding than others. Prior research has found that some students, especially those with higher metacognitive awareness, make coordinated efforts to sign up for specific courses or instructors in order to optimize academic performance outcomes (Rabow & Hernandez, 1988). This pattern of behavior in students has been assigned the term "the GPA perspective" from Rabow and Hernandez (1988). The GPA perspective has support from other researchers, which have found that grades vary widely across sections of the same courses (Brodie, 1998). Moreover, it has been found students are more likely to evaluate instructors highly if they regularly assign high grades and have low academic demands (Brodie, 1998).

Concerning this study, working students may be more motivated to implement the GPA perspective to lower academic demands in relation to their work demands. On the other hand, students with higher work demands may be more limited in selecting their desired courses and

instructors due to schedule conflicts. Work demands may also influence how many credit hours in which students enroll. Students with higher work demands may reduce their course load to balance work and academic demands. Unfortunately, this study did not control for number of enrolled credit hours but did control for whether students were full- or part-time and used credit hours completed as an outcome variable. It was found in the present study that greater working hours correlated with fewer credit hours completed, so the concept of students with higher work demands enrolling in fewer courses to meet work and academic demands does have support. However, not controlling for enrolled credit hours at the start of the semester may have influenced the results of this study.

Furthermore, it should be considered that work demands could influence student's selection of their academic major, which could impact their academic demands. Though prior research has found that many factors go into a student's selection of a major (Soria & Steblton, 2013a), one that may impact working students is the trade-off between economic returns and the risk of failure (Duru & Mingat, 1979). Working students could potentially engage in de-risking of failure by selecting academic majors with lower academic demands to maintain good academic standing while employed. The concerns of work demands potentially influencing course selection, instructor selection, amount of credit hours enrolled in, and selection of students majors could have potentially affected the results of this study and should be the focus of future investigation.

It also should be mentioned that even though a small number of participants reported that the dual roles of being an employee and student impacted their social life, those who did report social life interference often mentioned a struggle of family life. The impact of family on academic performance and health outcomes was not captured in this study. Previous research has

found greater school-work-family conflict to associate with worse mental health (Kremer, 2016), and greater college-family conflict related to more disruption of studying, reduced class attendance, and decreased confidence to succeed academically (Green, 2013). Furthermore, it has been reported that greater work-life conflict is associated with worse mental health, greater muscle-skeletal issues, greater cardiometabolic issues, and greater somatic symptoms (Gisler et al., 2018). Therefore, the family's impact on health and academic performance could have influenced the results of this study and should be investigated in future research.

A more general factor of limitation in this study was the selection of participants. The selection of participants was not random but convenient. Participants were working students who were enrolled in psychology courses in which they received credit for participating in this study through a research pool. This selection process could have influenced the characteristics of the sample by causing an over-representation of psychology majors in the sample, which would not accurately be capturing a true sample of working students across a variety of majors that could vary in academic demands. In addition, females were over-represented in the present study, consisting of nearly 78% of the sample. As mentioned previously, females are more likely to have higher academic performance (Baker, 2003; Sheard, 2010; Strahan, 2003), report health symptoms (Hall et al., 2006), report stress, and cope with stress with social coping strategies (American Psychological Association, 2012). In addition, other factors could have influenced this sample and the results, such as higher academically performing students, or more conscientious students could have been more likely to start and complete the survey and pass attention checks throughout the survey. Moreover, students with higher work demands could have had more time constraints, which could have influenced students with greater work demands to rush through the survey, failing attention checks, or not completing the survey.

Given the results of work demands not being able to predict academic performance in the present study, and the varied results in the literature regarding work demands associating with academic performance and health, it could indicate that the work demands contributing to variance of academic performance and health is much more pronounced within subject than between subjects, and that work demands could be very heterodox. Future directions of research examining work demand's impact on academic performance and health should consider looking at the dynamics of or control for numerous factors. These factors include work-school enrichment, participant's personal traits of conscientiousness, resilience, self-regulation abilities, intelligence (general and emotional), and coping strategies. All of these factors have been found to associate with academic performance and health (Brummett et al., 2006; Cheng et al., 2012; Furnham, 2012; Eley et al., 2013; Gadinger et al., 2009; Kent de Grey et al., 2018; Maraichalvi & Rajan, 2013; McNall & Michel, 2011; McNall & Michel, 2017; Nomura et al., 2009; Rosander, Bäckström, & Stenberg, 2011; Soderstrom et al., 2000; Wang et al., 2010; Yang et al., 2003).

Conclusion

Overall, the results of this study and previous research indicate that work demands do impact working student's health, but the influence over academic performance is less clear. Significant relationships were found between work demands and sleep quality, and work demands and perceived stress. Specifically, job satisfaction was able to individually predict sleep quality, and work-school conflict was able to individually predict perceived stress. Additionally, it was found perceived injustice had a mediating role in the relationship between job satisfaction and sleep quality. Other findings in the current study were greater work-school conflict predicted a worse sense of belonging at one’s university; lower job satisfaction predicted greater perceived

injustice of working students in academics; a worse sense of belonging and greater perceived injustice predicted worse student engagement, mental health, and perceived stress; greater perceived injustice predicted poorer sleep quality; greater perceived stress predicted lower semester GPAs and student engagement; and worse mental health predicted lower student engagement. Furthermore, it was found that work demands were not able to predict academic performance measures after controlling for covariates.

Qualitative data did revealed reoccurring themes present in student responses for both statements of "Please describe what is the most important factor of your employment that interferes with your academics" and "If you feel having dual roles of being an employee and student impacts your physical and psychological health, please describe how being an employee and student has impacted your health." For the statement involving factors of employment that interfere with academics, eight themes were identified. These themes were work environment factors, impaired self-regulation factors, improved self-regulation factors, vitality factors, financial factors, mental health factors, physical health factors, and no impact. It was found that participants' mentioning of the specific themes of work environment factors, impaired self-regulation factors, and vitality factors from employment factors interfering with academics did differ from those who did not mention such themes in regard to semester GPAs. It was found those who mentioned work-environment factor themes and impaired self-regulation themes had higher GPAs compared to participants that did not mention those specific themes. It is suggested this could be due to participants who did mention work environment and impaired self-regulation themes could have higher metacognitive awareness of factors that interfere with their academics and self-regulation behaviors. In addition, participants who mentioned the vitality theme had lower semester GPA than those who did not, which aligned with prior research. No other

employment factor themes interfering with academics impacted any other academic performance measure. Further, no theme from employment factors interfering with academics moderated the relationship between work demand and academic performance measures.

Seven themes were identified in participants' responses to the statement asking how dual roles of being an employee and student impact their physical and psychological health. These themes were mental health impact, physical health impact, vitality impact, academic engagement impact, social life impact, positive impact on health, and no impact on health. It was found that mentioning dual roles had a positive impact on health and was related to having a higher semester GPA and greater semester credit hours completed. These results suggest that the theme of a positive impact on health could have been a proxy for work-school enrichment or participants' resiliency. Further, the mentioning of mental health impact was related to greater study hours per week. Due to some of the students mentioning anxiety in their responses being coded for mental health impact, and anxiety found to associate with conscientiousness in prior research, the results could suggest mental health impact could have been a partial proxy for the personality trait of conscientiousness.

This study adds important information to the existing gaps in the literature involving workings students. Several factors in this study had been examined in just the general student or non-student working population but not specifically in the working student population. For example, job satisfaction and work-school conflict dynamics with a sense of belonging had not been examined adequately in the working student population previously. Other factors, such as job satisfaction, were very limited in the working student literature. Job satisfaction dynamics on student engagement, study hours per week, semester credit hours completed, physical health, sleep quality, sense of belonging, and perceived injustice in the working student population had

not been investigated previously. Moreover, students' perceived academic injustice due to employment was novel to this study, and its influence on academic performance measures and health outcomes in working students will be an important contribution to the literature. Finally, the mediating roles of sense of belonging and perceived injustice on the relationships between work demands and academic performance and work demands and health outcomes had not been adequately investigated in working students. This study provides new evidence that perceived injustice had a mediating role in the relationship between job satisfaction and sleep quality. The results of this research suggest that a sense of belonging, perceived injustice, work-school conflict, job satisfaction, perceived stress, sleep quality, and student engagement should all be variables of focus in future research regarding the impact of work demands on health and academic performance in employed college students.

Results of the present study and support from prior research suggest that the effect of work demands contributing to academic performance could be more distinct within subjects than between subjects. Also, employment, academic majors, course load, and instructors of the same courses, and online versus in-person class settings can cause work and academic demands to vary widely between working students. With this consideration, it is recommended that future research that examines work demands impact on working students' academic performance and health also consider the dynamics of work-school enrichment, participants' personal traits of conscientiousness, resilience, self-regulation abilities, intelligence (general and emotional), metacognitive awareness, loneliness, school-work-family conflict, and coping strategies while considering differences among working students’ academic majors, course load, class settings (online vs. in-person), and demands from different instructors.

References

Accordino, D. B., Accordino, M. P., & Slaney, R. B. (2000). An investigation of perfectionism, mental health, achievement, and achievement motivation in adolescents. *Psychology in the Schools, 37*(6), 535–545. https://doi.org/10.1002/1520-6807(200011)37:6<535::AID-PITS6>3.0.CO;2-O

Ackert, E. (2018). Segregation paradox? School racial/ethnic and socioeconomic composition and racial/ethnic differences in engagement. *Social Science Research*, *70*, 144-162. https://doi.org/10.1016/j.ssresearch.2017.10.010

Adebayo, D., Sunmola, A., & Udegbe, I. (2008). Subjective wellbeing, work-school conflict and proactive coping among Nigerian non-traditional students. *Career Development International*, *13*(5), 440-455. https://doi.org/10.1108/13620430810891464

Aimé, A., Villatte, A., Cyr, C., & Marcotte, D. (2016). Can weight predict academic performance in college students? An analysis of college women's self-efficacy, absenteeism, and depressive symptoms as mediators. *Journal of American College Health*, *65*(3), 168-176. https://doi.org/10.1080/07448481.2016.1266639

Akgun, S., & Ciarrochi, J. (2003). Learned Resourcefulness Moderates the Relationship Between Academic Stress and Academic Performance. *Educational Psychology*, *23*(3), 287-294. https://doi.org/10.1080/0144341032000060129

Alarcon, G. M., & Edwards, J. M. (2010). The relationship of engagement, job satisfaction and turnover intentions. *Stress and Health*, *27*(3), e294-e298. https://doi.org/10.1002/smi.1365

Alkan, N. (2015). Psychological sense of University membership: An adaptation study of the PSSM scale for Turkish University students. *The Journal of Psychology*, *150*(4), 431-449. https://doi.org/10.1080/00223980.2015.1087373

Althoff Fridley, C. (2009). Social implications of entitlement, a cautionary tale. *Journal of Philosophy and History of Education*, *59*, 88-91.

American Psychological Association. (2012). *Stress and gender*. https://www.apa.org/news/press/releases/stress/2010/gender-stress.pdf

Aragon, S. R., & Johnson, E. S. (2008). Factors influencing completion and Noncompletion of community college online courses. *American Journal of Distance Education*, *22*(3), 146-158. https://doi.org/10.1080/08923640802239962

Arslan, G. (2020). Loneliness, college belongingness, subjective vitality, and psychological adjustment during coronavirus pandemic: Development of the college Belongingness. *Journal of Positive School Psychology*, *5*(1), 17-31. https://doi.org/10.31234/osf.io/j7tf2

Astin, A. W. (1993). *What Matters in College: Four Critical Years Revisited*. Jossey-Bass Pub.

Bachrach, R. L., & Read, J. P. (2012). The Role of Posttraumatic Stress and Problem Alcohol Involvement in University Academic Performance. *Journal of Clinical Psychology*, *68*(7), 843-859. https://doi.org/10.1002/jclp.21874

Bachrach, R. L., & Read, J. P. (2012). The Role of Posttraumatic Stress and Problem Alcohol Involvement in University Academic Performance. *Journal of Clinical Psychology*, *68*(7), 843-859. https://doi.org/10.1002/jclp.21874

Baker, S. R. (2003). A prospective longitudinal investigation of social problem-solving appraisals on adjustment to university, stress, health, and academic motivation and

performance. *Personality and Individual Differences*, *35*(3), 569-591. https://doi.org/10.1016/s0191-8869(02)00220-9

Barnes, C. M., Ghumman, S., & Scott, B. A. (2013). Sleep and organizational citizenship behavior: The mediating role of job satisfaction. *Journal of Occupational Health Psychology*, *18*(1), 16-26. http://dx.doi.org.ezproxy.uta.edu/10.1037/a0030349

Basar, K., & Oz, G. (2016). Resilience in individuals with gender dysphoria: Association with perceived social support and discrimination. *Turkish Journal of Psychiatry*. https://doi.org/10.5080/u17071

Bean, J. P. (1985). Interaction Effects Based on Class Level in an Explanatory Model of College Student Dropout Syndrome. *American Educational Research Journal*, *22*(1), 35-64. https://doi.org/10.3102/00028312022001035

Berger, J. B. (1997). Students sense of community in residence halls, social integration, and first-year persistence. *Journal of College Student Development*, *38*, 441-452.

Berti, C., Molinari, L., & Speltini, G. (2010). Classroom justice and psychological engagement: Students' and teachers' representations. *Social Psychology of Education*, *13*(4), 541-556. https://doi.org/10.1007/s11218-010-9128-9

Billingsley, J. T., & Hurd, N. M. (2019). Discrimination, mental health and academic performance among underrepresented college students: the role of extracurricular activities at predominantly white institutions. *Social Psychology of Education*, *22*(2), 421-446. https://doi.org/10.1007/s11218-019-09484-8

Bissell, D., Ziadni, M., Sturgeon, J., Martin, K., Guck, A., & Trost, Z. (2017). (359) the impact of perceived discrimination, injustice beliefs, and sleep disturbance on anger experience

in chronic low back pain. *The Journal of Pain*, *18*(4), S64. https://doi.org/10.1016/j.jpain.2017.02.333

Boscher, C., Arnold, L., Lange, A., & Szagun, B. (2017). The Load of Injustice: A Longitudinal Analysis of the Impact of Subjectively Perceived Income Injustice on the Risk of Stress-Associated Diseases Based on the German Socio-Economic Panel Study. *Das Gesundheitswesen*, *80*(02). https://doi.org/10.1055/s-0043-107876

Broadbent, J., & Poon, W. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education*, *27*, 1-13. doi:10.1016/j.iheduc.2015.04.007

Brodie, D. A. (1998). Do students report that easy professors are excellent teachers? *Canadian Journal of Higher Education*, *28*(1), 1-20. https://doi.org/10.47678/cjhe.v28i1.183309

Brummett, B. H., Babyak, M. A., Siegler, I. C., Vitaliano, P. P., Ballard, E. L., Gwyther, L. P., & Williams, R. B. (2006). Associations among perceptions of social support, negative affect, and quality of sleep in caregivers and noncaregivers. *Health Psychology, 25*(2), 220–225. https://doi.org/10.1037/0278-6133.25.2.220

Brunel, O., & Grima, F. (2010). Dealing with Work-School Conflict : An analysis of coping strategies. *M@n@gement*, *13*(3), 174-204.

Butler, A. B. (2007). Job characteristics and college performance and attitudes: A model of work-school conflict and facilitation. *Journal of Applied Psychology*, *92*(2), 500-510. https://doi.org/10.1037/0021-9010.92.2.500

Buysse, D. J., Reynolds, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh sleep quality index: A new instrument for psychiatric practice and

research. *Psychiatry Research*, *28*(2), 193-213. https://doi.org/10.1016/0165-1781(89)90047-4

Carlson, D. S., Kacmar, K. M., Wayne, J. H., & Grzywacz, J. G. (2006). Measuring the positive side of the work–family interface: Development and validation of a work–family enrichment scale. *Journal of Vocational Behavior*, *68*(1), 131-164. https://doi.org/10.1016/j.jvb.2005.02.002

Carnevale, A. P. (2019, November 21). *Working while in college might hurt students more than it helps*. https://www.cnbc.com/2019/10/24/working-in-college-can-hurt-low-income-students-more-than-help.html

Carnevale, A. P., Smith, N., Melton, M., & Price, E. (2015). *Learning While Earning: The New Normal*. Georgetown University Center on Education and the Workforce. https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/Working-Learners-Report.pdf

Carney, C., McNeish, S., & McColl, J. (2005). The impact of part time employment on students' health and academic performance: a Scottish perspective. *Journal of Further and Higher Education*, *29*(4), 307-319. https://doi.org/10.1080/03098770500353300

Chang, W., & Chang, Y. (2019). Relationship between job satisfaction and sleep quality of female shift-working nurses: Using shift type as moderator variable. *Industrial Health*, *57*(6), 732-740. https://doi.org/10.2486/indhealth.2018-0258

Chen, H., & Eyoun, K. (2021). Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion. *International Journal of Hospitality Management*, *94*, 102850. https://doi.org/10.1016/j.ijhm.2020.102850

Cheng, S. H., Shih, C., Lee, I. H., Hou, Y., Chen, K. C., Chen, K., Yang, Y. K., & Yang, Y. C. (2012). A study on the sleep quality of incoming university students. *Psychiatry Research*, *197*(3), 270-274. https://doi.org/10.1016/j.psychres.2011.08.011

Cheng, W., Ickes, W., & Verhofstadt, L. (2011). How is family support related to students' GPA scores? A longitudinal study. *Higher Education*, *64*(3), 399-420. https://doi.org/10.1007/s10734-011-9501-4

Cheung, T., Wong, S., Wong, K., Law, L., Ng, K., Tong, M., Wong, K., Ng, M., & Yip, P. (2016). Depression, anxiety and symptoms of stress among baccalaureate nursing students in Hong Kong: A cross-sectional study. *International Journal of Environmental Research and Public Health*, *13*(8), 779. https://doi.org/10.3390/ijerph13080779

Choenarom, C., Williams, R. A., & Hagerty, B. M. (2005). The role of sense of belonging and social support on stress and depression in individuals with depression. *Archives of Psychiatric Nursing*, *19*(1), 18-29. https://doi.org/10.1016/j.apnu.2004.11.003

Choi, S. (2019). Relationships between smartphone usage, sleep patterns and nursing students' learning engagement. *Journal of Korean Biological Nursing Science*, *21*(3), 231-238. https://doi.org/10.7586/jkbns.2019.21.3.231

Chory, R. M., Horan, S. M., & Houser, M. L. (2017). Justice in the Higher Education Classroom: Students' Perceptions of Unfairness and Responses to Instructors. *Innovative Higher Education*, *42*(4), 321-336. https://doi.org/10.1007/s10755-017-9388-9

Chou, E. Y., Parmar, B. L., & Galinsky, A. (2016, March 21). The Link Between Income Inequality and Physical Pain. *Harvard Business Review*. https://hbr.org/2016/03/the-link-between-income-inequality-and-physical-pain

Chung, E., Turnbull, D., & Chur-Hansen, A. (2017). Differences in resilience between 'traditional' and 'non-traditional' university students. *Active Learning in Higher Education*, *18*(1), 77-87. https://doi.org/10.1177/1469787417693493

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment*, *6*(4), 284-290. https://doi.org/10.1037/1040-3590.6.4.284

Cinamon, R. G. (2018). Navigating work and study: Antecedents and outcomes of conflict and facilitation aspects of the work-school interface. *Journal of Vocational Behavior*, *104*, 31-43. https://doi.org/10.1016/j.jvb.2017.09.009

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*(4), 385. https://doi.org/10.2307/2136404

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*(2), 310-357. https://doi.org/10.1037/0033-2909.98.2.310

Coons, S. J., Alabdulmohsin, S. A., Draugalis, J. R., & Hays, R. D. (1998). Reliability of an Arabic version of the RAND-36 health survey and its equivalence to the US-English version. *Medical Care*, *36*(3), 428-432. https://doi.org/10.1097/00005650-199803000-00018

Creed, P. A., French, J., & Hood, M. (2015). Working while studying at university: The relationship between work benefits and demands and engagement and well-being. *Journal of Vocational Behavior*, *86*, 48-57. https://doi.org/10.1016/j.jvb.2014.11.002

Curtis, S., & Lucas, R. (2001). A coincidence of needs? *Employee Relations*, *23*(1), 38-54. https://doi.org/10.1108/01425450110366264

Curtis, S., & Shani, N. (2002). The Effect of Taking Paid Employment During Term-time on Students' Academic Studies. *Journal of Further and Higher Education*, *26*(2), 129-138. https://doi.org/10.1080/03098770220129406

Darolia, R. (2014). Working (and studying) day and night: Heterogeneous effects of working on the academic performance of full-time and part-time students. *Economics of Education Review*, *38*, 38-50. https://doi.org/10.1016/j.econedurev.2013.10.004

De Luca, S. M., Franklin, C., Yueqi, Y., Johnson, S., & Brownson, C. (2016). The Relationship Between Suicide Ideation, Behavioral Health, and College Academic Performance. *Community Mental Health Journal*, *52*(5), 534-540. https://doi.org/10.1007/s10597-016-9987-4

Decker, P. J., & Borgen, F. H. (1993). Dimensions of work appraisal: Stress, strain, coping, job satisfaction, and negative affectivity. *Journal of Counseling Psychology*, *40*(4), 470-478. https://doi.org/10.1037/0022-0167.40.4.470

Devlin, M., James, R., & Grigg, G. (2008). Studying and working: A national study of student finances and student engagement. *Tertiary Education and Management*, *14*(2), 111-122. https://doi.org/10.1080/13583880802053044

Do, A. (2016). Understanding Psychological Distress, Job Satisfaction and Academic Performance in College Students. *Reflections: A Journal of Exploratory Research and Analysis*, 43-47.

Doherty, W. (2006). An analysis of multiple factors affecting retention in web-based community college courses. *The Internet and Higher Education*, *9*(4), 245-255. https://doi.org/10.1016/j.iheduc.2006.08.004

Dunbar, M., Mirpuri, S., & Yip, T. (2017). Ethnic/racial discrimination moderates the effect of sleep quality on school engagement across high school. *Cultural Diversity and Ethnic Minority Psychology*, *23*(4), 527-540. https://doi.org/10.1037/cdp0000146

Duru, M., & Mingat, A. (1979). Comportement des bacheliers: Modele des choicx de disciplines [High school graduate behavior: Model of discipline choice]. *Consommation*, *3-4*, 245–262.

El Said, G. R. (2021). How did the COVID-19 pandemic affect higher education learning experience? An empirical investigation of learners' academic performance at a University in a developing country. *Advances in Human-Computer Interaction*, *2021*, 1-10. https://doi.org/10.1155/2021/6649524

Eley, D. S., Cloninger, C. R., Walters, L., Laurence, C., Synnott, R., & Wilkinson, D. (2013). The relationship between resilience and personality traits in doctors: Implications for enhancing well being. *PeerJ*, *1*, e216. https://doi.org/10.7717/peerj.216

Elias, H., Ping, W. S., & Abdullah, M. C. (2011). Stress and Academic Achievement among Undergraduate Students in Universiti Putra Malaysia. *Procedia - Social and Behavioral Sciences*, *29*, 646-655. https://doi.org/10.1016/j.sbspro.2011.11.288

Eliasson, A. H., Eliasson, A. H., & Lettieri, C. J. (2016). Differences in sleep habits, study time, and academic performance between US-born and foreign-born college students. *Sleep and Breathing*, *21*(2), 529-533. https://doi.org/10.1007/s11325-016-1412-2

Elling, S. R., & Elling, T. W. (2000). The Influence of Work on College Student Development. *NASPA Journal*, *37*(2). https://doi.org/10.2202/0027-6014.1108

Elvers, G. C., Polzella, D. J., & Graetz, K. (2003). Procrastination in online courses: Performance and attitudinal differences. *Teaching of Psychology*, *30*(2), 159-162. https://doi.org/10.1207/s15328023top3002_13

Ezenwa, M. O., Molokie, R. E., Wilkie, D. J., Suarez, M. L., & Yao, Y. (2015). Perceived Injustice Predicts Stress and Pain in Adults with Sickle Cell Disease. *Pain Management Nursing*, *16*(3), 294-306. https://doi.org/10.1016/j.pmn.2014.08.004

Faircloth, B. S., & Hamm, J. V. (2005). Sense of belonging among high school students representing 4 ethnic groups. *Journal of Youth and Adolescence*, *34*(4), 293-309. https://doi.org/10.1007/s10964-005-5752-7

Falk, A., Kosse, F., Menrath, I., & Siegrist, J. (2014). Unfair pay and health. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2884028

Falk, A., Menrath, I., Verde, P., & Siegrist, J. (2011). Cardiovascular consequences of unfair pay. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1868888

Faragher, E. B., Cass, M., & Cooper, C. L. (2005). The Relationship between Job Satisfaction and Health: A Meta-Analysis. *Occup Environ Med*, *62*, 105-112. https://doi.org/10.1136/oem.2002.006734

Fatima, A., Atif, Q. M., Saqib, A., & Haider, A. (2012). A Path Model Examining the Relations among Organizational Injustice, Counterproductive Work Behavior and Job Satisfaction. *International Journal of Innovation, Management and Technology*, *3*(6), 697-701.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. https://doi.org/10.3758/brm.41.4.1149

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). SAGE Publications.

Fischer, M. J. (2007). Settling into Campus Life: Differences by Race/Ethnicity in College Involvement and Outcomes. *The Journal of Higher Education*, *78*(2), 125-156. https://doi.org/10.1353/jhe.2007.0009

Fjortoft, N. F. (1995). *College Student Employment: Opportunity or Deterrent?* In *Annual Meeting of the American Educational Research Association* (pp. 1-20). American Educational Research Association.

Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college freshmen at the classroom and campus levels. *The Journal of Experimental Education*, *75*(3), 203-220. https://doi.org/10.3200/jexe.75.3.203-220

Frey, M. C., & Detterman, D. K. (2004). Scholastic assessment or G? *Psychological Science*, *15*(6), 373-378. https://doi.org/10.1111/j.0956-7976.2004.00687.x

Furnham, A. (2012). Learning Style, Personality Traits and Intelligence as Predictors of College Academic Performance. *Individual Differences Research*, *10*(3), 117-128.

Gadinger, M. C., Fischer, J. E., Schneider, S., Fischer, G. C., Frank, G., & Kromm, W. (2009). Female executives are particularly prone to the sleep-disturbing effect of isolated high-strain jobs: A cross-sectional study in German-speaking executives. *Journal of Sleep Research*, *18*(2), 229-237. https://doi.org/10.1111/j.1365-2869.2008.00715.x

Galliher, R. V., Rostosky, S. S., & Hughes, H. K. (2004). School belonging, self-esteem, and depressive symptoms in adolescents: An examination of sex, sexual attraction status, and

Urbanicity. *Journal of Youth and Adolescence*, *33*(3), 235-245. https://doi.org/10.1023/b:joyo.0000025322.11510.9d

Gaultney, J. F. (2010). The Prevalence of Sleep Disorders in College Students: Impact on Academic Performance. *Journal of American College Health*, *59*(2), 91-97. https://doi.org/10.1080/07448481.2010.483708

George, D., & Mallery, P. (2010). *SPSS for Windows step by step: A simple guide and reference, 17.0 update*. Pearson.

Gergelyfi, M., Jacob, B., Olivier, E., and Zénon, A. (2015). Dissociation between mental fatigue and motivational state during prolonged mental activity. *Front. Behav. Neurosci.* 9:176. doi: 10.3389/fnbeh.2015.00176

Gisler, S., Omansky, R., Alenick, P. R., Tumminia, A. M., Eatough, E. M., & Johnson, R. C. (2018). Work-life conflict and employee health: A review. *Journal of Applied Biobehavioral Research*, *23*(4), e12157. https://doi.org/10.1111/jabr.12157

Green, M. (2013). *The Effect of College-Family Conflict on Academic Variables for College Student-Parents* (3586713) [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, *30*(1), 79-90. https://doi.org/10.1002/1520-6807(199301)30:1<79::aid-pits2310300113>3.0.co;2-x

Grier, R. A., Warm, J. S., Dember, W. N., Matthews, G., Galinsky, T. L., Szalma, J. L., et al. (2003). The vigilance decrement reflects limitations in effortful attention, not mindlessness. *Hum. Factors* 45, 349–359. doi: 10.1518/hfes.45.3.349.27253

Grimby-Ekman, A., Åberg, M., Torén, K., Brisman, J., Hagberg, M., & Kim, J. (2018). Pain could negatively affect school grades - Swedish middle school students with low school grades most affected. *PLOS ONE*, *13*(12), e0208435. https://doi.org/10.1371/journal.pone.0208435

Grobecker, P. A. (2016). A sense of belonging and perceived stress among baccalaureate nursing students in clinical placements. *Nurse Education Today*, *36*, 178-183. https://doi.org/10.1016/j.nedt.2015.09.015

Gummadam, P., Pittman, L. D., & Ioffe, M. (2015). School belonging, ethnic identity, and psychological adjustment among ethnic minority college students. *The Journal of Experimental Education*, *84*(2), 289-306. https://doi.org/10.1080/00220973.2015.1048844

Guo, P. J., & Reinecke, K. (2014). Demographic differences in how students navigate through MOOCs. *Proceedings of the first ACM conference on Learning @ scale conference*. https://doi.org/10.1145/2556325.2566247

Gurbuz, S. (2009). Some Possible Antecedents of Military Personnel Organizational Citizenship Behavior. *Military Psychology*, *21*(2), 200-215. https://doi.org/10.1080/08995600802574621

Hair, J. F., Hult, G. T.M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications.Hale, C. J., Hannum, J. W., & Espelage, D. L. (2005). Social Support and Physical Health: The Importance of Belonging. *Journal of American College Health*, *53*(6), 276-284. https://doi.org/10.3200/jach.53.6.276-284

Hall, N. C., Chipperfield, J. G., Perry, R. P., Ruthig, J. C., & Goetz, T. (2006). Primary and secondary control in academic development: Gender-specific implications for stress and health in college students1. *Anxiety, Stress & Coping*, *19*(2), 189-210. https://doi.org/10.1080/10615800600581168

Hartley, M. T. (2011). Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students. *Journal of American College Health*, *59*(7), 596-604. https://doi.org/10.1080/07448481.2010.515632

Hausmann, L. R., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among African American and white first-year college students. *Research in Higher Education*, *48*(7), 803-839. https://doi.org/10.1007/s11162-007-9052-9

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Publications.

Heaven, P. C., Ciarrochi, J., & Vialle, W. (2007). Conscientiousness and Eysenckian psychoticism as predictors of school grades: A one-year longitudinal study. *Personality and Individual Differences*, *42*(3), 535-546. https://doi.org/10.1016/j.paid.2006.07.028

Heikkilä, A., & Lonka, K. (2006). Studying in higher education: Students' approaches to learning, self-regulation, and cognitive strategies. *Studies in Higher Education*, *31*(1), 99-117. https://doi.org/10.1080/03075070500392433

Helton, W. S., Hollander, T. D., Warm, J. S., Matthews, G., Dember, W. N., Wallaart, M., et al. (2005). Signal regularity and the mindlessness model of vigilance. *Br. J. Psychol.* 96, 249–261. doi: 10.1348/000712605X38369

Henry, B., Cormier, C., Hebert, E., Naquin, M., & Wood, R. (2018). Health and health care issues among upper-level college students and relationships to age, race, gender, and living arrangements. *College Student Journal*, *52*(1), 7-14.

Hernandez, J. C., & Lopez, M. A. (2004). Leaking pipeline: Issues impacting Latino/a college student retention. *J. College Student Retention*, *6*(1), 37-60.

Herrick, M., Lin, M. G., & Huei-Wen, C. (2011). *Proceedings of SITE 2011--Society for Information Technology & Teacher Education International Conference*. M. Koehler & P. Mishra (Eds.). USA: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/36283/

Hey, W., Calderon, K., & Seabert, D. (2003). Student Work Issues: Implications for College Transition and Retention. *Journal of College Orientation and Transition*, *10*, 35-41.

Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002). Investigating "sense of belonging" in first-year college students. *J. College Student Retention*, *4*(3), 227-256.

Hoffman, K. D., & Kretovics, M. A. (2004). Students as Partial Employees: A Metaphor for the Student-Institution Interaction. *Innovative Higher Education*, *29*(2), 103-120. https://doi.org/10.1023/b:ihie.0000048793.19622.ae

Holmes, V. (2008). Working to live: why university students balance full-time study and employment. *Education & Training*, *50*(4), 305-314. https://doi.org/10.1108/00400910810880542

Horan, S. M., Chory, R. M., & Goodboy, A. K. (2010). Understanding Students' Classroom Justice Experiences and Responses. *Communication Education*, *59*(4), 453-474. https://doi.org/10.1080/03634523.2010.487282

Horton, J. (2015). Identifying At-Risk Factors That Affect College Student Success. *International Journal of Process Education*, *7*(1), 83-102.

Holahan, C. J., & Moos, R. H. (1991). Life stressors, personal and social resources, and depression: A 4-year structural model. *Journal of Abnormal Psychology*, *100*(1), 31-38. https://doi.org/10.1037/0021-843x.100.1.31

Holt, M. K., & Espelage, D. L. (2005). Social Support as a Moderator Between Dating Violence Victimization and Depression/Anxiety Among African American and Caucasian Adolescents. *School Psychology Review, 34*(3), 309–328.

House, L. A., Neal, C., & Kolb, J. (2019). Supporting the mental health needs of first generation college students. *Journal of College Student Psychotherapy*, *34*(2), 157-167. https://doi.org/10.1080/87568225.2019.1578940

Howell, A. J., Jahrig, J. C., & Powell, R. A. (2004). Sleep Quality, Sleep Propensity and Academic Performance. *Perceptual and Motor Skills*, *99*(2), 525-535. https://doi.org/10.2466/pms.99.2.525-535

Howell, G. F., & Buck, J. M. (2011). The Adult Student and Course Satisfaction: What Matters Most? *Innovative Higher Education*, *37*(3), 215-226. https://doi.org/10.1007/s10755-011-9201-0

Hsieh, T. (2014). Motivation matters? The relationship among different types of learning motivation, engagement behaviors and learning outcomes of undergraduate students in Taiwan. *Higher Education*, *68*(3), 417-433. https://doi.org/10.1007/s10734-014-9720-6

Inzlicht, M., and Gutsell, J. N. (2007). Running on empty: neural signals for self-control failure. *Psychol. Sci.* 18, 933–937. doi: 10.1111/j.1467-9280.2007.02004.x

Iqbal, K. (2013). Determinants of Organizational Justice and its impact on Job Satisfaction. A Pakistan Base Survey. *International Review of Management and Business Research*, *2*(1), 48-56.

Jalali, K., & Noorbehbahani, F. (2017). An automatic method for cheat- ing detection in online exams by processing the student's webcam images. *Proc. 3rd Conference on Electrical and Computer Engineering Technology*, 1-6.

Jessop, D. C., Herberts, C., & Solomon, L. (2010). The impact of financial circumstances on student health. *British Journal of Health Psychology*, *10*(3), 421-439. https://doi.org/10.1348/135910705x25480

John-Henderson, N. A., Palmer, C. A., & Thomas, A. (2019). Life stress, sense of belonging and sleep in American Indian college students. *Sleep Health*, *5*(4), 352-358. https://doi.org/10.1016/j.sleh.2019.04.001

Johnson, D. R., Wasserman, T. H., Yildirim, N., & Yonai, B. A. (2013). Examining the effects of stress and campus climate on the persistence of students of color and white students: An application of bean and Eaton's psychological model of retention. *Research in Higher Education*, *55*(1), 75-100. https://doi.org/10.1007/s11162-013-9304-9

Joo, S., Durband, D. B., & Grable, J. (2009). The Academic Impact of Financial Stress on College Students. *Journal of College Student Retention: Research, Theory & Practice*, *10*(3), 287-305. https://doi.org/10.2190/cs.10.3.c

Jury, M., Aelenei, C., Chen, C., Darnon, C., & Elliot, A. J. (2019). Examining the role of perceived prestige in the link between students' subjective socioeconomic status and sense of belonging. *Group Processes & Intergroup Relations*, *22*(3), 356-370. https://doi.org/10.1177/1368430219827361

Kalenkoski, C. M., & Pabilonia, S. W. (2008). Parental transfers, student achievement, and the labor supply of college students. *Journal of Population Economics*, *23*(2), 469-496. https://doi.org/10.1007/s00148-008-0221-8

Kamal, S. M., Al-Dhshan, M., Abu-Salameh, K. A., Abuadas, F., & Hassan, M. M. (2012). The effect of nurses' Perceived Job Related Stressors on Job Satisfaction in Taif Governmental Hospitals in Kingdom of Saudi Arabia. *Journal of American Science*, *8*(3), 119-125.

Karagozoglu, S., & Bingöl, N. (2008). Sleep quality and job satisfaction of Turkish nurses. *Nursing Outlook*, *56*(6), 298-307.e3. https://doi.org/10.1016/j.outlook.2008.03.009

Karimshah, A., Wyder, M., Henman, P., Tay, D., Capelin, E., & Short, P. (2013). Overcoming adversity among low SES students: a study of strategies for retention. *Australian Universities' Review*, *55*(2), 5-14.

Kemp, N., & Grieve, R. (2014). Face-to-face or face-to-screen? Undergraduates' opinions and test performance in classroom vs. online learning. *Frontiers in Psychology*, *5*(1278). https://doi.org/10.3389/fpsyg.2014.01278

Kent de Grey, R. G., Uchino, B. N., Trettevik, R., Cronan, S., & Hogan, J. N. (2018). Social support and sleep: A meta-analysis. *Health Psychology*, *37*(8), 787-798. https://doi.org/10.1037/hea0000628

Kim, B. P., Murrmann, S. K., & Lee, G. (2009). Moderating effects of gender and organizational level between role stress and job satisfaction among hotel employees. *International Journal of Hospitality Management*, *28*(4), 612-619. https://doi.org/10.1016/j.ijhm.2009.04.001

Kim, D., Yoon, M., Jo, I., & Branch, R. M. (2018). Learning analytics to support self-regulated learning in asynchronous online courses: A case study at a women's university in South Korea. *Computers & Education*, *127*, 233-251. doi:10.1016/j.compedu.2018.08.023

Kim, J., & Richardson, V. (2011). The impact of socioeconomic inequalities and lack of health insurance on physical functioning among middle-aged and older adults in the United States. *Health & Social Care in the Community*, *20*(1), 42-51. https://doi.org/10.1111/j.1365-2524.2011.01012.x

Kim, S. J. (2015). *Work and School Experiences of Employed Students* (1596284) [Master's thesis]. ProQuest Dissertations and Theses Global.

Ko, S. (2013). Peer assessment in group projects accounting for assessor reliability by an iterative method. *Teaching in Higher Education*, *19*(3), 301-314. https://doi.org/10.1080/13562517.2013.860110

Koeske, R. D., & Koeske, G. F. (1989). Working and Non-Working Students: Roles, Support and Well-Being. *Journal of Social Work Education*, *25*(3), 244-256. https://doi.org/10.1080/10437797.1989.10671281

Krause, K. (2005). *Understanding and promoting student engagement in university learning communities*. In *'Engaged, inert or otherwise occupied?: Deconstructing the 21st century undergraduate student* (pp. 1-15). Centre for the Study of Higher Education. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.659.6304&rep=rep1&type=pdf

Kremer, I. (2016). The relationship between school-work-family-conflict, subjective stress, and burnout. *Journal of Managerial Psychology*, *31*(4), 805-819. https://doi.org/10.1108/jmp-01-2015-0014

Labrague, L. J., De los Santos, J. A., & Falguera, C. C. (2021). Social and emotional loneliness among college students during the COVID-19 pandemic: The predictive role of coping behaviors, social support, and personal resilience. *Perspectives in Psychiatric Care*. https://doi.org/10.1111/ppc.12721

Lammers, W. J., Onweugbuzie, A. J., & Slate, J. R. (2001). Academic success as a function of gender, class, age, study habits, and employment of college students. *Research in the Scholls*, *8*(2), 71-81.

Landel, M. M., & Dasgupta, S. (2018). Sleep hygiene practices and its effects on job satisfaction in emergency medicine physicians and physicians-in-training. *The American Journal of Emergency Medicine*, *36*(11), 2118-2119. https://doi.org/10.1016/j.ajem.2018.03.045

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.

Lederer, A. M., Autry, D. M., Day, C. R., & Oswalt, S. B. (2015). The Impact of Work and Volunteer Hours on the Health of Undergraduate Students. *Journal of American College Health*, *63*(6), 403-408. https://doi.org/10.1080/07448481.2015.1015028

Lee, M., & Hagedorn, L. S. (2005). *International Community College Students: The Neglected Minority?* [Doctoral dissertation]. ERIC.

Leys, C., Arnal, C., Wollast, R., Rolin, H., Kotsou, I., & Fossion, P. (2020). Perspectives on resilience: Personality trait or skill? *European Journal of Trauma & Dissociation*, *4*(2), 100074. https://doi.org/10.1016/j.ejtd.2018.07.002

Lim, S. (2007). Library informational technology workers: Their sense of belonging, role, job autonomy and job satisfaction. *The Journal of Academic Librarianship*, *33*(4), 492-500. https://doi.org/10.1016/j.acalib.2007.03.007

Littlejohn, A., Hood, N., Milligan, C., & Mustain, P. (2016). Learning in MOOCs: Motivations and self-regulated learning in MOOCs. *The Internet and Higher Education*, *29*, 40-48. https://doi.org/10.1016/j.iheduc.2015.12.003

Loi, R., Yang, J., & Diefendorff, J. M. (2009). Four-factor justice and daily job satisfaction: A multilevel investigation. *Journal of Applied Psychology*, *94*(3), 770-781. https://doi.org/10.1037/a0015714

Lomax, R. G., & Hahs-Vaughn, D. L. (2012). *An introduction to statistical concepts* (3rd ed.). Taylor & Francis.

Loscalzo, Y., & Giannini, M. (2018). Study engagement in Italian University students: A confirmatory factor analysis of the Utrecht work engagement scale—Student version. *Social Indicators Research*, *142*(2), 845-854. https://doi.org/10.1007/s11205-018-1943-y

Ma, J., Baum, S., Pender, M., & Bell, D. (2015). *Trends in College Pricing 2015*. CollegeBoard. https://files.eric.ed.gov/fulltext/ED572540.pdf

Mahmoud, J. S., Staten, R. T., Hall, L. A., & Lennie, T. A. (2012). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Issues in Mental Health Nursing*, *33*(3), 149-156. https://doi.org/10.3109/01612840.2011.632708

Maraichelvi, A., & Rajan, S. (2013). The relationship between emotional intelligence and the academic performance among final year under graduates. *Universal Journal of Psychology*, *1*(2), 41-45. https://doi.org/10.13189/ujp.2013.010203

Markel, K. S., & Frone, M. R. (1998). Job characteristics, work–school conflict, and school outcomes among adolescents: Testing a structural model. *Journal of Applied Psychology*, *83*(2), 277-287. https://doi.org/10.1037/0021-9010.83.2.277

Masten, A. S., Burt, K. B., Roisman, G. I., Obradovic, J., Long, J. D., & Tellegen, A. (2004). Resources and resilience in the transition to adulthood: Continuity and change. *Development and Psychopathology*, *16*(04), 1071-1094. https://doi.org/10.1017/s0954579404040143

McMahon, S. D., Keys, C. B., Berardi, L., & Crouch, R. (2011). The ecology of achievement among students diverse in ethnicity and ability. *Journal of Community Psychology*, *39*(6), 645-662. https://doi.org/10.1002/jcop.20458

McNall, L. A., & Michel, J. S. (2011). A Dispositional Approach to Work–School Conflict and Enrichment. *Journal of Business and Psychology*, *26*(3), 397-411. https://doi.org/10.1007/s10869-010-9187-0

McNall, L. A., & Michel, J. S. (2017). The relationship between student core self-evaluations, support for school, and the work–school interface. *Community, Work & Family*, *20*(3), 253-272. https://doi.org/10.1080/13668803.2016.1249827

Medeiros, A. L., Mendes, D. B., Lima, P. F., & Araujo, J. F. (2001). The Relationships between Sleep-Wake Cycle and Academic Performance in Medical Students. *Biological Rhythm Research*, *32*(2), 263-270. https://doi.org/10.1076/brhm.32.2.263.1359

Mikolajczyk, R. T., Maxwell, A. E., Naydenova, V., Meier, S., & El Ansari, W. (2008). Depressive symptoms and perceived burdens related to being a student: Survey in three European countries. *Clinical Practice and Epidemiology in Mental Health*, *4*(1), 19. https://doi.org/10.1186/1745-0179-4-19

Miller, K., Danner, F., & Staten, R. (2008). Relationship of Work Hours With Selected Health Behaviors and Academic Progress Among a College Student Cohort. *Journal of American College Health*, *56*(6), 675-679. https://doi.org/10.3200/jach.56.6.675-679F

Morris, L. V., Finnegan, C., & Wu, S. (2005). Tracking student behavior, persistence, and achievement in online courses. *The Internet and Higher Education*, *8*(3), 221-231. doi:10.1016/j.iheduc.2005.06.009

Moten, J., Fitterer, A., Brazier, E., Leonard, J., & Brown, A. (2013). Examining online college cyber cheating methods and prevention measures. *The Electronic Journal of e-Learning*, *11*(2), 139-146.

Mounsey, R., VanDehey, M., & Diekhoff, G. (2013). Working and non-working university students: anxiety, depression, and grade point average. *College Student Journal*, *47*(2).

Nagai-Manellie, R., Lowden, A., De Castro Moreno, C. R., Teixeira, L. R., Da Luz, A. A., Mussi, M. H., & Fischer, F. M. (2011). Sleep length, working hours and socio-demographic variables are associated with time attending evening classes among working college students. *Sleep and Biological Rhythms*, *10*(1), 53-60. https://doi.org/10.1111/j.1479-8425.2011.00519.x

Ngo-Metzger, Q., Sorkin, D. H., Mangione, C. M., Gandek, B., & Hays, R. D. (2008). Evaluating the SF-36 health survey (Version 2) in older Vietnamese Americans. *Journal of Aging and Health*, *20*(4), 420-436. https://doi.org/10.1177/0898264308315855

Nicpon, M. F., Huser, L., Blanks, E. H., Sollenberger, S., Befort, C., & Kurpius, S. E. (2006). The relationship of loneliness and social support with college freshmen's academic performance and persistence. *Journal of College Student Retention: Research, Theory & Practice*, *8*(3), 345-358. https://doi.org/10.2190/a465-356m-7652-783r

Nomura, K., Nakao, M., Takeuchi, T., & Yano, E. (2009). Associations of insomnia with job strain, control, and support among male Japanese workers. *Sleep Medicine*, *10*(6), 626-629. https://doi.org/10.1016/j.sleep.2008.06.010

Nonis, S. A., & Hudson, G. I. (2006). Academic Performance of College Students: Influence of Time Spent Studying and Working. *Journal of Education for Business*, *81*(3), 151-159. https://doi.org/10.3200/joeb.81.3.151-159

Nounopoulos, A., Ashby, J. S., & Gilman, R. (2006). Coping resources, perfectionism, and academic performance among adolescents. *Psychology in the Schools, 43*(5), 613–622. https://doi.org/10.1002/pits.20167

Oldfield, J., Rodwell, J., Curry, L., & Marks, G. (2017). Psychological and demographic predictors of undergraduate non-attendance at university lectures and seminars. *Journal of Further and Higher Education*, *42*(4), 509-523. https://doi.org/10.1080/0309877x.2017.1301404

Oltmanns, T. F., Gleason, M. E., Klonsky, E. D., & Turkheimer, E. (2005). Meta-perception for pathological personality traits: Do we know when others think that we are difficult? *Consciousness and Cognition*, *14*(4), 739-751. https://doi.org/10.1016/j.concog.2005.07.001

Orwelius, L., Nilsson, M., Nilsson, E., Wenemark, M., Walfridsson, U., Lundström, M., & Kristenson, M. (2018). The Swedish RAND-36 health survey - reliability and responsiveness assessed in patient populations using Svensson's method for paired ordinal data. *Journal of Patient-Reported Outcomes*, *2*(1). https://doi.org/10.1186/s41687-018-0030-0

Oswalt, S. B., & Wyatt, T. J. (2011). Sexual Orientation and Differences in Mental Health, Stress, and Academic Performance in a National Sample of U.S. College Students. *Journal of Homosexuality*, *58*(9), 1255-1280. https://doi.org/10.1080/00918369.2011.605738

Oviatt, D. P., Baumann, M. R., Bennett, J. M., & Garza, R. T. (2017). Undesirable Effects of Working While in College: Work-School Conflict, Substance Use, and Health. *The Journal of Psychology*, *151*(5), 433-452. https://doi.org/10.1080/00223980.2017.1314927

Pagel, J. F., Forister, N., & Kwiatkowki, C. (2007). Adolescent sleep disturbance and school performance: the confounding variable of socioeconomics. *J Clin Sleep Med*, *15*(1), 19-23.

Park, Y., & Sprung, J. M. (2013). Work–school conflict and health outcomes: Beneficial resources for working college students. *Journal of Occupational Health Psychology*, *18*(4), 384-394. https://doi.org/10.1037/a0033614

Park, Y., & Sprung, J. M. (2014). Weekly work-school conflict, sleep quality, and fatigue: Recovery self-efficacy as a cross-level moderator. *Journal of Organizational Behavior*, *36*(1), 112-127. https://doi.org/10.1002/job.1953

Parmer, C., & East, D. (1993). Job satisfaction among support staff in twelve Ohio academic libraries. *College & Research Libraries*, *54*(1), 43-57. https://doi.org/10.5860/crl_54_01_43

Pedersen, D. E. (2012). Stress carry-over and college student health outcomes. *College Student Journal*, *46*(3), 620-627.

Perkinson-Gloor, N., Lemola, S., & Grob, A. (2013). Sleep duration, positive attitude toward life, and academic achievement: The role of daytime tiredness, behavioral persistence, and school start times. *Journal of Adolescence*, *36*(2), 311-318. https://doi.org/10.1016/j.adolescence.2012.11.008

Perna, L. W. (2010). *Understanding the Working College Student*. American Association of University Professors. https://www.aaup.org/article/understanding-working-college-student#.XnsO6ahKg2w

Pittman, L. D., & Richmond, A. (2007). Academic and psychological functioning in late adolescence: The importance of school belonging. *The Journal of Experimental Education*, *75*(4), 270-290. https://doi.org/10.3200/jexe.75.4.270-292

Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *The Journal of Experimental Education*, *76*(4), 343-362. https://doi.org/10.3200/jexe.76.4.343-362

Pritchard, M. E., & Wilson, G. S. (2003). Using Emotional and Social Factors to Predict Student Success. *Journal of College Student Development*, *44*(1), 18-28. https://doi.org/10.1353/csd.2003.0008

Pritchard, R. D., Dunnette, M. D., & Gorgenson, D. O. (1972). Effects of perceptions of equity and inequity on worker performance and satisfaction. *Journal of Applied Psychology*, *56*(1), 75-94. https://doi.org/10.1037/h0032135

Rabow, J., & Hernandez, A. C. (1988). The price of the "GPA perspective". *Youth & Society*, *19*(4), 363-377. https://doi.org/10.1177/0044118x88019004001

Racette, S. B., Deusinger, S. S., Strube, M. J., Highstein, G. R., & Deusinger, R. H. (2008). Changes in weight and health behaviors from freshman through senior year of

college. *Journal of Nutrition Education and Behavior*, *40*(1), 39-42. https://doi.org/10.1016/j.jneb.2007.01.001

Raskind, I. G., Haardörfer, R., & Berg, C. J. (2019). Food insecurity, psychosocial health and academic performance among college and university students in Georgia, USA. *Public Health Nutrition*, *22*(3), 476-485. https://doi.org/10.1017/s1368980018003439

Raud, Z., & Vodovozov, V. (2019). Advancements and restrictions of E-assessment in view of remote learning in engineering. *2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON)*. https://doi.org/10.1109/rtucon48111.2019.8982349

Raufelder, D., Kittler, F., Braun, S. R., Lätsch, A., Wilkinson, R. P., & Hoferichter, F. (2013). The interplay of perceived stress, self-determination and school engagement in adolescence. *School Psychology International*, *35*(4), 405-420. https://doi.org/10.1177/0143034313498953

Reese, G., Proch, J., & Cohrs, J. C. (2013). Individual differences in responses to global inequality. *Analyses of Social Issues and Public Policy*, *14*(1), 217-238. https://doi.org/10.1111/asap.12032

Reilly, J. E., & Fitzpatrick, J. J. (2009). Perceived stress and sense of belonging in doctor of nursing practice students. *Journal of Professional Nursing*, *25*(2), 81-86. https://doi.org/10.1016/j.profnurs.2008.10.002

Revicki, D. A., Sorensen, S., & Wu, A. W. (1998). Reliability and validity of physical and mental health summary scores from the medical outcomes study HIV health survey. *Medical Care*, *36*(2), 126-137. https://doi.org/10.1097/00005650-199802000-00003

Richardson, M., & Abraham, C. (2009). Conscientiousness and achievement motivation predict performance. *European Journal of Personality*, *23*(7), 589-605. https://doi.org/10.1002/per.732

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, *138*(2), 353-387. https://doi.org/10.1037/a0026838

Richardson, T., Elliott, P., & Roberts, R. (2017). Relationship between loneliness and mental health in students. *Journal of Public Mental Health*, *16*(2), 48-54. https://doi.org/10.1108/jpmh-03-2016-0013

Roberts, R., Golding, J., Towell, T., & Weinreb, I. (1999). The Effects of Economic Circumstances on British Students' Mental and Physical Health. *Journal of American College Health*, *48*(3), 103-109. https://doi.org/10.1080/07448489909595681

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology*, *88*(3), 408-422. https://doi.org/10.1037/0022-0663.88.3.408

Rosander, P., Bäckström, M., & Stenberg, G. (2011). Personality traits and general intelligence as predictors of academic performance: A structural equation modelling approach. *Learning and Individual Differences*, *21*(5), 590-596. https://doi.org/10.1016/j.lindif.2011.04.004

Rosenthal, D. A., Russell, J., & Thomson, G. (2006). The health and well-being of International students at an Australian university. *Higher Education*, *55*(1), 51-67.

Ross, S. E., Niebling, B. C., & Heckbert, T. M. (1999). Sources of stress among college students. *College Student Journal*, *33*(2), 312-317.

Rubin, M., Paolini, S., Subašić, E., & Giacomini, A. (2019). A confirmatory study of the relations between workplace sexism, sense of belonging, mental health, and job satisfaction among women in male-dominated industries. *Journal of Applied Social Psychology*, *49*(5), 267-282. https://doi.org/10.1111/jasp.12577

Ruta, D. (1998). Measuring health status in British patients with rheumatoid arthritis: Reliability, validity and responsiveness of the short form 36-item health survey (SF-36). *Rheumatology*, *37*(4), 425-436. https://doi.org/10.1093/rheumatology/37.4.425

Saboonchi, F., & Lundh, L. (1997). Perfectionism, self-consciousness and anxiety. *Personality and Individual Differences*, *22*(6), 921-928.

Saldana, J. (2016). The Coding Manual for Qualitative Researchers. Sage, Thousand Oaks, CA

Saris-Baglama, R. N., Dewey, C. J., Chisholm, G. B., Plumbo, E., King, J., Kosinski, M., Bjorner, J. B., & Ware, J. E. (2010, July). *QualityMetric Health Outcomes Scoring Software 4.0*. Optum® | PRO Insight. https://www.amihealthy.com/download/installationguide_scoringsoftwarev4.pdf

Sarrayrih, M. A., & IIyas, M. (2013). Challenges of online exam, performances and problems for online university exam. *International Journal of Computer Science*, *10*(1), 439-443.

Sauer, C., & Valet, P. (2013). Less is sometimes more: Consequences of overpayment on job satisfaction and absenteeism. *Social Justice Research*, *26*(2), 132-150. https://doi.org/10.1007/s11211-013-0182-2

Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in University students. *Journal of Cross-Cultural Psychology*, *33*(5), 464-481. https://doi.org/10.1177/0022022102033005003

Schmader, T., Major, B., & Gramzow, R. H. (2001). Coping with ethnic stereotypes in the academic domain: Perceived injustice and psychological disengagement. *Journal of Social Issues*, *57*(1), 93-111. https://doi.org/10.1111/0022-4537.00203

Schmitt, M., & Dörfel, M. (1999). Procedural injustice at work, justice sensitivity, job satisfaction and psychosomatic well-being. *European Journal of Social Psychology*, *29*(4), 443-453. https://doi.org/10.1002/(sici)1099-0992(199906)29:4<443::aid-ejsp935>3.0.co;2-c

Schraml, K., Perski, A., Grossi, G., & Makower, I. (2012). Chronic Stress and Its Consequences on Subsequent Academic Achievement among Adolescents. *Journal of Educational and Developmental Psychology*, *2*(1). https://doi.org/10.5539/jedp.v2n1p69

Schroeder, C. E. (n.d.). *Effects of Employment on Stress Levels in College Students*. http://www2.webster.edu/~hulsizer/research/Schroeder.pdf

Schunck, R., Sauer, C., & Valet, P. (2015). Unfair pay and health: The effects of perceived injustice of earnings on physical health. *European Sociological Review*, *31*(6), 655-666. https://doi.org/10.1093/esr/jcv065

Segrin, C., & Passalacqua, S. A. (2010). Functions of loneliness, social support, health behaviors, and stress in association with poor health. *Health Communication*, *25*(4), 312-322. https://doi.org/10.1080/10410231003773334

Severo, M., Santos, A. C., Lopes, C., & Barros, H. (2006). Reliability and validity in measuring physical and mental health construct of the Portuguese version of MOS SF-36. *Acta Med Port*, *19*(4), 281-288.

Shaughnessy, M. F., & Evans, R. (1986). Word/World knowledge: Prediction of college GPA. *Psychological Reports*, *59*(3), 1147-1150. https://doi.org/10.2466/pr0.1986.59.3.1147

Shaw, J. D., & Gupta, N. (2001). Pay fairness and employee outcomes: Exacerbation and attenuation effects of financial need. *Journal of Occupational and Organizational Psychology*, *74*(3), 299-320. https://doi.org/10.1348/096317901167370

Sheard, M. (2010). Hardiness commitment, gender, and age differentiate university academic performance. *British Journal of Educational Psychology*, *79*(1), 189-204. https://doi.org/10.1348/000709908x304406

Shochet, I. M., & Smith, C. L. (2014). A prospective study investigating the links among classroom environment, school connectedness, and depressive symptoms in adolescents. *Psychology in the Schools*, *51*(5), 480-492. https://doi.org/10.1002/pits.21759

Shoshani, A., & Eldor, L. (2016). The informal learning of teachers: Learning climate, job satisfaction and teachers' and students' motivation and well-being. *International Journal of Educational Research*, *79*, 52-63. https://doi.org/10.1016/j.ijer.2016.06.007

Singleton, R. A., & Wolfson, A. R. (2009). Alcohol consumption, sleep, and academic performance among college students. *Journal of Studies on Alcohol and Drugs*, *70*(3), 355-363. https://doi.org/10.15288/jsad.2009.70.355

Skodol, A. E. (2010). The resilient personality. In J. W. Reich, A. J. Zautra, & J. S. Hall (Eds.), *Handbook of adult resilience* (pp. 112–125). The Guilford Press.

Smith, H. J., Jaurique, A., & Ryan, D. (2016). The mistreatment of others: Discrimination can undermine university identification, student health, and engagement. *Social Justice Research*, *29*(4), 355-374. https://doi.org/10.1007/s11211-016-0274-x

Smith, K. M., Chesin, M. S., & Jeglic, E. L. (2014). Minority college student mental health: Does majority status matter? Implications for college counseling services. *Journal of Multicultural Counseling and Development*, *42*(2), 77-92. https://doi.org/10.1002/j.2161-1912.2014.00046.x

Smith, T., Wilson, D., Jones, D., Plett, M., Bates, R., & Veilleux, N. (2012). Investigation of belonging for engineering and science undergraduates by year in school. *2012 ASEE Annual Conference & Exposition Proceedings*. https://doi.org/10.18260/1-2--21615

Soderstrom, M., Dolbier, C. L., Leiferman, J., & SteinHardt, M. A. (2000). The Relationship of Hardiness, Coping Strategies, and Perceived Stress to Symptoms of Illness. *Journal of Behavioral Medicine*, *23*(3), 311-328. https://doi.org/10.1023/A:1005514310142

Soesmanto, T., & Bonner, S. (2019). Dual mode delivery in an introductory statistics course: Design and evaluation. *Journal of Statistics Education*, *27*(2), 90-98. https://doi.org/10.1080/10691898.2019.1608874

Sohail, N. (2012). Stress and Academic Performance Among Medical Students. *Journal of the College of Physicians and Surgeons Pakistan*, *23*(1), 67-71.

Soria, K. M., & Stebleton, M. (2013a). Major decisions: Motivations for selecting a major, satisfaction, and belonging. *NACADA Journal*, *33*(2), 29-43. https://doi.org/10.12930/nacada-13-018

Soria, K. M., & Stebleton, M. J. (2013b). Social Capital, Academic Engagement, and Sense of Belonging Among Working-Class College Students. *College Student Affairs Journal*, *31*(2), 139-153.

South Seattle College. (n.d.). *Student Financial Literacy Survey*. https://www.surveymonkey.com/r/VRFN7T3

Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. *American Journal of Community Psychology*, *13*(6), 693-713. https://doi.org/10.1007/bf00929796

Stewart, Lam, Betson, Wong, & Wong. (1999). A prospective analysis of stress and academic performance in the first two years of medical school. *Medical Education*, *33*(4), 243-250. https://doi.org/10.1046/j.1365-2923.1999.00294.x

Stoeber, Joachim and Childs, Julian H. (2011) Perfectionism. In: Levesque, Roger J. R., ed. Encyclopedia of adolescence. Springer, New York, pp. 2053-2059.

Stoeber, J., & Rambow, A. (2007). Perfectionism in adolescent school students: Relations with motivation, achievement, and well-being. *Personality and Individual Differences, 42*(7), 1379–1389. https://doi.org/10.1016/j.paid.2006.10.015

Stoddard, J., & Kaufman, J. (2020). Coronavirus Impact Scale. https://www.nlm.nih.gov/dr2/Coronavirus_Impact_Scale.pdf

Stoliker, B., & Lafreniere, K. (2015). The Influence of Perceived Stress, Loneliness, and Learning Burnout on University Students' Educational Experience. *College Student Journal*, *49*(1), 146-160.

Strahan, E. Y. (2003). The effects of social anxiety and social skills on academic performance. *Personality and Individual Differences*, *34*(2), 347-366. https://doi.org/10.1016/s0191-8869(02)00049-1

Strayhorn, T. L. (2007). Factors Influencing the Academic Achievement of First-Generation College Students. *Journal of Student Affairs Research and Practice*, *43*(4), 82-111. https://doi.org/10.2202/1949-6605.1724

Strayhorn, T. L. (2018). *College Students' Sense of Belonging: A Key to Educational Success for All Students*. Routledge.

Sun, S. H., & Zoriah, A. (2015). Assessing stress among undergraduate pharmacy students in University of Malaya. *Indian Journal of Pharmaceutical Education and Research*, *49*(2), 99-105. https://doi.org/10.5530/ijper.49.2.4

Sy, S. R. (2006). Family and Work Influences on the Transition to College Among Latina Adolescents. *Hispanic Journal of Behavioral Sciences*, *28*(3), 368-386. https://doi.org/10.1177/0739986306290372

Takalkar, P., & Coovert, M. D. (1994). International Replication Note The Dimensionality of Job Satisfaction in India. *Applied Psychology*, *43*(3), 415-426. https://doi.org/10.1111/j.1464-0597.1994.tb00837.x

Talib, N., & Zia-ur-Rehman, M. (2012). Academic Performance and Perceived Stress among University Students. *Educational Research and Reviews*, *7*, 127-132. https://doi.org/10.5897/ERR10.192

Tessema, M. T., Ready, K. J., & Astani, M. (2014). Does part-time job affect college students' satisfaction and academic performance (GPA)? The case of a mid-sized public

university. *International Journal of Business Administration*, *5*(2). https://doi.org/10.5430/ijba.v5n2p50

Thumboo, J., Feng, P., Boey, M., Soh, C., Thio, S., & Fong, K. (2000). Validation of the Chinese SF-36 for quality of life assessment in patients with systemic lupus erythematosus. *Lupus*, *9*(9), 708-712. https://doi.org/10.1191/096120300673421268

Towbes, L. C., & Cohen, L. H. (1996). Chronic stress in the lives of college students: Scale development and prospective prediction of distress. *Journal of Youth and Adolescence*, *25*(2), 199-217. https://doi.org/10.1007/bf01537344

Twenge, J. M. (2009). Generational changes and their impact in the classroom: teaching Generation Me. *Medical Education*, *43*(5), 398-405. https://doi.org/10.1111/j.1365-2923.2009.03310.x

U.S. Department of Education. (2015). *Fact Sheet: Focusing Higher Education on Student Success*. https://www.ed.gov/news/press-releases/fact-sheet-focusing-higher-education-student-success

Vaez, M., & Laflamme, L. (2008). Experienced stress, psychological symptoms, self-rated health and academic achievement: a longitudinal study of Swedish university students. *Social Behavior and Personality: an international journal*, *36*(2), 183-196. https://doi.org/10.2224/sbp.2008.36.2.183

Van der Heijden, K. B., Vermeulen, M. C., Donjacour, C. E., Gordijn, M. C., Hamburger, H. L., Meijer, A. M., Van Rijn, K. J., Vlak, M., & Weysen, T. (2017). Chronic sleep reduction is associated with academic achievement and study concentration in higher education students. *Journal of Sleep Research*, *27*(2), 165-174. https://doi.org/10.1111/jsr.12596

Van Horne, S., Lin, S., Anson, M., & Jacobson, W. (2018). Engagement, satisfaction, and belonging of international undergraduates at U.S. research universities. *Journal of International Students*, *8*(1), 351-374. https://doi.org/10.32674/jis.v8i1.169

Voelck, J. (1995). Job satisfaction among support staff in Michigan academic libraries. *College & Research Libraries*, *56*(2), 157-170. https://doi.org/10.5860/crl_56_02_157

Vyskocil-czajkowski, T. L., & Gilmore, S. A. (1992). Job satisfaction of selected institutional foodservice supervisors. *Foodservice Research International*, *7*(1), 29-41. https://doi.org/10.1111/j.1745-4506.1992.tb00199.x

Walpole, M. (2003). Socioeconomic Status and College: How SES Affects College Experiences and Outcomes. *The Review of Higher Education*, *27*(1), 45-73. https://doi.org/10.1353/rhe.2003.0044

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, *92*(1), 82-96. https://doi.org/10.1037/0022-3514.92.1.82

Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, *331*(6023), 1447-1451. https://doi.org/10.1126/science.1198364

Wang, H., Kong, M., Shan, W., & Vong, S. K. (2010). The effects of doing part-time jobs on college student academic performance and social life in a Chinese society. *Journal of Education and Work*, *23*(1), 79-94. https://doi.org/10.1080/13639080903418402

Ware, J. E., & Sherbourne, C. D. (1992). Erratum to the MOS 36-item short form health survey (SF-36): I. Conceptual framework. *PharmacoEconomics*, *2*(2), 98-98. https://doi.org/10.1007/bf03260127

Watson, D. (1982). The actor and the observer: How are their perceptions of causality divergent? *Psychological Bulletin, 92*(3), 682–700. https://doi.org/10.1037/0033-2909.92.3.682

Watts, C., & Pickering, A. (2000). Pay as you learn: Student employment and academic progress. *Education + Training*, *42*(3), 129-135. https://doi.org/10.1108/00400910010372670

Welman, J. C., & Basson, P. A. (1995). The interrelationship between the work experience of distance education students, job satisfaction, andacademic achievement. *SA Journal of Industrial Psychology*, *21*(1). https://doi.org/10.4102/sajip.v21i1.583

Williams, M., & Moser, T. (2019). The Art of Coding and Thematic Exploration in Qualitative Research. *International Management Review*, *15*(1), 45-55.

Willms, J. D. (2003). *PISA student engagement at school a sense of belonging and participation: Results from PISA 2000: A sense of belonging and participation: Results from PISA 2000*. OECD Publishing. http://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33689437.pdf

Winter-Collins, A., & McDaniel, A. M. (2000). Sense of belonging and new graduate job satisfaction. *Journal for Nurses in Staff Development (JNSD)*, *16*(3), 103-111. https://doi.org/10.1097/00124645-200005000-00002

Wise, D. A. (1975). Academic achievement and job performance. *American Economic Review*, *65*(3), 350-366.

Wulf, J. (2007). *Relationship Among Stress, Coping, Health, and GPA in Clinical Psychology Doctoral Students* (3388347) [Doctoral dissertation]. ProQuest Dissertations and Theses Global.

Wyatt, T., & Oswalt, S. B. (2013). Comparing Mental Health Issues Among Undergraduate and Graduate Students. *American Journal of Health Education*, *44*(2), 96-107. https://doi.org/10.1080/19325037.2013.764248

Yang, C., Wu, C., Hsieh, M., Liu, M., & Lu, F. (2003). Coping with Sleep Disturbances Among Young Adults: A Survey of First-Year College Students in Taiwan. *Behavioral Medicine*, *29*(3), 133-138. https://doi.org/10.1080/08964280309596066

Yang, Q., Huo, J., Li, J., & Jiang, Y. (2020). Research on the influence of the COVID-19 epidemic on work stress of returning workers in China: A study based on empirical analyses of industrial enterprises. *Work*, *67*(1), 67-79. https://doi.org/10.3233/wor-203253

Ye, F., & Wallace, T. L. (2013). Psychological sense of school membership scale. *Journal of Psychoeducational Assessment*, *32*(3), 202-215. https://doi.org/10.1177/0734282913504816

Ye, Z. J., Zhang, Z., Zhang, X. Y., Tang, Y., Chen, P., Liang, M. Z., Sun, Z., & Yu, Y. L. (2020). State or trait? Measuring resilience by generalisability theory in breast cancer. *European Journal of Oncology Nursing*, *46*, 101727. https://doi.org/10.1016/j.ejon.2020.101727

Yeung, N. (2013). "Conflict monitoring and cognitive control," in *The Oxford Handbook of Cognitive Neuroscience*, Vol. 2, eds K. N. Ochsner and S. Kosslyn (New York, NY: Oxford University Press), 275–299. doi: 10.1093/oxfordhb/9780199988709.013.0018

Young, A., & Fry, J. (2008). Metacognitive awareness and academic achievement in college students. *Journal of the Scholarship of Teaching and Learning*, *8*(2), 1-10.

Young, A. F., Russell, A., & Powers, J. R. (2004). The sense of belonging to a neighbourhood: Can it be measured and is it related to health and well being in older women? *Social Science & Medicine*, *59*(12), 2627-2637. https://doi.org/10.1016/j.socscimed.2004.05.001

You, S., Ritchey, K. M., Furlong, M. J., Shochet, I., & Boman, P. (2011). Examination of the latent structure of the psychological sense of school membership scale. *Journal of Psychoeducational Assessment*, *29*(3), 225-237. https://doi.org/10.1177/0734282910379968

Yuesti, A., Rustiarini, N. W., & Suryandari, N. N. (2020). Financial literacy in the COVID-19 pandemic: Pressure conditions in Indonesia. *Entrepreneurship and Sustainability Issues*, *8*(1), 884-898. https://doi.org/10.9770/jesi.2020.8.1(59)

Zhou, X., Zhu, H., Zhang, B., & Cai, T. (2013). Perceived social support as moderator of perfectionism, depression, and anxiety in college students. *Social Behavior and Personality: an international journal*, *41*(7), 1141-1152. https://doi.org/10.2224/sbp.2013.41.7.1141

Zumbrunn, S., McKim, C., Buhs, E., & Hawley, L. R. (2014). Support, belonging, motivation, and engagement in the college classroom: A mixed method study. *Instructional Science*, *42*(5), 661-684. https://doi.org/10.1007/s11251-014-9310-0

Table 1. Intraclass Correlations of Raters for Employment Factors That Interferes with Academic Performance

Themes	ICC	*F*	*p*	Lower	Upper
Work Environment Factors	0.89	9.50	< .001	0.86	0.92
Vitality Factors	0.93	15.27	< .001	0.91	0.95
Impaired Self-Regulation Factors	0.91	11.44	< .001	0.88	0.93
Mental Health Factors	0.84	6.29	< .001	0.79	0.88
Physical Health Factors	0.80	4.96	< .001	0.73	0.85
Financial Factors	0.94	15.8	< .001	0.92	0.95
Improved Self-Regulation Factors	1.00	-	< .001	-	-
No Impact on Academics	0.96	26.68	< .001	0.95	0.97

Note: the "-" indicates no *F* or *CI* values were computed due to the raters having a perfect correlation for the theme.

Table 2. Intraclass Correlations of Raters for How Dual Roles Impact Physical and Psychological Health

Themes	ICC	*F*	*p*	Lower	Upper
Vitality Impact	0.94	16.82	< .001	0.92	0.95
Mental Health Impact	0.88	8.61	< .001	0.85	0.91
Academic Engagement Impact	1.00	-	< .001	-	-
Physical Health Impact	0.86	7.23	< .001	0.82	0.90
Social Life Impact	0.97	38.88	< .001	0.97	0.98
Positive Health Impact	0.91	11.07	< .001	0.88	0.93
No Impact on Health	0.93	14.01	< .001	0.90	0.95

Note: the "-" indicates no *F* or *CI* values were computed due to the raters having a perfect correlation for the theme.

Table 3. Descriptive Statistics of Themes for Employment Factors That Interferes with Academic Performance

Themes	*n*	Frequency of Presence	Examples
Work Environment Factors	135	65.22%	Too many work hours; scheduling conflicts due to work; work schedule; coworker issues
Impaired self-regulation Factors	72	34.78%	Can't keep up with assignments; no time to study
Vitality Factors	38	18.36%	Being tired; not getting enough sleep
No Impact on Academics	23	11.11%	Reported employment did not affect academics
Financial Factors	14	6.76%	Having to work to pay bills; need money for school; having to give up time for money
Mental Health Factors	8	3.86%	Always stressed; experiencing a lot of pressure; always thinking of what needs to be done
Physical Health Factors	2	0.97%	Legs ache; backache; soreness
Improved self-regulation Factors	1	0.48%	Study more due to time between work and school

Table 4. Descriptive Statistics of Themes for How Dual Roles Impact Physical and Psychological Health

Themes	*n*	Frequency of Presence	Examples
Mental Health Impact	94	45.41%	Stressful to work and be a student; increases anxiety; causes depression; causes feelings of despair
Vitality Impact	81	39.13%	Is tiresome; always tired after work; feeling drained; exhausted; causes me to fall asleep during daily activities; disrupts my sleep schedule; causes sleep deprivation
Academic Engagement Impact	27	13.04%	Causes procrastination; too tired to do school work when I get home; loss of motivation to do school work; can't be as attentive to school; distracts from studying; can't pay attention or focus in class due to being tired from work; less time for studying; inability to focus on schoolwork due to having too many tasks.
Physical Health Impact	20	9.66%	Soreness from work; feet cramps; takes a toll on my body; causes headaches; no time to exercise; miss meals because of a busy schedule;
No Impact on Health	18	8.70%	Being a student and employee does not impact my health
Positive Impact on Health	17	8.21%	My job keeps me physically active; keeps me balanced; gives me independence; gives access to another social group; helps in advancing my career; improves my mood; keeps me busy; helps my resilience
Social Life Impact	11	5.31%	Not enough time to spend with friends; not enough time to go out; my relationships suffer; no time for a social life

Table 5. Intraclass Correlations of Raters for if the Black Lives Matter Movement has Impacted Academics or Employment

	ICC	*F*	*p*	Lower	Upper
Black Lives Matter Movement Impact	0.97	32.70	< .001	0.96	0.98

Table 6. Descriptive Statistics of Ratings for the Black Lives Matter Movement Impact on Academics or Employment

Ratings	*n*	Frequency of Presence	Examples
No Impact (0)	149	83.60%	No; It has not affected my employment or academics; Not really
Minor Impact (1)	24	13.60%	My job closed briefly due to riots; We now have open discussions about race issues in class; My job now notices Juneteenth; Some of my courses have now educated me more on racial slurs and stereotypes.
Substantial Impact (2)	5	2.80%	It has given me the professional goal of helping reform the police, which has impacted my academics; I lead a protest and was arrested, which caused me to miss work; I quit my job and dropped classes because my boss and teachers didn't support it; I was activated from the army reserve to stop riots which caused me to get behind in my class assignments.

Table 7. Sample Descriptive Statistics for Parametric Variables

Variables	*Median*	25th Percentile	75th Percentile	Minimum	Maximum
Semester GPA	3.48	3.00	3.81	0.00	4.00
Cumulative GPA	3.29	2.69	3.80	0.54	4.00
Semester Course Credit Hours Enrolled	14.00	12.00	16.00	4.00	20.00
Semester Course Credit Hours Completed	13.00	10.00	16.00	0.00	19.00
Career Course Credit Hours	46.50	29.25	87.00	3.00	161.00
Financial Responsibility	22.00	19.00	25.00	10.00	30.00
Work Hours	22.00	16.00	30.00	1.00	60.00
Study Hours	15.00	8.00	25.00	0.00	56.00

Note: financial responsibility ranges from 5-30, with 30 being very financially responsible.

Table 8. Sample Descriptive Statistics for Non-Parametric Variables

Variables		Count	Percentage
Age			
	17-25	195.00	94.20
	26-49	12.00	5.80
Gender			
	Male	46.00	22.20%
	Female	161.00	77.80%
Race			
	White	85.00	41.06%
	Black	26.00	12.56%
	Asian	40.00	19.32%
	Pacific Islander	7.00	3.38%
	American Indian/Native Alaskan	13.00	6.28%
	Multiracial	13.00	6.28%
	Other (Race)	22.00	10.53%
	Missing	1.00	0.48%
Hispanic/Latinx			
	Hispanic/Latinx	78.00	37.68%
	Non-Hispanic/Latinx	129.00	62.32%
Student Classification			
	Freshman	54.00	26.10%
	Sophomore	73.00	35.30%
	Junior	33.00	15.90%
	Senior	47.00	22.70%
First Generation Student			
	First Generation Student	103.00	49.76%
	College Educated Parent(s)	104.00	50.24%

table continues

Variables		Count	Percentage
International or Domestic Student			
	International Students	3.00	1.45%
	Domestic Students	204.00	98.55%
Full or Part-Time Student			
	Full-Time Student	178.00	85.99%
	Part-Time Student	29.00	11.59%
On or Off-Campus Employment			
	On-Campus Employment	16.00	7.73%
	Off-Campus Employment	191.00	92.27%
Family Annual Income			
	Less than $20,000	33.00	15.94%
	$20,000 - $39,999	48.00	23.19%
	$40,000 - $59,999	22.00	10.63%
	$60,000 - $79,999	26.00	12.56%
	$80,000 - $99,999	20.00	9.66%
	$100,000 - $149,999	27.00	13.04%
	$150,000 +	26.00	12.56%
	Missing	5.00	2.42%
Pell Grant Recipient			
	Received Pell Grant	88.00	42.51%
	Did Not Receive Pell Grant	98.00	47.34%
	Missing	21.00	10.14%

Table 9. Correlation Matrix of Work Demands, Psychosocial Factors, Health Outcomes, and Academic Performance Measures

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Work Hours	-											
2. Work-School Conflict	.323**											
3. Job Satisfaction	.015	-.274**										
4. Sense of Belonging	.048	-.172*	.321**									
5. Perceived Injustice	-.035	.233**	-.248**	-.255**								
6. Physical Health	-.088	-.090	.216**	.117	-.001							
7. Mental Health	.018	-.288**	.095	.311**	-.250**	-.306**						
8. Sleep Quality	.07	.299**	-.169*	-.191*	.288*	-.151	-.420**					
9. Perceived Stress	-.059	.327**	-.126	-.350**	.378**	.053	-.605**	.439**				
10. Semester GPA	-.177*	-.010	-.038	.162	-.001	.059	.099	-.114	-.095			
11. Semester Credit Hours Completed	-.261**	.018	-.049	.113	-.023	.120	-.031	-.175*	-.091	.360**		

table continues

Variables	1	2	3	4	5	6	7	8	9	10	11	12
12. Study Hours	-.060	-.032	.031	.107	.053	.113	-.141	.020	-.022	.074	.174*	
13. Student Engagement	.138	.081	.101	.439**	-.219**	-.112	.179*	-.063	-.298**	.198*	.111	.260**

Note: *$p < .05$, **$p < .01$.

Table 10. Hierarchical Regression Models for Work Demands Predicting Academic Measures

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	16.16**	.73	10.96	-	-
	Model 2	13.92**	.74	11.03	.00	0.47
Semester Credit Hours Completed	Model 1	5.21**	.47	1226.79	-	-
	Model 2	4.43**	.00	1241.29	.00	0.09
Study Hours	Model 1	0.95	.13	1.51	-	-
	Model 2	0.91	.14	1.50	.02	0.72
Student Engagement	Model 1	2.50**	.28	13.07	-	-
	Model 2	2.26**	.29	13.11	.01	0.73

Note: *$p < .05$, **$p < .01$.

Table 11. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Semester GPA

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	0.14	0.69	.839	.01
	Financial Responsibility	-0.10	0.24	.681	-.02
	BLM Movement Impact	0.40	2.35	.865	.01
	COVID-19 Impact	0.05	0.18	.761	.01
	Student Class	1.57	1.03	.132	.07
	Black/African American	-0.14	3.76	.970	.00
	Asian	5.25	3.14	.097	.08
	Pacific Islander	5.69	5.42	.296	.05
	Native American	5.52	4.10	.180	.06
	Multiracial	6.11	4.38	.166	.07
	Other Race	3.35	3.82	.383	.04
	International Student	-21.01	12.72	.101	-.08
	Gender	-0.31	2.46	.900	-.01
	Age	8.93	5.32	.096	.08
	First Generation Student	1.32	2.34	.573	.03
	Full-Time Student	-2.03	3.43	.555	-.03
	On Campus Employment	1.58	4.02	.694	.02
	Hispanic Ethnicity	-1.21	2.86	.674	-.02
	Pell Grant Recipient	0.92	2.61	.725	.02
	Cumulative GPA	0.83	0.06	< .001**	.72
Independent Variables					
	Work Hours	-0.02	0.11	.854	-.01
	Work-School Conflict	0.24	0.27	.374	.04
	Job Satisfaction	0.05	0.04	.295	.05

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 12. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Semester Credit Hours Completed

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	82.70	77.69	.289	.07
	Financial Responsibility	-13.45	26.64	.615	-.03
	BLM Movement Impact	445.29	263.85	.094	.11
	COVID-19 Impact	-24.46	20.25	.229	-.08
	Student Class	148.40	116.28	.204	.09
	Black/African American	-335.85	423.11	.429	-.05
	Asian	204.80	352.97	.563	.04
	Pacific Islander	-188.33	610.14	.758	-.02
	Native American	266.97	460.95	.564	.04
	Multiracial	-477.23	492.63	.335	-.07
	Other Race	133.06	430.35	.758	.02
	International Student	168.85	1431.10	.906	.01
	Gender	94.51	277.16	.734	.02
	Age	-1102.07	599.08	.068	-.13
	First Generation Student	36.54	263.25	.890	.01
	Full-Time Student	1683.05	385.49	< .001**	.30
	On Campus Employment	377.00	451.94	.406	.06
	Hispanic Ethnicity	89.97	321.51	.780	.02
	Pell Grant Recipient	-319.83	293.73	.279	-.07
	Cumulative GPA	29.55	6.20	< .001**	.32

table continues

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Independent Variables					
	Work Hours	-3.43	12.50	.784	-.02
	Work-School Conflict	11.79	30.65	.701	.03
	Job Satisfaction	-0.83	4.96	.868	-.01

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 13. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Study Hours

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	-0.11	0.08	.167	-.11
	Financial Responsibility	-0.04	0.03	.185	-.11
	BLM Movement Impact	-0.18	0.31	.551	-.05
	COVID-19 Impact	0.04	0.02	.107	.13
	Student Class	0.18	0.13	.181	.11
	Black/African American	0.47	0.44	.291	.09
	Asian	0.44	0.40	.275	.09
	Pacific Islander	-0.99	0.73	.178	-.11
	Native American	1.07	0.55	.055	.16
	Multiracial	0.01	0.56	.980	.00
	Other Race	0.87	0.49	.075	.15
	International Student	-1.98	1.69	.244	-.10
	Gender	-0.30	0.32	.343	-.08
	Age	-0.57	0.66	.387	-.07
	First Generation Student	-0.20	0.29	.495	-.06
	Full-Time Student	0.27	0.40	.501	.06
	On Campus Employment	0.21	0.52	.686	.03
	Hispanic Ethnicity	-0.26	0.37	.491	-.06
	Pell Grant Recipient	-0.30	0.32	.341	-.08
	Cumulative GPA	0.01	0.01	.367	.07
Independent Variables					
	Work Hours	-0.01	0.01	.409	-.07
	Work-School Conflict	-0.02	0.03	.586	-.04

table continues

Variable Type	Variable	*B*	*SE*	*p*	sr^2
	Job Satisfaction	0.00	0.01	.434	.06

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 14. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Student Engagement

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	-0.08	0.72	.909	-.01
	Financial Responsibility	0.66	0.26	.013*	.19
	BLM Movement Impact	6.60	2.69	.016*	.18
	COVID-19 Impact	0.14	0.20	.494	.05
	Student Class	0.59	1.18	.615	.04
	Black/African American	-4.85	3.89	.215	-.09
	Asian	0.39	3.49	.912	.01
	Pacific Islander	-12.58	6.42	.052	-.15
	Native American	-0.18	4.83	.970	.00
	Multiracial	-3.51	4.90	.475	-.05
	Other Race	3.24	4.49	.471	.05
	International Student	-14.36	14.82	.334	-.07
	Gender	-2.14	2.77	.442	-.06
	Age	5.25	5.80	.367	.07
	First Generation Student	4.58	2.60	.080	.13
	Full-Time Student	-0.47	3.49	.893	-.01
	On Campus Employment	3.72	4.55	.415	.06
	Hispanic Ethnicity	-3.82	3.24	.241	-.09
	Pell Grant Recipient	4.03	2.80	.153	.11
	Cumulative GPA	0.21	0.06	.001**	.25
Independent Variables					
	Work Hours	-0.09	0.12	.473	-.05
	Work-School Conflict	0.00	0.28	.986	.00
	Job Satisfaction	0.06	0.05	.208	.09

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 15. Hierarchical Regression Models for Work Demands Predicting Health Outcomes

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Physical Health	Model 1	1.94*	.23	0.80	-	-
	Model 2	1.92*	.26	0.79	.03	1.64
Mental Health	Model 1	1.33	.17	1.19	-	-
	Model 2	1.45	.21	1.17	.04	2.02
Sleep Quality	Model 1	1.35	.19	3.15	-	-
	Model 2	1.77*	.26	3.05	.07	3.88*
Perceived Stress	Model 1	1.89*	.23	5.54	-	-
	Model 2	2.26**	.29	5.36	.07	3.85*

Note: *$p < .05$, **$p < .01$.

Table 16. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Physical Health

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	0.01	0.04	.886	.01
	Financial Responsibility	-0.02	0.02	.226	-.09
	BLM Movement Impact	-0.12	0.16	.464	-.06
	COVID-19 Impact	-0.02	0.01	.079	-.14
	Student Class	0.13	0.07	.065	.14
	Black/African American	-0.51	0.24	.033*	-.17
	Asian	-0.21	0.21	.316	-.08
	Pacific Islander	0.61	0.39	.116	012
	Native American	0.22	0.29	.462	.06
	Multiracial	-0.18	0.30	.550	-.05
	Other Race	-0.60	0.26	.020*	-.18
	International Student	-0.35	0.89	.695	-.03
	Gender	-0.23	0.17	.177	-.10
	Age	0.27	0.36	.451	.06
	First Generation Student	-0.18	0.16	.263	-.09
	Full-Time Student	0.01	0.21	.955	.00
	On Campus Employment	-0.17	0.27	.529	-.05
	Hispanic Ethnicity	0.13	0.20	.512	.05
	Pell Grant Recipient	-0.02	0.17	.919	-.01
	Cumulative GPA	0.00	0.00	.962	.00
Independent Variables					
	Work Hours	0.00	0.01	.942	-.01
	Work-School Conflict	-0.02	0.02	.164	-.11
	Job Satisfaction	0.00	0.00	.199	.10

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 17. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Mental Health

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	-0.09	0.06	.185	.01
	Financial Responsibility	0.04	0.02	.139	-.09
	BLM Movement Impact	0.29	0.24	.235	-.06
	COVID-19 Impact	-0.03	0.02	.134	-.14
	Student Class	-0.07	0.10	.490	.14
	Black/African American	0.12	0.35	.736	-.17
	Asian	0.11	0.31	.734	-.08
	Pacific Islander	0.32	0.57	.575	.12
	Native American	0.29	0.43	.503	.06
	Multiracial	-0.44	0.44	.316	-.05
	Other Race	-0.32	0.38	.399	-.18
	International Student	0.48	1.32	.718	-.03
	Gender	0.60	0.25	.017*	-.10
	Age	-0.27	0.53	.610	.06
	First Generation Student	-0.05	0.23	.825	-.09
	Full-Time Student	0.09	0.31	.779	.00
	On Campus Employment	-0.10	0.41	.805	-.05
	Hispanic Ethnicity	0.28	0.29	.338	.05
	Pell Grant Recipient	-0.18	0.25	.479	-.01
	Cumulative GPA	0.01	0.01	.293	.00
Independent Variables					
	Work Hours	0.01	0.01	.409	-.01
	Work-School Conflict	-0.04	0.03	.092	-.11
	Job Satisfaction	0.01	0.00	.207	.10

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 18. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Sleep Quality

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	0.16	0.17	.344	.08
	Financial Responsibility	0.00	0.06	.965	.00
	BLM Movement Impact	0.05	0.69	.948	.01
	COVID-19 Impact	0.08	0.05	.105	.13
	Student Class	0.06	0.28	.825	.02
	Black/African American	1.55	0.99	.118	.13
	Asian	-1.17	0.82	.158	-.11
	Pacific Islander	-0.70	1.50	.641	-.04
	Native American	-1.23	1.19	.300	-.08
	Multiracial	0.85	1.25	.499	.05
	Other Race	0.44	1.05	.678	.03
	International Student	-1.02	3.47	.769	-.02
	Gender	-0.67	0.67	.324	-.08
	Age	2.12	1.35	.120	.13
	First Generation Student	0.47	0.62	.448	.06
	Full-Time Student	-0.07	0.84	.937	-.01
	On Campus Employment	0.67	1.10	.544	.05
	Hispanic Ethnicity	-0.71	0.79	.375	-.07
	Pell Grant Recipient	1.00	0.67	.138	.12
	Cumulative GPA	-0.01	0.01	.583	-.04
Independent Variables					
	Work Hours	-0.01	0.03	.657	-.04
	Work-School Conflict	0.08	0.07	.231	.10
	Job Satisfaction	-0.03	0.01	.007**	-.22

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 19. Hierarchical Regression Coefficients from the Final Step of Work Demands Predicting Perceived Stress

Variable Type	Variable	*B*	*SE*	*p*	sr^2
Covariates					
	Income	0.12	0.29	.672	.03
	Financial Responsibility	-0.07	0.11	.506	-.05
	BLM Movement Impact	-1.49	1.11	.183	-.10
	COVID-19 Impact	0.16	0.08	.063	.14
	Student Class	-0.30	0.48	.526	-.05
	Black/African American	0.37	1.60	.816	.02
	Asian	0.59	1.43	.683	.03
	Pacific Islander	5.68	2.87	.050*	.15
	Native American	-1.13	1.98	.570	-.04
	Multiracial	1.14	2.01	.571	.04
	Other Race	1.57	1.77	.376	.07
	International Student	-0.42	6.07	.945	-.01
	Gender	-4.05	1.14	.001**	-.27
	Age	-0.48	2.37	.839	-.02
	First Generation Student	-0.24	1.05	.824	-.02
	Full-Time Student	-0.40	1.46	.783	-.02
	On Campus Employment	0.35	1.86	.852	.01
	Hispanic Ethnicity	0.59	1.33	.662	.03
	Pell Grant Recipient	-0.90	1.16	.439	-.06
	Cumulative GPA	0.00	0.02	.870	.01
Independent Variables					
	Work Hours	-0.04	0.05	.414	-.06
	Work-School Conflict	0.33	0.11	.005**	.22
	Job Satisfaction	-0.02	0.02	.288	-.08

Note: white/Caucasian was used as the reference race for dummy coding; *$p < .05$, **$p < .01$.

Table 20. Regression Models for Work Demands and Covariates Predicting Psychosocial Factors

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Sense of Belonging	Model 1	0.85	.11	9.46	-	-
	Model 2	1.26	.19	9.18	.07	3.68*
Perceived Injustice	Model 1	1.22	.16	5.57	-	-
	Model 2	1.85*	.25	5.32	.09	5.32**

Note: *$p < .05$, **$p < .01$.

Table 21. Significant Individual Predictors from Work Demands and Covariates Predicting Psychosocial Factors

Dependent Variable	Variable Type	Variable	*B*	*SE*	*p*	sr^2
Sense of Belonging	Independent Variable	Work-School Conflict	-0.42	0.19	.033*	-.17
Perceived Injustice	Independent Variable	Job Satisfaction	-0.06	0.02	.001**	-.26

Note: *$p < .05$, **$p < .01$.

Table 22. Regression Models for Sense of Belonging Predicting Academic Performance While Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	16.33**	.71	11.05	-	-
	Model 2	15.57**	.72	11.06	.00	0.85
Semester Credit Hours Completed	Model 1	5.64**	.46	1215.01	-	-
	Model 2	5.43**	.47	1214.67	.00	0.30
Study Hours	Model 1	0.97	.12	1.47	-	-
	Model 2	0.96	.12	1.48	.00	0.61
Student Engagement	Model 1	2.52**	.26	13.63	-	-
	Model 2	3.75**	.36	12.77	.10	21.98**

Note: *$p < .05$, **$p < .01$.

Table 23. Regression Models for Perceived Injustice Predicting Academic Performance While Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	16.33**	.71	11.05	-	-
	Model 2	15.58**	.72	11.06	.00	0.92
Semester Credit Hours Completed	Model 1	5.64**	.46	1215.01	-	-
	Model 2	5.34**	.46	1218.78	.00	0.66
Study Hours	Model 1	0.97	.12	1.47	-	-
	Model 2	0.99	.13	1.47	.01	1.19
Student Engagement	Model 1	2.52**	.26	13.63	-	-
	Model 2	2.95**	.30	13.28	.04	8.81**

Note: *$p < .05$, **$p < .01$.

Table 24. Coefficients for Psychosocial Factors Predicting Academic Performance

Dependent Variable	Independent Variable	*B*	*SE*	*p*	sr^2
Semester GPA	Sense of Belonging	0.09	0.10	.359	.04
	Perceived Injustice	-0.16	.17	.339	-.05
Semester Credit Hour Completed	Sense of Belonging	11.49	11.09	.302	.07
	Perceived Injustice	-8.21	18.73	.662	-.03
Study Hours	Sense of Belonging	0.01	0.01	.607	.04
	Perceived Injustice	0.03	0.02	.278	.09
Student Engagement	Sense of Belonging	0.52	0.11	< .001**	.31
	Perceived Injustice	-0.61	0.21	.004**	-.21

Note. *$p < .05$, **$p < .01$

Table 25. Regression Models for Sense of Belonging Predicting Health Outcomes While Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Physical Health	Model 1	2.09**	.22	0.80	-	-
	Model 2	2.00**	.23	0.81	.00	0.33
Mental Health	Model 1	1.61	.18	1.17	-	-
	Model 2	2.10**	.23	1.14	.05	9.91**
Sleep Quality	Model 1	1.53	.19	3.12	-	-
	Model 2	1.63	.21	3.09	.02	3.14
Perceived Stress	Model 1	2.27**	.24	5.72	-	-
	Model 2	3.03**	.31	5.47	.07	13.95**

Note. *$p < .05$, **$p < .01$.

Table 26. Regression Models for Perceived Injustice Predicting Health Outcomes While Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Physical Health	Model 1	2.09**	.22	0.80	-	-
	Model 2	2.00**	.23	0.81	.00	0.26
Mental Health	Model 1	1.61	.18	1.17	-	-
	Model 2	2.13**	.24	1.14	.06	10.47**
Sleep Quality	Model 1	1.53	.19	3.12	-	-
	Model 2	2.14**	.25	3.00	.07	11.88**
Perceived Stress	Model 1	2.27**	.24	5.72	-	-
	Model 2	3.10**	.32	5.45	.07	15.17**

Note. *$p < .05$, **$p < .01$.

Table 27. Coefficients for Psychosocial Factors Predicting Health Outcomes

Dependent Variable	Independent Variable	*B*	*SE*	*p*	sr^2
Physical Health	Sense of Belonging	0.00	0.01	.567	.04
	Perceived Injustice	-0.01	0.01	.612	-.04
Mental Health	Sense of Belonging	0.03	0.01	.002**	.23
	Perceived Injustice	-0.06	0.02	.002**	-.24
Sleep Quality	Sense of Belonging	-0.05	0.03	.079	-.14
	Perceived Injustice	0.16	0.05	.001**	.26
Perceived Stress	Sense of Belonging	-0.18	0.05	< .001**	-.26
	Perceived Injustice	0.32	0.08	< .001**	.27

Note: *$p < .05$, **$p < .01$.

Table 28. Total Effect Regression Models for Job Satisfaction Indirect Effects on Sleep Quality Through Perceived Injustice

Dependent Variable	*F*	R^2	*SE*	*p*
Sleep Quality	1.76	.26	9.27	.027*

Note: *$p < .05$, **$p < .01$.

Table 29. Significant Individual Predictors for the Total Effect Model of Job Satisfaction Predicting Sleep Quality Through Perceived Injustice

Dependent Variable	Variable Type	Variable	*B*	*SE*	*p*	LLCI	ULCI
Sleep Quality	Independent Variable	Job Satisfaction	-0.03	0.01	.007**	-0.05	-0.01

Note: *$p < .05$, **$p < .01$.

Table 30. Direct Effects Between Job Satisfaction Predicting Sleep Quality with Perceived Injustice as the Mediator

Dependent Variable	Independent Variable	Direct Effects	*SE*	*p*	LLCI	ULCI	PM
Sleep Quality	Job Satisfaction	-0.02	0.01	.037*	-0.05	-0.01	0.77

Note: *$p < .05$, **$p < .01$.

Table 31. Indirect Effects Between Job Satisfaction and Sleep Quality Through Perceived Injustice

Independent Variable	Mediator	Indirect Effects	*SE*	LLCI	ULCI	PM
Job Satisfaction	Perceived Injustice	-0.01*	0.00	-0.02	0.00	0.22

Note: Perceived injustice had a mediating role in the relationship between job satisfaction and sleep quality. The CI was -0.0460 lower limit to -0.0014 upper limit but was rounded to two decimal places in the table; *$p < .05$

Table 32. Total Effect Regression Models for Work-School Conflict Indirect Effects on Perceived Stress Through Sense of Belonging

Dependent Variable	*F*	R^2	*SE*	*p*
Perceived Stress	2.26	.29	28.77	.002**

Note: *$p < .05$, **$p < .01$.

Table 30. Direct Effects Between Work-School Conflict Predicting Perceived Stress with Sense of Belonging as the Mediator

Dependent Variable	Independent Variable	Direct Effects	SE	*p*	LLCI	ULCI	PM
Perceived Stress	Work-School Conflict	0.26	0.11	.022*	0.04	0.48	0.80

Note: *$p < .05$, **$p < .01$.

Table 35. Indirect Effects Between Work-School Conflict and Perceived Stress Through Sense of Belonging

Dependent Variable	Independent Variable	Mediator	Indirect Effects	*SE*	LLCI	ULCI	PM
Perceived Stress	Work-School Conflict	Sense of Belonging	0.07	0.04	0.00	0.17	0.20

Note: *$p < .05$

Table 36. Regression Models for Physical Health Predicting Academic Performance While Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	16.30**	.72	11.07	-	-
	Model 2	15.41**	.72	11.11	.00	0.99
Semester Credit Hours Completed	Model 1	5.46**	.46	1219.63	-	-
	Model 2	5.31**	.46	1215.98	.01	1.78
Study Hours	Model 1	0.91	.11	1.48	-	-
	Model 2	0.98	.13	1.47	.01	2.21
Student Engagement	Model 1	2.70**	.27	13.53	-	-
	Model 2	3.80**	.29	13.40	.02	3.87

Note. *$p < .05$, **$p < .01$.

Table 37. Regression Models for Mental Health Predicting Academic Performance Why Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	16.30**	.72	11.07	-	-
	Model 2	15.67**	.72	11.04	.00	1.58
Semester Credit Hours Completed	Model 1	5.46**	.46	1219.63	-	-
	Model 2	5.37**	.47	1213.27	.01	2.37
Study Hours	Model 1	0.91	.11	1.48	-	-
	Model 2	0.98	.13	1.47	.01	2.29
Student Engagement	Model 1	2.70**	.27	13.53	-	-
	Model 2	3.45**	.34	12.97	.06	13.76**

Note. *$p < .05$, **$p < .01$.

Table 38. Regression Models for Sleep Quality Predicting Academic Performance Why Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	17.44**	.75	10.54	-	-
	Model 2	16.94**	.75	10.47	.01	2.52
Semester Credit Hours Completed	Model 1	5.53**	.48	1207.07	-	-
	Model 2	5.23**	.48	1212.22	.00	0.00
Study Hours	Model 1	0.93	.13	1.49	-	-
	Model 2	0.91	.13	1.49	.00	0.55
Student Engagement	Model 1	2.39**	.27	13.95	-	-
	Model 2	2.38**	.28	13.90	.01	1.89

Note. *$p < .05$, **$p < .01$.

Table 39. Regression Models for Perceived Stress Predicting Academic Performance Why Controlling for Covariates

Dependent Variables	Model	*F*	R^2	*SEE*	ΔR^2	ΔF
Semester GPA	Model 1	16.18**	.72	11.09	-	-
	Model 2	16.04**	.73	10.94	.01	4.49*
Semester Credit Hours Completed	Model 1	5.55**	.47	1224.70	-	-
	Model 2	5.25**	.47	1229.43	.00	0.03
Study Hours	Model 1	0.92	.12	1.48	-	-
	Model 2	0.89	.12	1.49	.00	0.06
Student Engagement	Model 1	2.75**	.28	13.54	-	-
	Model 2	3.60**	.35	12.91	.07	15.13

Note. *$p < .05$, **$p < .01$.

Table 40. Coefficients for Health Outcomes Predicting Academic Performance

Dependent Variable	Independent Variable	*B*	*SE*	*p*	sr^2
Semester GPA	Physical Health	-0.20	1.18	.987	.00
	Mental Health	1.04	0.83	.211	.06
	Sleep Quality	-0.50	0.31	.115	-.07
	Perceived Stress	-0.36	0.17	.036*	-.10
Semester Credit Hour Completed	Physical Health	172.79	129.46	.184	.09
	Mental Health	-139.64	90.75	.126	-.10
	Sleep Quality	0.03	36.06	.999	.00
	Perceived Stress	-3.02	19.19	.875	-.01

table continues

Dependent Variable	Independent Variable	*B*	*SE*	*p*	sr^2
Study Hours	Physical Health	0.23	0.15	.139	.12
	Mental Health	-0.16	0.10	.133	-.12
	Sleep Quality	0.03	0.04	.462	.06
	Perceived Stress	0.01	0.02	0.81	.02
Student Engagement	Physical Health	-2.73	1.39	.051	-.14
	Mental Health	3.49	0.94	< .001**	.25
	Sleep Quality	-0.54	0.39	.172	-.10
	Perceived Stress	-0.75	0.19	< .001**	-.27

Note: *$p < .05$, **$p < .01$.

Table 41. Group Differences of Qualitative Themes Involving How Work Demands Impact Academic Performance

Dependent Variables	Theme	*F*	*p*	η_p^2
Semester GPA	Work Environment Factors	3.96	.049*	.03
	Impaired Self-Regulation Factors	6.29	.013*	.05
	Vitality Factors	5.38	.022*	.04
	No Impact	0.77	.382	.01
Semester Credit Hours Completed	Work Environment Factors	1.45	.231	.01
	Impaired Self-Regulation Factors	0.04	.837	.00
	Vitality Factors	0.11	.739	.00
	No Impact	0.12	.732	.00
Study Hours	Work Environment Factors	0.30	.586	.00
	Impaired Self-Regulation Factors	0.03	.864	.00
	Vitality Factors	1.35	.248	.01
	No Impact	0.00	.999	0.00
Student Engagement	Work Environment Factors	0.02	.894	.00
	Impaired Self-Regulation Factors	2.53	.114	.02
	Vitality Factors	0.12	.745	.00
	No Impact	2.23	.138	.02

Note: *$p < .05$, **$p < .01$.

Table 42. Relationships Between the Themes of How Dual Roles Impact Health and Academic Performance

Dependent Variables	Theme	*r*	*p*	r^2
Semester GPA	Mental Health Impact	.027	.733	.001
	Vitality Impact	.006	.939	< .001
	Academic Engagement Impact	-.093	.235	.009
	Physical Health Impact	.034	.668	.001
	No Impact on Health	-.12	.128	.014
	Positive Impact on Health	.187	.017*	.035
	Social Life Impact	.035	.653	.001
	Total Negative Health Impact Themes	.005	.945	< .001
Semester Credit Hours Completed	Mental Health Impact	-.032	.682	.001
	Vitality Impact	-.044	.575	.002
	Academic Engagement Impact	.061	.438	.004
	Physical Health Impact	-.047	.550	.002
	No Impact on Health	-.083	.291	.007
	Positive Impact on Health	.216	.006**	.047
	Social Life Impact	-.064	.420	.004
	Total Negative Health Impact Themes	-.053	.498	.003

table continues

Dependent Variables	Theme	*r*	*p*	r^2
Study Hours	Mental Health Impact	.170	.030*	.029
	Vitality Impact	-.002	.984	< .001
	Academic Engagement Impact	.002	.980	< .001
	Physical Health Impact	-.006	.940	< .001
	No Impact on Health	-.108	.171	.012
	Positive Impact on Health	-.017	.826	< .001
	Social Life Impact	-.021	.787	< .001
	Total Negative Health Impact Themes	.091	.250	.008
Student Engagement	Mental Health Impact	.115	.142	.013
	Vitality Impact	-.064	.420	.004
	Academic Engagement Impact	.092	0.008	.010
	Physical Health Impact	.125	.113	.016
	No Impact on Health	-.060	.444	.004
	Positive Impact on Health	-.034	.669	.001
	Social Life Impact	.046	.561	.002
	Total Negative Health Impact Themes	.118	.132	.014

Note: $N = 163$; *$p < .05$, **$p < .01$.

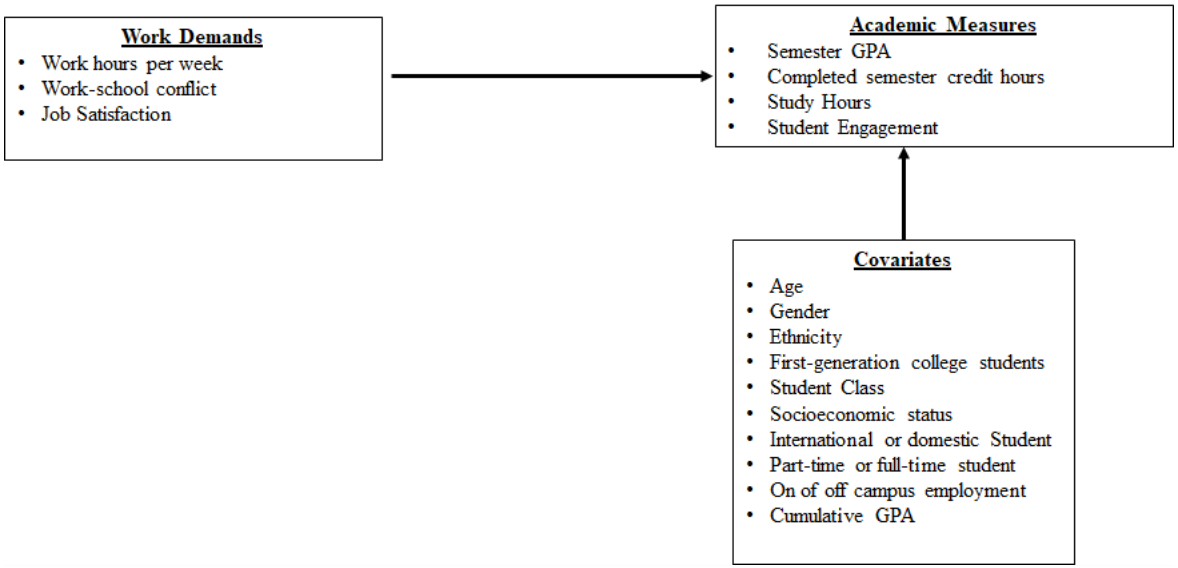


Figure 1. *Visual model of Hypothesis One*

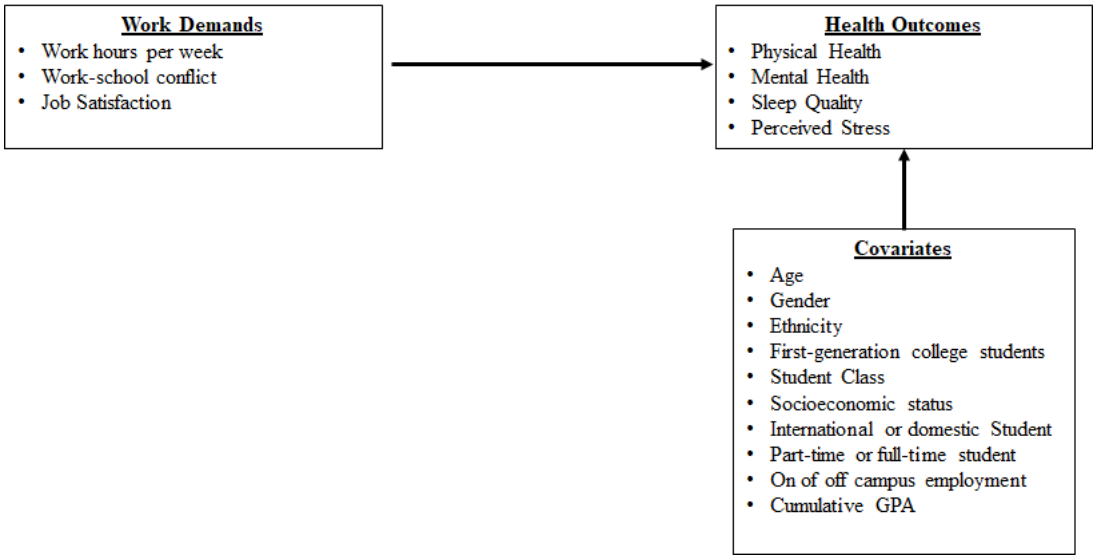


Figure 2. *Visual model of Hypothesis Two*

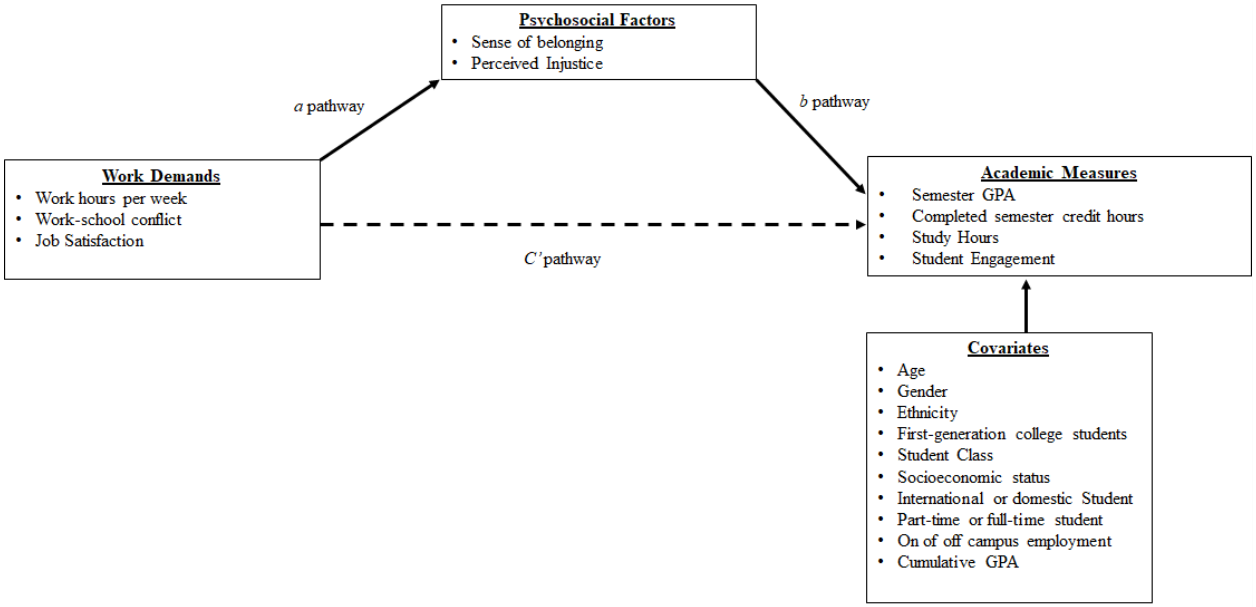


Figure 3. *Visual model of Hypothesis Three*

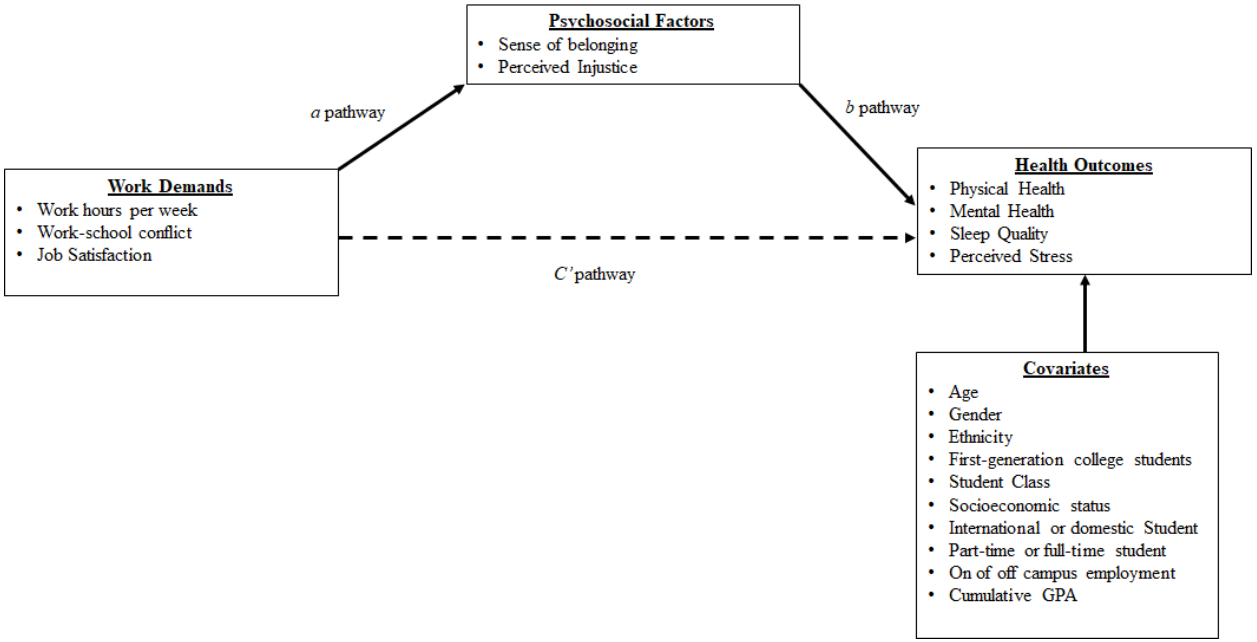


Figure 4. *Visual model of Hypothesis Four*

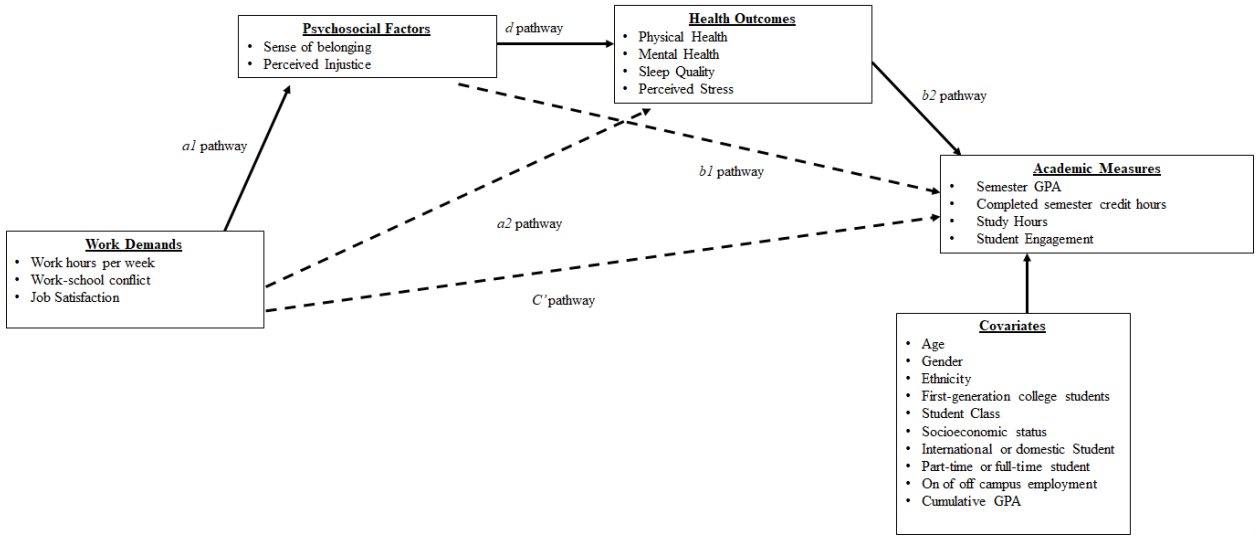


Figure 5. *Visual model of Hypothesis Five*

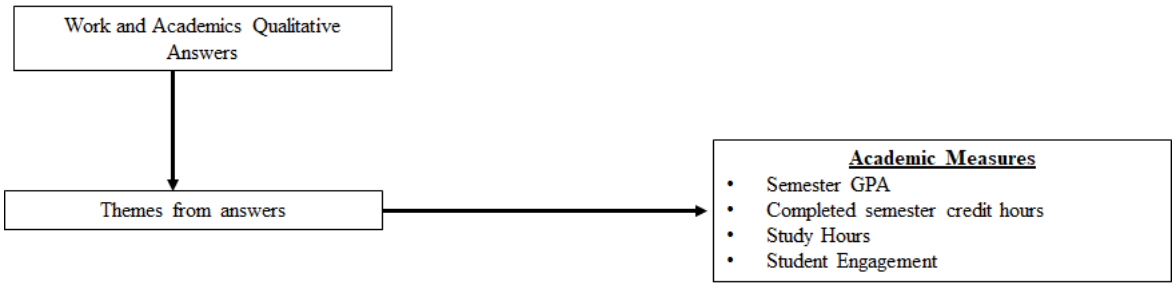


Figure 6. *Visual model of Research Question Six*

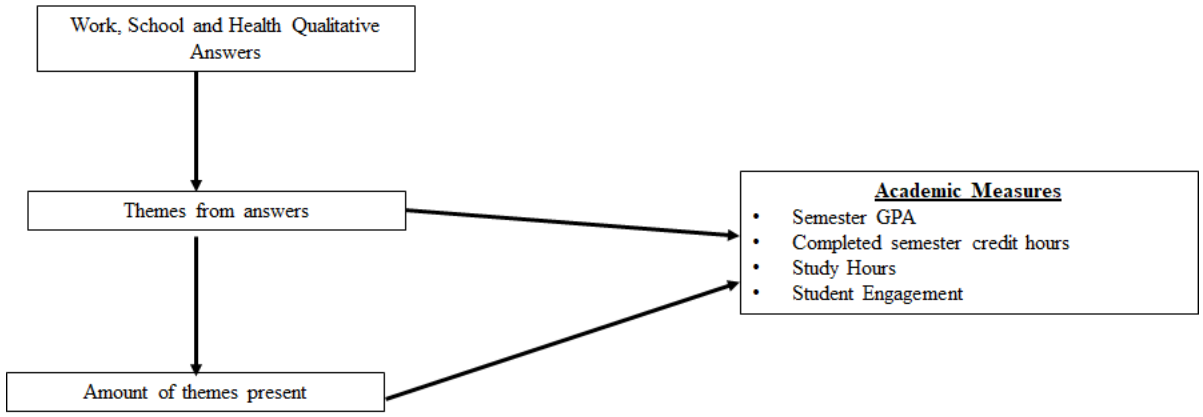
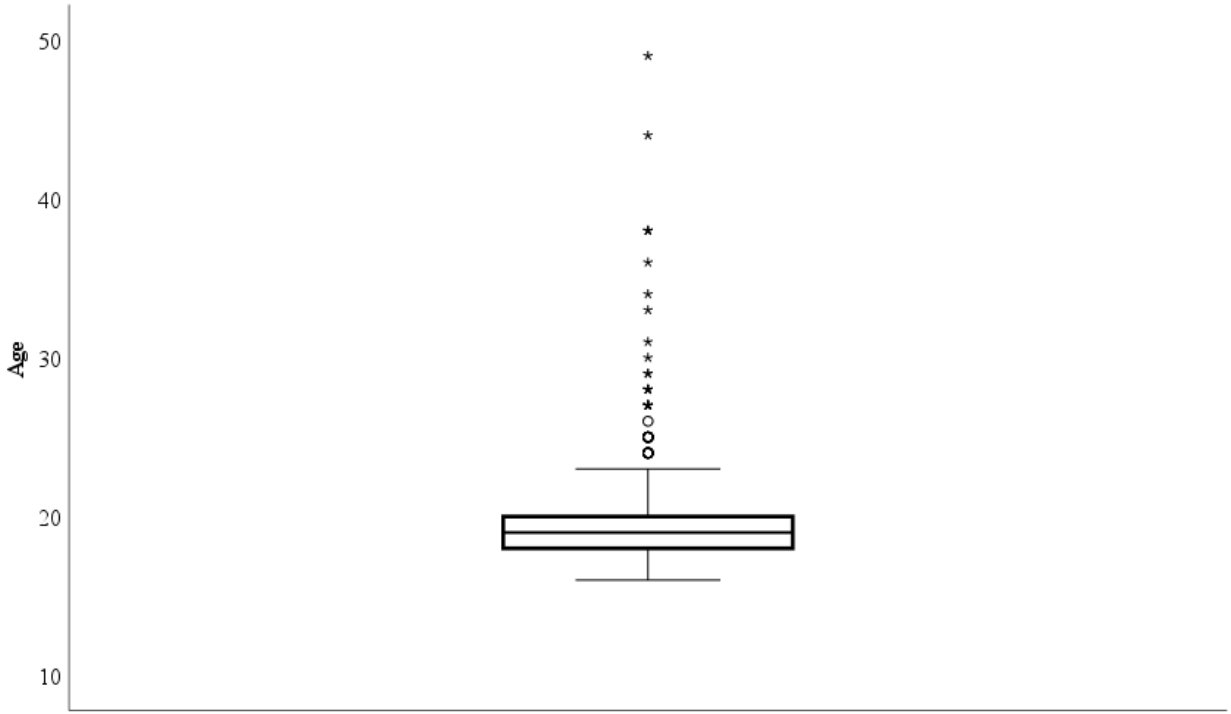


Figure 7. *Visual model of Research Question Two*

Figure 8. Boxplot for Participants Age



Appendix A: Sociodemographic Items

1. Gender:
   ☐0 Male ☐1 Female ☐2 Non-binary
2. Age: _____
3. What is your current classification?
   ☐1 Freshman
   ☐2 Sophomore
   ☐3 Junior
   ☐4 Senior
4. Are you a first-generation college student (your parents do not hold 4-year college degrees)?
   ☐0 No ☐1 Yes
5. Are you an international student?
   ☐0 No ☐1 Yes
6. What race do you consider yourself to be?
   ☐1 White (Descent from Europe, the Middle East, and North Africa)
   ☐2 Black/African-American (Descent from central and southern Africa)
   ☐3 Asian (Descent from the Far East, Southeast Asia, and Indian)
   ☐4 Native Hawaiian or Pacific Islander (Descent from Hawaii or other Pacific Islands)
   ☐5 American Indian or Alaska Native (Native American descent from North, South, and Central America)
   ☐6 Multiracial
   ☐7 Other (specify): _____
7. Do you consider yourself to be Hispanic or Latino?
   ☐0 No ☐1 Yes
8. How many credit hours are you currently taking?
   ☐0 Less than 12 credit hours
   ☐1 More than 12 credit hours
9. Are you currently employed (part or full-time)?
   ☐0 No ☐1 Yes
10. If you are employed, are you employed on-campus? (answer N/A if you are not employed)
    ☐0 No ☐1 Yes ☐2 N/A
11. Last year, what was your combined family household income from all sources, including wages, salary, investments, interest, and public support? (family income includes your parent's income if you are claimed as a dependent by your parents or live at your parents residents; if you claim yourself as an independent and do not live at your parents residents report your personal income and any income of someone you joint-file with)

☐0 Less than $0 (loss)
☐1 $0 (no income)
☐2 $1 - 4,999
☐3 $5,000 - 9,999
☐4 $10,000 -14,999
☐5 $15,000 - 24,999
☐6 $25,000 - 34,999
☐7 $35,000 - 44,999
☐8 $45,000 - 54,999
☐9 $55,000 - 64,999
☐10 $65,000 - 74,999
☐11 $75,000 - 84,999
☐12 $85,000 - 99,999
☐13 $100,000 - 124,999
☐14 $125,000 - 149,999
☐15 $150,000+

12. How difficult is it for you (and your family if you live with parents or claimed as a dependent) to pay your monthly bills?
    ☐1 Very difficult
    ☐2 Somewhat difficult
    ☐3 Not very difficult
    ☐4 Not at all difficult
13. Roughly what percentage of your income do you spend on housing and bills?
    1. None 2. 1-25% 3. 26-50% 4. 51-75% 5. 76% or more

Appendix B: Study Hours Items

1. On average, how many hours do you study a week during the current academic semester?_____

Appendix C: Engagement Scale (Student Version)

Student Version Vigor

1. When I get up in the morning, I feel like going to class.
2. When I'm doing my work as a student, I feel bursting with energy.
3. As far as my studies are concerned I always persevere, even when things do not go well.
4. I can continue studying for very long periods at a time.
5. I am very resilient, mentally, as far as my studies are concerned.
6. I feel strong and vigorous when I'm studying or going to class.

Dedication

1. To me, my studies are challenging.
2. My study inspires me.
3. I am enthusiastic about my studies.
4. I am proud of my studies.
5. I find my studies full of meaning and purpose.

Absorption

1. When I am studying, I forget everything else around me (because I am so focused).
2. Time flies when I am studying.
3. I get carried away when I am studying.
4. It is difficult to detach myself from my studies.
5. I am immersed in my studies.
6. I feel happy when I am studying intensely.

Questions are answered on a 7-point scale ranging from 0 (never) to 6 (always). Low scores on vigor, dedication, and absorption indicate low engagement.

Appendix D: Work Hours Item

1. On average, how many hours are you employed a week during the current academic semester?_____

Appendix E: Work-School Conflict Items

People who work and go to school sometimes find that their job and school life interfere with each other. Check the one box that indicates how frequently you experience each situation.

1. Because of my job, I go to school tired.
2. My job demands and responsibilities interfere with my school work.
3. I spend less time studying and doing homework because of my job.
4. My job takes up time that I'd rather spend at school or on schoolwork.
5. When I'm at school, I spend a lot of time thinking about my job. .

All items scored on a 5-point Likert scale from 1 (*never*) to 5 (*very often*)

Appendix F: Job Satisfaction Survey

	JOB SATISFACTION SURVEY Paul E. Spector Department of Psychology University of South Florida 	
	PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.	Disagree very much / Disagree moderatel / Disagree slightly / Agree slightly / Agree moderately / Agree very much
1	I feel I am being paid a fair amount for the work I do.	1 2 3 4 5 6
2	There is really too little chance for promotion on my job.	1 2 3 4 5 6
3	My supervisor is quite competent in doing his/her job.	1 2 3 4 5 6
4	I am not satisfied with the benefits I receive.	1 2 3 4 5 6
5	When I do a good job, I receive the recognition for it that I should receive.	1 2 3 4 5 6
6	Many of our rules and procedures make doing a good job difficult.	1 2 3 4 5 6
7	I like the people I work with.	1 2 3 4 5 6
8	I sometimes feel my job is meaningless.	1 2 3 4 5 6
9	Communications seem good within this organization.	1 2 3 4 5 6
10	Raises are too few and far between.	1 2 3 4 5 6
11	Those who do well on the job stand a fair chance of being promoted.	1 2 3 4 5 6
12	My supervisor is unfair to me.	1 2 3 4 5 6
13	The benefits we receive are as good as most other organizations offer.	1 2 3 4 5 6
14	I do not feel that the work I do is appreciated.	1 2 3 4 5 6
15	My efforts to do a good job are seldom blocked by red tape.	1 2 3 4 5 6
16	I find I have to work harder at my job because of the incompetence of people I work with.	1 2 3 4 5 6
17	I like doing the things I do at work.	1 2 3 4 5 6
18	The goals of this organization are not clear to me.	1 2 3 4 5 6

	PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT. 	Disagree very much	Disagree moderately	Disagree slightly	Agree slightly	Agree moderately	Agree very much
19	I feel unappreciated by the organization when I think about what they pay me.	1	2	3	4	5	6
20	People get ahead as fast here as they do in other places.	1	2	3	4	5	6
21	My supervisor shows too little interest in the feelings of subordinates.	1	2	3	4	5	6
22	The benefit package we have is equitable.	1	2	3	4	5	6
23	There are few rewards for those who work here.	1	2	3	4	5	6
24	I have too much to do at work.	1	2	3	4	5	6
25	I enjoy my coworkers.	1	2	3	4	5	6
26	I often feel that I do not know what is going on with the organization.	1	2	3	4	5	6
27	I feel a sense of pride in doing my job.	1	2	3	4	5	6
28	I feel satisfied with my chances for salary increases.	1	2	3	4	5	6
29	There are benefits we do not have which we should have.	1	2	3	4	5	6
30	I like my supervisor.	1	2	3	4	5	6
31	I have too much paperwork.	1	2	3	4	5	6
32	I don't feel my efforts are rewarded the way they should be.	1	2	3	4	5	6
33	I am satisfied with my chances for promotion.	1	2	3	4	5	6
34	There is too much bickering and fighting at work.	1	2	3	4	5	6
35	My job is enjoyable.	1	2	3	4	5	6
36	Work assignments are not fully explained.	1	2	3	4	5	6

Appendix G: MOS 36-Item Short Form Survey

SF-36 QUESTIONNAIRE

Please answer the 36 questions of the **Health Survey** completely, honestly, and without interruptions.

GENERAL HEALTH:
In general, would you say your health is:

Excellent Very Good Good Fair Poor

Compared to one year ago, how would you rate your health in general now?

- Much better now than one year ago
- Somewhat better now than one year ago
- About the same
- Somewhat worse now than
- one year ago Much worse

than one year ago

LIMITATIONS OF ACTIVITIES:
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?

Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.

Yes, Limited a lot Yes, Limited a Little No, Not Limited at all

Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Lifting or carrying groceries

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Climbing several flights of stairs

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Climbing one flight of stairs

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Bending, kneeling, or stooping

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Walking more than a mile

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Walking several blocks

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Walking one block

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

Bathing or dressing yourself

Yes, Limited a Lot Yes, Limited a Little No, Not Limited at all

PHYSICAL HEALTH PROBLEMS

SF-36 QUESTIONNAIRE continued….

PHYSICAL HEALTH PROBLEMS

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?

Cut down the amount of time you spent on work or other activities

Yes No

Accomplished less than you would like

Yes No

Were limited in the kind of work or other activities

Yes No

Had difficulty performing the work or other activities (for example, it took extra effort)

Yes No

EMOTIONAL HEALTH PROBLEMS:

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)?

Cut down the amount of time you spent on work or other activities

Yes No

Accomplished less than you would like

Yes No

Didn't do work or other activities as carefully as usual

Yes No

SOCIAL ACTIVITIES:

Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

Not at all Slightly Moderately Severe Very Severe

PAIN:

How much bodily pain have you had during the past 4 weeks?

None Very Mild Mild Moderate Severe Very Severe

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

ENERGY AND EMOTIONS:

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

Did you feel full of pep?

- All of the time
- Most of the time
- A good Bit of the Time
- Some of the time
- A little bit of the
- time None of the

Time

Have you been a very nervous person?

- All of the time
- Most of the time
- A good Bit of the Time
- Some of the time
- A little bit of the
- time None of the

Time

Have you felt so down in the dumps that nothing could cheer you up?

- All of the time
- Most of the time
- A good Bit of the Time
- Some of the time
- A little bit of the
- time None of the

Time

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 bit of the
- time None of the

Time

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 bit of the
- time None of the

Time

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 bit of the time None of the Time

Did you feel worn out?

- All of the time
- Most of the time
- A good Bit of the Time
- Some of the time
- A little bit of the time None of the Time

Have you been a happy person?

- All of the time
- Most of the time
- A good Bit of the Time
- Some of the time
- A little bit of the time
- None of the Time

Did you feel tired? All of the time

- Most of the time
- A good Bit of the Time
- Some of the time
- A little bit of the time None of the Time

SOCIAL ACTIVITIES:

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
- Some of the time
- A little bit of the time None of the

Time **GENERAL**
HEALTH:
How true or false is each of the following statements for you?

I seem to get sick a little easier than other people

Definitely true | Mostly true | Don't know | Mostly false | Definitely false

I am as healthy as anybody I know

Definitely true | Mostly true | Don't know | Mostly false | Definitely false

I expect my health to get worse

Definitely true | Mostly true | Don't know | Mostly false | Definitely false

My health is excellent

Definitely true | Mostly true | Don't know | Mostly false | Definitely false

Appendix H: Pittsburgh Sleep Quality Index

The Pittsburgh Sleep Quality Index (PSQI)

Instructions: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions. During the past month,

1. When have you usually gone to bed? _____
2. How long (in minutes) has it taken you to fall asleep each night? _____
3. When have you usually gotten up in the morning? _____
4. How many hours of actual sleep do you get at night? (This may be different than the number of hours you spend in bed) _____

5. During the past month, how often have you had trouble sleeping because you…	Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more times week (3)
a. Cannot get to sleep within 30 minutes				
b. Wake up in the middle of the night or early morning				
c. Have to get up to use the bathroom				
d. Cannot breathe comfortably				
e. Cough or snore loudly				
f. Feel too cold				
g. Feel too hot				
h. Have bad dreams				
i. Have pain				
j. Other reason(s), please describe, including how often you have had trouble sleeping because of this reason(s):				
6. During the past month, how often have you taken medicine (prescribed or "over the counter") to help you sleep?				
7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?				
8. During the past month, how much of a problem has it been for you to keep up enthusiasm to get things done?				
	Very good (0)	Fairly good (1)	Fairly bad (2)	Very bad (3)
9. During the past month, how would you rate your sleep quality overall?				

Component 1 #9 Score .....C1_____

Component 2 #2 Score (≤15min=0; 16-30 min=1; 31-60 min=2, >60 min=3) + #5a Score (if sum is equal 0=0; 1-2=1; 3-4=2; 5-6=3) .....C2_____

Component 3 #4 Score (>7=0; 6-7=1; 5-6=2; <5=3) .....C3_____

Component 4	(total # of hours asleep)/(total # of hours in bed) x 100 >85%=0, 75%-84%=1, 65%-74%=2, <65%=3 .....C4_____
Component 5	Sum of Scores #5b to #5j (0=0; 1-9=1; 10-18=2; 19-27=3).....C5_____
Component 6	#6 Score .....C6_____
Component 7	#7 Score + #8 Score (0=0; 1-2=1; 3-4=2; 5-6=3) .....C7_____
	Add the seven component scores together _____ **Global PSQI Score** _____

Appendix I: Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of

something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Appendix J: Psychological Sense of School Membership Scale

1. I feel like a real part of (name of school).
2. People here notice when I'm good at something.
3. It is hard for people like me to be accepted here. (reversed)
4. Other students in this school take my opinions seriously.
5. Most teachers at (name of school) are interested in me.

6. Sometimes I feel as if 1 don't belong here. (reversed)
7. There's at least one teacher or other adult in this school I can talk to if I have a problem.
8. People at this school are friendly to me.
9. Teachers here are not interested in people like me. (reversed)
10. I am included in lots of activities at (name of school).
11. I am treated with as much respect as other students.
12. I feel very different from most other students here. (reversed)
13. I can really be myself at this school.
14. The teachers here respect me.
15. People here know I can do good work.
16. I wish I were in a different school. (reversed)
17. I feel proud of belonging to (name of school).
18. Other students here like me the way I am.

All items are scored from 1 (strongly disagree) to 5 (strongly agree)

Appendix K: Perceived Injustice Items (adapted for working students)

1. Differences between work demands (i.e. working vs. not having to work; the number of working hours) between students is a result of injustice.
2. The differences in work demands among students are fair. (reverse coded)
3. Universities in America are fair where students with any amount of work demands from employers (from non-working to those who work full-time) can have high academic achievement. (reverse coded)

4. Academic achievement in American universities is possible for all students regardless of work demands from employers. (reverse coded)
5. Students who are part or full-time employees experience unfairness in academics because of their employment responsibilities.
6. To what extent does having employment responsibilities impose barriers to a student's academic achievement?

Items rated on a scale ranging from 1 (not at all) to 7 (very much).

Appendix L: Coronavirus Impact Scale

Rate how much the Coronavirus pandemic has changed your life in each of the following ways.

1. Routines:
   0. No change.
   1. Mild. Change in only one area (e.g. work, education, social life, hobbies, religious activities).
   2. Moderate. Change in two areas (e.g. work, education, social life, hobbies, religious activities).
   3. Severe. Change in three or more areas (e.g. work, education, social life, hobbies, religious activities).
2. Family Income/Employment:

    0. No change.
    1. Mild. Small change; able to meet all needs and pay bills.
    2. Moderate. Having to make cuts but able to meet basic needs and pay bills.
    3. Severe. Unable to meet basic needs and/or pay bills.
3. Food Access:
    0. No change.
    1. Mild. Enough food but difficulty getting to stores and/or finding needed items.
    2. Moderate. Occasionally without enough food and/or good quality (e.g., healthy) foods.
    3. Severe. Frequently without enough food and/or good quality (e.g., healthy) foods.
4. Medical health care access:
    0. No change.
    1. Mild. Appointments moved to telehealth.
    2. Moderate. Delays or cancellations in appointments and/or delays in getting prescriptions; changes have minimal impact on health.
    3. Severe. Unable to access needed care resulting in moderate to severe impact on health.
5. Mental health treatment access:
    0. No change.
    1. Mild. Appointments moved to telehealth.
    2. Moderate. Delays or cancellations in appointments and/or delays in getting prescriptions; changes have minimal impact.
    3. Severe. Unable to access needed care resulting in severe risk and/or significant impact.
6. Access to extended family and non-family social supports:
    0. No change.
    1. Mild. Continued visits with social distancing and/or regular phone calls and/or televideo or social media contacts.
    2. Moderate. Loss of in person and remote contact with a few people, but not all supports.
    3. Severe. Loss of in person and remote contact with all supports.
7. Experiences of stress related to coronavirus pandemic:
    0. None.
    1. Mild. Occasional worries and/or minor stress-related symptoms (e.g., feel a little anxious, sad, and/or angry; mild/rare trouble sleeping).
    2. Moderate. Frequent worries and/or moderate stress-related symptoms (e.g., feel moderately anxious, sad, and/or angry; moderate/occasional trouble sleeping).
    3. Severe. Persistent worries and/or severe stress-related symptoms (e.g., feel extremely anxious, sad, and/or angry; severe/frequent trouble sleeping).
8. Stress and discord in the family:
    0. None.
    1. Mild. Family members occasionally short-tempered with one another; no physical violence.
    2. Moderate. Family members frequently short-tempered with one another; and/or children in the home getting in physical fights with one another.
    3. Severe. Family members frequently short-tempered with one another and adults in the home throwing things at one another, and/or knocking over furniture, and/or hitting and/or harming one another.
9. Personal diagnosis of coronavirus.
    0. None.
    1. Mild. Symptoms effectively managed at home.

2. Moderate. Symptoms severe and required brief hospitalization.
3. Severe. Symptoms severe and required ventilation.

10. Number of immediate family members diagnosed with coronavirus: ___ Rate the symptoms of the person who was most sick:
    1. Mild. Symptoms effectively managed at home.
    2. Moderate. Symptoms severe and required brief hospitalization.
    3. Severe. Symptoms severe and required ventilation.
    4. Immediate family member died from coronavirus.
11. Number of extended family member(s) and/or close friends diagnosed with coronavirus: ____ Rate the symptoms of the person who was most sick:
    1. Mild. Symptoms effectively managed at home.
    2. Moderate. Symptoms severe and required brief hospitalization.
    3. Severe. Symptoms severe and required ventilation.
    4. Extended family member and/or close friend died of coronavirus.
12. Other. Please tell us about any other ways the coronavirus pandemic has impacted your life:

_____

_____

_____

_____

Appendix M: Black Lives Matter Movement Question

Has the black lives matter movement impacted your academics or employment in any way? If so, please describe how.

Appendix N: South Seattle College Student Financial Literacy Survey

	1. Never	2. Rarely	3. Sometimes	4. Usually	5. Always
I keep track of my expenses on a regular basis.	1	2	3	4	5
I put money aside for savings, future purchases, or emergencies.	1	2	3	4	5
I pay my credit card bills on time each month and am almost never later.	1	2	3	4	5
I prepare a budget every month.	1	2	3	4	5
I make goals about how to spend money and I discuss them with my family.	1	2	3	4	5
I comparison-shop or buy things on sale.	1	2	3	4	5